CHAPTER 4.0
ENVIROMENTAL CONSEQUENCES

The analysis of impacts of the proposed project must comply with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). CEQA requires that the significance of individual effects be determined by the Lead Agency which in this case is the County of Imperial. NEPA, in contrast, does not require the use of specific significance criteria. This EIR/EA is intended to meet the requirements of both CEQA and NEPA and therefore the methodology used for determining environmental impacts of the proposed project includes a consideration of guidance provided by both laws.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (EIR)

CEQA requires a list of criteria that are used to determine the significance of identified impacts. A significant impact is defined by CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382). Thresholds for determining significance in Sections 4.1 through 4.15 are based on Appendix G of the CEQA Guidelines (2011).

NEPA ANALYSIS (EA)

The Council on Environmental Quality (CEQ) regulations state that "'Significantly' as used in NEPA requires considerations of both context and intensity…" (40 CFR 1508.27). Therefore, thresholds serve as a benchmark for determining if a proposed action will result in a significant adverse environmental impact when evaluated against the baseline. NEPA requires that an Environmental Impact Statement (EIS) be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." Evaluation of the environmental effects of the proposed action on resource areas includes an assessment of the context and intensity of the effects, as defined in the CEQ Regulations for implementing NEPA(40 CFR Part 1508.27):

"Significantly" as used in NEPA requires considerations of both context and intensity:

(a) Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

(b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

    1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

    2) The degree to which the proposed action affects public health or safety.

    3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

    4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The Environmental Consequences section describes the effects of the proposed action and each alternative analyzed in detail (40 CFR 1508.9(b)) for each of the fifteen issue/resource areas identified in Chapter 1.0 based on the baseline conditions provided in Chapter 3.0, Sections 3.1 through 3.15.

The impact analysis addresses direct and indirect effects, or impacts, related to each issue in terms of context, intensity and duration (long-term or short-term). If applicable, the impact analysis also identifies possible conflicts between the proposed project/Proposed Action (and each Alternative) and the objectives of Federal, State, regional, local, and tribal land use plans, policies, or controls for the area concerned (40 CFR 1502.16(c)).

DIRECT AND INDIRECT IMPACTS

Direct effects, or impacts, are those caused by the action (project) and that occur at the same time and place (40 CFR 1508.8(a)). In contrast, indirect effects, or impacts, are caused by the project (action) and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems (40 CFR 1508.8(b)).

Cumulative Impacts are discussed in Chapter 5.0 of this EIR/EA.

SECTION 4.1
VISUAL RESOURCES

4.1 VISUAL RESOURCES

This section examines potential impacts to visual resources associated with implementation of the proposed project/Proposed Action. Visual resources refer to objects (man-made and natural, moving and stationary) and features (such as, landforms and water bodies) that are visible on a landscape. These resources contribute to the scenic or visual quality of the landscape. The analysis of visual impacts focuses primarily on long-term changes associated with operations and maintenance of the project.

4.1.1 METHODOLOGY FOR ANALYSIS

Analysis of impacts to visual character is subjective by nature because the qualities that create an aesthetically pleasing setting will vary from person to person. For the purposes of this analysis, the project site (CSE Facility site and Gen-tie Line corridor on land managed by the BLM) and its vicinity have been visited in order to consider the existing visual character and to determine the proposed project's consistency with the surrounding area. Visual simulations presented in this section depict the existing visual character of the project site as well as changes that would occur as a result of implementing the proposed project. The visual simulations aid in determining the degree of visual change caused by the introduction of the project.

As discussed in Section 3.1, six Key Observation Points (KOPs) of the project site were identified during a visibility analysis conducted by Ericsson-Grant, Inc., on February 10 and April 14, 2011. The KOPs represent the most characteristic and critical viewpoints in the project area from which the project would be seen. Of the six KOPs, one was identified that provided potential viewpoints of the proposed Gen-tie Line corridor on BLM lands (KOP #6) along SR 98. The other five KOPs provide potential viewpoints of the CSE Facility site (KOP #1, #2, #3, #4 and #5) from adjacent roadways (refer to Figure 3.1-1 in Section 3.1).

Visual resources were analyzed using the BLM's Visual Resource Management (VRM) System (described in Section 3.1). BLM requires that this system be used for analyzing visual resources on BLM-administered lands. For consistency, the VRM System was also used to analyze visual resources for components of the project on non-BLM lands (i.e. land in Imperial County) as it evaluates both the existing visible physical environmental setting and the anticipated visual change introduced by the proposed project to the view in the context of viewer sensitivity.

The approach to the impact assessment is discussed in below. The supporting visual contrast worksheets and Summary of Key Observation Point tables are provided on the attached CD of Technical Appendices as **Appendix K** of this EIR/EA.

4.1.1.1 BLM VISUAL RESOURCE MANAGEMENT (VRM) SYSTEM

The overall objective of the BLM VRM System is to manage public lands in a manner that will protect the quality of the visual (scenic) values in accordance with Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 (FLPMA). The BLM VRM System is a methodical approach to inventorying and managing scenic resources on the public lands.

Public lands (i.e. BLM land) to be occupied by the proposed project have a variety of visual values. These lands are subject to visual resource management objectives as developed using the BLM VRM System (BLM 1984, 1986a, 1986b) and presented in the Resource Management Plan for a given unit. The VRM System identifies four classes (I through IV, explained in detail in Section 3.1) with specific management

prescriptions for each class. The system is based on an assessment of scenic quality, viewer sensitivity, and viewing distance zones.

The three scenic quality classes are described as follows:

- **Scenic Quality Class A** – Landscapes that combine the most outstanding characteristics of the region.
- **Scenic Quality Class B** – Landscapes that exhibit a combination of outstanding and common features.
- **Scenic Quality Class C** – Landscapes that have features that are common to the region.

The three levels of viewer sensitivity can generally be defined as follows.

- **High Sensitivity.** Areas that are either designated for scenic resources protection or receive a high degree of use (includes areas visible from roads and highways receiving more than 45,000 visits [vehicles] per year). Typically within the Foreground/Middleground (F/M) viewing distance
- **Medium Sensitivity.** Areas lacking specific, or designated, scenic resources protection but are located in sufficiently close proximity to be within the viewshed of the protected area. Includes areas that are visible from roads and highways receiving 5,000 to 45,000 visits (vehicles) per year. Typically within the Background (B) viewing distance.
- **Low Sensitivity.** Areas that are remote from populated areas, major roadways, and protected areas or are severely degraded visually. Includes areas that are visible from roads and highways receiving less than 5,000 visits (vehicles) per year.

All of the BLM lands in the vicinity of proposed project are located within the California Desert Conservation Area (CDCA). Because of the public importance imparted by this designation, BLM lands within the CDCA are generally assigned a high rating for viewer sensitivity. A segment of SR 98 aligns through a portion of the project site and is bordered by the CSE Facility site on the north and south as well as a segment of the Gen-tie Line on the south. The volume of traffic along SR 98 exceeds 45,000 vehicles per year in keeping with the high viewer sensitivity rating. Thus, the site would have a high degree of viewer sensitivity.

Landscapes are generally subdivided into three distance zones based on relative visibility from travel routes or observation points as follows (BLM, 1986b):

- F/M (Foreground/Middleground) 0 to 3.5 miles
- B (Background) 5 to 15 miles
- S/S Seldom Seen Areas

A. Approach to VRM System Analysis

The visual analysis was conducted for the view areas represented by the KOPs selected for in-depth visual analysis (refer to Section 3.1, subsection 3.1.2.2, A). The results of the impact analysis are discussed below by KOP and presented in the Summary of Key Observation Points table included as **Appendix K**. For A Visual Contrast Worksheet was completed for each KOP to determine the level of change that would be caused by project implementation and the project's consistency with the applicable VRM class management objective (Class III).

The Visual Resource Management (VRM) Scenic Quality Rating shown in **Table 4.1-1** was used to determine the scenic quality rating of each KOP**.**

TABLE 4.1-1

VISUAL RESOURCE MANAGEMENT (VRM) SCENIC QUALITY RATING

Component	Scenic Quality Rating		
Landform	High vertical relief (prominent cliffs, spires, or massive rock outcrops); severe surface variation; highly eroded formations (major badlands or dune systems); detail features dominant and exceptionally striking/intriguing. **5**	Steep canyons, mesas, buttes, cinder cones, and drumlins; interesting erosional patterns or variety in size and shape of landforms; or detail features, which are interesting though not dominant or exceptional. **3**	Low rolling hills, foothills, or flat valley bottoms or few or no interesting landscape features. **1**
Vegetation	A variety of vegetative types as expressed in interesting forms, textures, and patterns. **5**	Some variety of vegetation but only one or two major types. **3**	Little or no variety or contrast in vegetation. **1**
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. **5**	Flowing, or still, but not dominant in the landscape. **3**	Absent or present but not noticeable. **0**
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape. **5**	Flowing, or still, but not dominant in the landscape. **3**	Absent or present but not noticeable. **0**
Color	Rich color combinations; variety or vivid color; or pleasing contrasts in the soil, rock, vegetation, water, or snow fields. **5**	Some intensity or variety in colors and contrast of the soil, rock, and vegetation but not a dominant scenic element. **3**	Subtle color variations, contrast, or interest; generally muted tones. **1**
Influence of Adjacent Scenery	Adjacent scenery greatly enhances visual quality. **5**	Adjacent scenery moderately enhances overall visual quality. **3**	Adjacent scenery has little or no influence on overall visual quality. **0**
Scarcity	One of a kind, unusually memorable, or very rare within region. Consistent chance for exceptional wildlife or wildflower viewing, etc. **5+***	Distinctive, though somewhat similar to others within the region. **3**	Interesting within its setting but fairly common within the region. **1**
Cultural Modi-fications	Modifications add favorably to visual variety while promoting visual harmony. **2**	Modifications add little or no visual variety to the area and introduce no discordant elements. **0**	Modifications add variety but are very discordant and promote strong disharmony. **4**

Notes: The numbers in the lower right corner represent the maximum rating for each component. The Scenic Quality Rating is the sum of the individual ratings for each component. Scenic Quality Rating: A = 19 or more, B = 12 to 18, C = 11 or less.

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

4.1.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to adverse changes in the visual landscape. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.1.2.1 CEQA SIGNIFICANCE CRITERIA

The criteria listed below were used to determine if the proposed Centinela Solar Energy Project would result in impacts to visual resources. These criteria are the same as the significance criteria for aesthetics listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. The criteria used to assess the significance of visual impacts resulting from a project take into consideration the factors described in Section 4.1.1 above, as well as federal, state, and local policies and guidelines pertaining to visual resources. Appendix G of the CEQA Guidelines identifies four thresholds that can lead to a determination of significant visual impact. For purposes of CEQA, a significant visual resources impact would occur if implementation of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would:

1) Have a substantial adverse effect on a scenic vista.
2) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
3) Substantially degrade the existing visual character or quality of the site and its surroundings.
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.2.2 ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion 2 was scoped out as part of the Initial Study because the proposed project site is not located near any scenic vista or state scenic highway. No aspect of the project would damage or degrade any existing scenic resources. Thus, no impact is identified for this issue area and it is not discussed further in this EIR/EA.

4.1.2.3 NEPA REQUIREMENTS

Significance under NEPA is defined in terms of both 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 the local environment. Intensity refers to the severity of impact and includes a variety of factors to be considered (40 CFR 1508.27). Intensity factors potentially relevant to visual impacts include 'unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands . . . ,' degree of controversy, degree of uncertainty about possible effects, degree to which an action may establish a precedent for future actions, and potential for cumulatively significant impacts.

The segment of the Gen-tie Line located in the eastern portion of the Yuha Desert within Utility Corridor N is not subject to intensity factors described above because utilities (including electrical transmission towers) are an allowed use within this corridor. The proposed Gen-tie Line is consistent with the provisions of Utility Corridor N and a Plan Amendment to the California Desert Conservation Area (CDCA) Plan is not need. Thus, less than significant impacts are associated with unique characteristics or degree of controversy, degree of uncertainty about possible effects, degree to which an action may establish a precedent for future actions, and potential for cumulatively significant impacts based on the provisions of Utility Corridor N. The level of change to the landscape resulting from the addition of the Gen-tie Line on BLM land will be moderate and will not dominate the views of the casual observer. NEPA requirements with regard to visual impacts are assessed as part of the discussion of direct and indirect impacts.

4.1.3 ENVIRONMENTAL CONSEQUENCES

4.1.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Construction of the proposed Centinela Solar Energy Project would cause temporary visual impacts due to the presence of equipment, materials, and workers. These short-term impacts would occur throughout the project site at various times over the course of the construction period. Heavy

equipment, cranes to install structures, temporary storage and office facilities, and temporary laydown/staging areas would all be visible from surrounding roadways. Traffic would also temporarily increase along SR 98 and area roadways (e.g. Brockman Road, Kubler Road, Wormwood Road). Construction activities would be visible from SR 98 and all roadways adjacent to the project site including Fisher Road and Pulliam Road.

Throughout the construction period, the industrial character of the activities (e.g. installation of PV panels and erection of towers) would result in short-term adverse visual impacts to the project site. The vast majority of the area disturbed by construction would eventually be occupied by the PV solar field on the CSE Facility site and the Gen-tie Line extending through the CSE Facility site, private property easement on the south side of SR 98, and BLM Utility Corridor N. The Applicant has identified Best Management Practices to minimize disturbance areas and retain native vegetation in place wherever practicable during construction on BLM land (refer to Table 2.0-6 in Chapter 2.0). Areas temporarily disturbed on BLM lands (temporary access roads, temporary lay-down areas, construction equipment staging areas, and disturbance associated with constructing the tower structures) would be addressed through the Restoration Plan. Areas of agricultural land temporarily disturbed by construction of the Gen-tie Line, but not part of the CSE Facility, will be restored to agricultural use following construction. Temporary disturbances within CSE Facility parcels will be restored in accordance with the Applicant's requirements. Thus, impacts to visual resources associated with construction would be temporary and BMPs are included to restore disturbed areas not permanently covered by project infrastructure. Following restoration, the visual character of the site would be altered from agricultural field to an industrial use. Following restoration, no direct impacts would occur. Indirect (subsequent, long-term) impacts of construction are discussed under Operations and Maintenance.

Operation and Maintenance

An analysis of operation and maintenance (long-term) impacts was conducted for the view areas represented by the KOPs selected for in-depth visual analysis. The results of the impact analysis are discussed below and a Summary of the Key Observation Points is included in **Appendix K**.

KOP #1 – Northeast corner of the intersection of Brockman Road and State Route (SR) 98

Figure 4.1-1A presents the existing view from KOP #1 from the northeast corner of the intersection of Brockman Road and SR 98. The view is southwest across Brockman Road towards the proposed CSE Facility site with the vacant Mt. Signal Café in the foreground. The view is towards the southern portion of the CSE Facility site near the portion of the PV solar field southeast of the common services area. The mountains visible in the photo are located south of the border in Mexico.

Figure 4.1-1B presents a visual simulation that depicts the addition of the proposed PV solar modules as viewed from KOP #1. As shown in the simulation, the proposed solar field is barely visible from this viewpoint based on distance and visual obstructions (structures, trees, billboards). This view is dominated by existing features including a line of telephone poles and overhead wiring. However, traveling further south along Brockman Road, the solar field would become more visible to the west. While the change from an agricultural field to a solar field would be noticeable, the overall visual contrast would be considered moderate. The addition of the solar field appears subordinate from KOP #1. No scenic views would be blocked by the project. The overall visual change from KOP #1 would be weak based intervening obstructions (buildings, billboards) and existing vertical utility lines that are prominent in this view.

KOP #2 – Brockman Road Across from the Eastern Boundary of the Proposed CSE Facility

Figure 4.1-2A presents the existing view from KOP #2 approximately one-half mile north of SR 98 across from the eastern boundary of the proposed CSE Facility. KOP#2 provides a view northwest towards the CSE Facility site with trees on the Brockman homestead (not a part of the project site) in the foreground.

Figure 4.1-2B presents a visual simulation that depicts the addition of the proposed CSE Facility site and PV solar field. As shown in the simulation, the proposed solar field would result in the conversion of agricultural fields to PV solar fields covered with low profile panel structures and punctuated with taller (approximately 12 feet in height) inverter buildings surrounded by a chain link fence. In this portion of the project site, the visually prominent feature remains the existing telephone poles along Brockman Road as well as the parallel overhead utility lines. Existing trees in the foreground would cause partial view blockage of the solar field. The resulting visual contrast would be moderate, with the PV solar field dominating the view and altering the existing visual character of the site and its surrounding landscape. View blockage resulting from the project would be low as no scenic background features are present to be obstructed by the project. The overall visual change would be a weak direct impact to visual resources.

KOP #3 – Junction of SR 98 and Drew Road at Western-most Boundary of CSE Facility Site

Figure 4.1-3A presents the existing view from KOP #3 at the junction of SR 98 and Drew Road. The view is southeast from the western boundary of the proposed CSE Facility where a segment of the proposed Gen-tie Line would be sited.

Figure 4.1-3B presents a visual simulation that depicts the addition of Gen-tie Line (Single-Pole Structure - Double-Circuit [Suspension/Braced]) adjacent of the south side of SR 98 on the western-most boundary of the CSE Facility site. As shown in the simulation, the proposed Gen-tie Line would introduce visually prominent vertical tower structures and overhead parallel wires into an otherwise flat landscape along SR 98. Although more extensive electrical infrastructure is located west of this view in Utility Corridor N, the proposed Gen-tie Line would be the dominant feature in this view along SR 98. View blockage would be low as the proposed tower structures are not massive. The resulting visual contrast would be moderate as the tower structures and Gen-tie Lines would appear dominant relative to the existing landscape features (flat agricultural fields). The overall visual change would be a weak direct impact to visual resources.

KOP #4 – Secondary Access Point Along Brockman Road north of Kubler Road

Figure 4.1-4A presents the existing view from KOP #4 from the proposed secondary access point along Brockman Road north of Kubler Road, on the east side of the CSE Facility site. KOP #4 provides a view east towards the proposed CSE Facility and PV solar field.

Figure 4.1-4B presents a visual simulation that depicts the addition of the proposed CSE Facility site and PV solar field. As shown, the proposed CSE Facility site would introduce visually prominent built structures (chain link fencing topped with barbed wire, PV solar modules) into a landscape lacking similar built features of industrial character. The PV solar field would replace a flat agricultural field used for alfalfa. The site has no scenic features. The PV solar modules would appear dominant in the foreground/middleground. However, view blockage of the background mountain range would be weak based on the height of the PV panel structures (6- to 8-feet). The overall visual change would result in a weak direct impact to visual resources.

KOP #5 – Fisher Road east of Drew Road on the Western Boundary of the CSE Facility site

Figure 4.1-5A presents the existing view from KOP #5 along Fisher Road east of Drew Road on the western boundary of the CSE Facility site toward the proposed CSE Facility site and PV solar field.

Figure 4.1-5B presents a visual simulation that depicts the addition of the proposed CSE Facility site. As shown in the simulation, the proposed project would introduce chain link fencing, PV solar modules and a 13-foot tall water tank into a landscape lacking similar built features. Although the project is visible from this view point, existing telephone poles and overhead utility lines appear as prominent as the water tank and chain link fence on the CSE Facility site. Also, the existing vegetation would cause partial view blockage of the CSE Facility site. The resulting visual change would be weak as the structures on the CSE Facility site would appear subordinate relative to the existing landscape features (primarily linear forms along road, adjacent canal, and row of landscape). View blockage would be low as no scenic resources are located in the area. The overall visual change would result in a weak direct impact to visual resources.

KOP #6 – SR 98 west of Utility Corridor N

Figure 4.1-6A presents the existing view looking east from KOP #6 along SR 98 west of Utility Corridor N. The view shows BLM lands on the northern and southern sides of SR 98 and the existing transmission towers located within the Utility Corridor N on BLM land. The proposed Gen-tie Line would be located within the same corridor.

Figure 4.1-6B presents a visual simulation that depicts the addition of the proposed Gen-tie Line (Single-Pole Structure - Double-Circuit [Suspension/Braced]). As shown in the simulation, the proposed Gen-tie Line would introduce visually prominent vertical pole structure into a landscape dominated by lattice tower structures and parallel overhead transmission lines. Because of the size and scale of the existing towers in Utility Corridor N, the proposed Gen-tie Line structure does not appear as prominent.

The proposed Gen-tie Line tower and transmission line(s) would not block views as there are no dominant background features (e.g. no visible mountain range). The resulting structural form and line contrast would be weak. Likewise, the color and texture contrast would be weak and would not substantially degrade the existing visual character or quality of the site and its surrounding landscape. The low level of change that would result would meet the VRM Class III objective of a moderate (or lower) degree of visual change (see also the Visual Contrast Worksheet form for KOP #6 in **Appendix K**). The Gen-tie Line with its vertical form and linear transmission line(s) would differ from the existing flat, horizontal desert with scattered vegetation, but would blend in with the existing structures in Utility Corridor N. Based on the overall featureless landform, the project would result in a weak direct impact to visual resources.

FIGURE 4.1-1A – KOP #1 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-2 in Section 3.1

Source: PhotoSims, 2011.

FIGURE 4.1-1B

KOP #1 – VISUAL SIMULATION OF PROPOSED CSE FACILITY (LOOKING SOUTHWEST FROM BROCKMAN ROAD)

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FIGURE 4.1-2A – KOP #2 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-3 in Section 3.1

Source: PhotoSims, 2011.

FIGURE 4.1-2A

KOP #2 – VISUAL SIMULATION OF PROPOSED CSE FACILITY (LOOKING NORTHWEST FROM BROCKMAN ROAD)

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FIGURE 4.1-3A – KOP #3 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-4 in Section 3.1

Source: PhotoSims, 2011.

FIGURE 4.1-3B

KOP #3 – VISUAL SIMULATION OF PROPOSED GEN-TIE LINE (LOOKING SOUTHEAST ALONG SR 98 IN IMPERIAL COUNTY)

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FIGURE 4.1-4A – KOP #4 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-5 in Section 3.1

Source: PhotoSims, 2011.

FIGURE 4.1-4B

KOP #4 – VISUAL SIMULATION OF PROPOSED CSE FACILITY PV SOLAR FIELD

(LOOKING WEST FROM BROCKMAN ROAD NORTH OF KUBLER ROAD)

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FIGURE 4.1-5A – KOP #5 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-6 in Section 3.1

FIGURE 4.1-5B

KOP #5 – VISUAL SIMULATION OF PROPOSED CSE FACILITY PV SOLAR FIELD (LOOKING EAST FROM FISHER ROAD)

Source: PhotoSims, 2011.

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FIGURE 4.1-6A – KOP #6 – EXISTING VIEW

See also Figure 3.1-1 and Figure 3.1-7 in Section 3.1

Source: PhotoSims, 2011.

FIGURE 4.1-6B

KOP #6 – VISUAL SIMULATION OF PROPOSED GEN-TIE LINE (LOOKING EAST ALONG SR 98 ON BLM LAND)

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Furthermore, as discussed in Section 3.1 of this EIR/EA, the proposed Gen-tie Line corridor on BLM lands is within a Multiple-Use Class L (Limited Use). Because, the proposed Gen-tie Line would be located in designated Utility Corridor N, and the proposed 230-kV line would be similar to the existing transmission facilities located within this corridor, no adverse direct or indirect impacts to visual resources within BLM lands would occur.

Decommissioning

At the end of the project's useful life, it would require decommissioning. At this time, no Decommissioning Plan has been prepared. However, the complete removal of the facility would leave a very prominent visual impact over the entire CSE Facility site due to the contrast created between graded, disturbed soil areas and the surrounding agricultural fields. This would be considered a direct impact to visual resources at the time of decommissioning. In contrast, the removal of the Gen-tie Line structures and wiring on lands managed by the BLM would create a beneficial visual impact in terms of reducing the amount of towers and wiring in Utility Corridor N.

The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services for review and approval prior to issuance of building permits. The Agricultural Reclamation Plan will contain detailed procedures for returning the CSE Facility site to a condition to support agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. Thus, visual recovery from land disturbance associated with decommissioning would occur as part of reclaiming the project site to agricultural uses and reduce direct visual impacts. No indirect (following decommissioning) impacts would occur.

B. CEQA Significance Determinations

Adverse effect on Scenic Vista

1) Have a substantial adverse effect on a scenic vista.

Construction

The project site is not located in a designated scenic vista, nor has the Imperial County General Plan designated the project site as an important visual resource (Imperial County, 2008). The Proposed Action includes areas adjacent to SR 98. However, SR 98 is not designated as a state scenic highway nor is any of the roadways abutting or surrounding the project site designated or proposed scenic roadways. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are located in a designated scenic vista. Therefore, construction of the Proposed Action would not have a substantial adverse effect on a scenic vista. No construction-related impact to a scenic vista would occur under CEQA.

Operation and Maintenance

The discussion regarding the location of the project site in a scenic vista described under Construction also applies to Operations and Maintenance. The Proposed Action would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

Decommissioning

The discussion regarding the location of the project site in a scenic vista described under Construction also applies to Decommissioning. The Proposed Action would not have a substantial adverse effect on a scenic vista during decommissioning. No decommissioning related impact to a scenic vista would occur under CEQA.

Degrade Existing Visual Character or Quality of the Site

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

Construction

The proposed project consists of two primary components: 1) the CSE Facility consisting of solar generation equipment and associated facilities on privately owned; and 2) Gen-tie Line consisting of 230-kilovolt (kV) aboveground, electric line(s) and associated facilities that will connect the generation facilities with the Imperial Valley Substation.

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 Gen-tie Line. The CSE Facility would also have Auxiliary Equipment, which would include safety and security equipment (firewater tanks, security system and security lighting, access gates, meteorological stations) and operations and maintenance facilities. The CSE Facility includes low-lying solar modules (typically 6- to 8-feet in height with 2 feet of vertical clearance); inverter enclosures (approximately 12 feet in height) and transformers (approximately 6 feet in height) and water tanks (approximately 13 feet in height) (refer to Figures 2.0-8, 2.0-9, and 2.0-12 in Chapter 2.0). The entire CSE Facility site would be enclosed by a security fence 8 feet in height constructed of 2-inch chain link diamond mesh topped with three-strand barbed wire with line posts a maximum of 10 feet apart. Based on the see-through nature of chain link fencing, most of the proposed equipment at the site would be visible from surrounding roadways. Taller structures, such as inverter structures and water tanks would also be visible from a distance (refer to **Figure 4.1-1B** and **Figure 4.1-5B**).

The project also includes construction of the Gen-tie Line through three distinct property segments. The Gen-tie Line will originate at the CSE Facility Substation, located immediately south of SR 98 and approximately one-half mile east of Pulliam Road, and extend approximately 1.5 miles west through the CSE Facility site. From the western boundary of the CSE Facility site, the Gen-tie Line will extend across the West Side Main Canal and continue approximately 1.25 miles through private lands south of SR 98. The remaining approximately 4.25 miles extends through BLM land; first west then north, to connect with the Imperial Valley Substation (refer to Figure 2.0-2 and Figure 2.0-3 in Chapter 2.0).

An estimated forty-four towers will be installed as part of construction of the Gen-tie Line (ten towers on the CSE Facility site; seven towers through a private property easement; and an estimated twenty-seven towers on BLM land (refer to Figures 2.0-22 through 2.0-25 in Chapter 2.0). The exact design of the towers has not yet been determined (refer to Figures 2.0-26 through 2.0-33 in Chapter 2.0 to see possible tower type options) (Note: typical single-pole structure – double circuit (suspension/braced) tower structure is depicted in the visual simulation for KOP #3 and KOP #6).

CSE Facility Site

The project will change the look and character of the CSE Facility site. Currently, the portion of the project site proposed for the CSE Facility is used for agricultural production and there are no outstanding or unique 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 to a solar energy facility. Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g. cranes), staging and materials storage areas and potential dust and exhaust. These impacts would be temporary and addressed in part through mitigation measures AQ-1 through AQ-4 identified in Section 4.4.

The project site and surrounding area is generally. Minimal grading and landform change would be required for project development. Because no major alterations would occur in the current lay of the land and construction activities would be temporary, the visual character of the site would not be substantially degraded in the short-term.

Based on visual analysis conducted by Ericsson-Grant, Inc., the CSE Facility site is readily visible from KOP #2, #3 and #4 (refer to **Figure 4.1-2B**, **4.1-3B** and **4.1-4B**) and less visible from KOP#1 and #5 (refer to **Figure 4.1-1B** and **4.1-5B**). It is visible from surrounding agriculture land and roads adjacent to the site (Brockman Road, Fisher Road, Kubler Road) depending on the viewpoint. However, agriculture land is not considered a significant or unique visual resource. No residents or individuals are present on such lands to view the site for sustained periods of time. Instead, the majority of viewers are travelers passing through the project area (along SR 98, Brockman Road, Fisher Road, etc) with brief views of the site en route north, south, east or west. Therefore, during construction, a less than significant impact under CEQA is anticipated relative to the character or quality of the CSE Facility site.

Although construction of the CSE Facility portion of the Proposed Action would change the existing visual character of the site from agriculture land to a solar energy facility, the visibility of the project site in the KOPs varies from highly visible to barely visible. Construction of the CSE Facility site would alter the site, but not in a manner which would substantially degrade its scenic value (which is considered low). The project site is located in an unpopulated area with no unique or outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to degrading the existing visual character or quality of the site as a result of construction of the CSE Facility proposed as part of the Proposed Action.

Gen-tie Line

Preliminary engineering drawings depict the approximate location of the Gen-tie Line towers that would be constructed within the CSE Facility site (refer to Figure 2.0-22 through Figure 2.0-25 in Chapter 2.0). The Gen-tie Line towers would be located in the southern portion of the site adjacent to the southern side of SR 98. The exact height of each Gen-tie Line tower structure will be governed by topography and safety requirements for conductor clearances. Structures on private land will range from approximately 100 to 130 feet above ground and will be spaced typically 700 to 1,100 feet apart. In general, structures on BLM land will range in height from approximately 100 to 150 feet above ground and be spaced approximately 1,000 to 1,200 feet apart. A variance is required for the project to exceed the height limit for electric line towers on private lands subject to Imperial County zoning regulation. The existing zoning allows for a maximum height limit of 120 feet. This variance (V10-0006) applies only to the towers that will be located within the private lands under the jurisdiction of the Imperial County.

Towers on BLM land have the potential to be taller than those on private land in order to match the spacing of existing adjacent towers. Two structures will support the Gen-tie Line crossing of the existing 500-kV line. At these points, the Gen-tie Line will undercross the Southwest Power Line (SWPL) using either a 3-pole dead-end structure (refer to Figure 2.0-29 in Chapter 2.0) or H-frame structure (refer to Figure 2.0-30 in Chapter 2.0). The Applicant anticipates an overhead crossing of the existing IID-owned, wooden-pole, 230-kV line that extends north out of the Imperial Valley Substation. This could be accomplished with the Applicant's proposed tubular steel or lattice steel structures, without requiring any special crossing structures to be constructed. This crossing will be developed through an encroachment permitting process with the IID.

As discussed in Section 3.1 of this EIR/EA, the proposed project site is located in VRM Class III area which has as its objective to partially retain the existing character of the landscape. The level of change to the characteristic landscape would be weak. Although construction of the Gen-tie Line component of the Proposed Action would change the existing visual character of the site from agriculture land to an industrial/utility use with towers and an overhead transmission line adjacent to SR 98, the visibility of the project site varies from highly visible to barely visible in KOPs of the site. As shown in **Figure 4.1-3B**, the introduction of the Gen-tie Line would alter the existing visual character of the site. However, the Gen-tie Line would not substantially degrade the site's existing visual quality based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the Gen-tie Line.

Operation and Maintenance

The discussion regarding the CSE Facility and Gen-tie Line's potential to degrade the existing visual character or quality of the site described under "Construction" also applies to "Operations and Maintenance." The CSE Facility and Gen-tie Line would not substantially degrade the visual quality of the project site or surrounding area based on the project's location in an unpopulated area with no outstanding visual features. Therefore, the Proposed Action would have a less than significant impact with regard to substantially degrading the existing visual character or quality of the site during operations and maintenance of the CSE Facility and Gen-tie Line.

Decommissioning

At the end of the Proposed Action's useful life approximately 30+ years in the future, it would be decommissioned and dismantled. The Gen-tie Line structures and wiring on BLM lands would be removed. This would create a beneficial impact in terms of reducing the amount of towers and wiring within this portion of the County. However, the complete removal of the facility would leave a prominent visual impact over the entire CSE Facility site due to the contrast created between graded, disturbed soil areas and the surrounding agricultural fields. Following decommissioning, the Applicant proposes that the site be reclaimed for agricultural uses. An Agricultural Reclamation Plan identifying procedures for returning the CSE Facility site to a condition to support agricultural would be submitted to the Imperial County Department of Planning and Development Services by the Applicant. The Agricultural Reclamation Plan, when implemented, would result in visual recovery of lands disturbed by decommissioning to agricultural uses. Thus a less than significant impact under CEQA to visual resources would result from decommissioning the Proposed Action.

New Source of Substantial Light or Glare

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

Construction

Short-term sources of lighting would be introduced to the project site during construction as part of site security, storage and staging areas. The Applicant has identified a Best Management Practices to reduce construction night lighting impacts by designing and installing all lighting at construction and storage yards and staging areas such that light bulbs and reflectors are not visible from public viewing areas. Furthermore, construction lighting must not cause reflected glare (refer to Table 2.0-5 in Chapter 2.0). Overall, the BMPs would minimize illumination of the project facilities, vicinity, and nighttime sky. Thus, new sources of light and glare associated with construction of the Proposed Action would result in a less than significant impact under CEQA.

Operation and Maintenance

The project site is used for agricultural production and as such is not currently a source of light or glare. As part of the Proposed Action, a lighting system will be installed. Outdoor lighting for the common services area of the CSE Facility will consist of fixtures secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security. The lighting system would be designed to provide nighttime lighting levels consistent with applicable Imperial County lighting standards. Switched lighting will be provided at the substation and inverters. In the solar field, lighting will be provided at the gates and other locations where necessary for security or safety.

The Applicant has identified a BMP regarding nighttime lighting during operation and maintenance of the project. The BMP requires using the minimum amount of nighttime lighting necessary for security purposes. The lighting must be designed to eliminate glare or spillover to areas outside of the project site (refer to Table 2.0-5 in Chapter 2.0). While the project would introduce some nighttime light, the project would be designed to avoid a substantial change in illumination in the existing night sky environment. Thus, new sources of light associated with operations and maintenance of the Proposed Action would result in a less than significant impact under CEQA.

Glare

Glare is an issue of concern for solar facilities both for aesthetic reasons and highway navigation safety. SR 98 is aligned through the project site bordering areas with PV parcels and a segment of the Gen-tie Line. Motorists traveling on SR 98 and surrounding roadways as well as crop dusters and airplanes, could be affected by glare created by structures in the solar field.

PV modules are rectangular in shape and use anti-reflective coatings to increase conversion efficiency. As such, the PV modules would not create a source of glare during sunlight hours. No materials are proposed that would reflect glare upwards which could potentially affect the Naval Air Facility at El Centro's training flights or other air traffic, including crop dusters. Likewise, the Proposed Action would not use reflective 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. Therefore, operations and maintenance of the Proposed Action 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.

Decommissioning

The Proposed Action would be decommissioned and dismantled at the end of its useful life. Although no decommissioning plan has been established, it is assumed that BMPs similar to those implemented during construction to minimize light and glare would be implemented, as necessary. Thus, new sources of light and glare associated with decommissioning of the Proposed Action would result in a less than significant impact under CEQA.

4.1.3.2 Alternative 1- Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Similar to the Proposed Action, construction of Alternative 1 would cause temporary visual impacts due to the presence of equipment, materials, and workforce. Throughout the construction period, the industrial character of the activities would constitute visual impacts with regard to existing visual character which would be considered weak direct impact. Best Management Practices proposed by the Applicant would be implemented and areas temporarily disturbed on lands managed by the BLM would be addressed through the Reclamation Plan. Thus, impacts to visual resources associated with construction of Alternative 1 would be short-term, temporary and BMPs are included to restore disturbed areas not permanently covered by project infrastructure. Following restoration, no direct impact would occur. Indirect (subsequent, long-term) impacts of construction are discussed under Operations and Maintenance.

Operation and Maintenance

The KOP analysis described for the Proposed Action also applies to Alternative 1. The visual simulations for KOP# 3 and KOP#6 included a typical single-pole structure – double circuit (suspension/braced) tower structure which is representative of Alternative 1. Please refer to the discussion provided under the Proposed Action with regard to direct and indirect impacts for the KOPs #1 through #6 and **Figures 4.1-1A, 4.1-1B, 4.1-2A, 4.1-2B, 4.1-3A, 4.1-3B, 4.1-4A, 4.1-4B, 4.1-5A, 4.1-5B, 4.1-6A,** and **4.1-6B**.

Decommissioning

Impacts to visual resources during decommissioning of Alternative 1 would be identical to the Proposed Action. The complete removal of the facility would leave a very prominent visual impact over the entire CSE Facility site due to the contrast created between graded, disturbed soil areas and the surrounding agricultural fields (direct impact). Although the project area receives a high volume of viewers in the form of travelers on area roadways and SR 98, these views occur for a short-duration and there are no permanent residents in the area that would be affected. Visual recovery from land disturbance associated with decommissioning would occur as part of reclaiming the project site to agricultural uses and reduce direct visual impacts. No indirect (following decommissioning) impacts would occur.

B. CEQA Significance Determinations

Adverse effect on Scenic Vista

1) Have a substantial adverse effect on a scenic vista.

Construction

The project site for the Proposed Action and Alternative 1 are identical. The project site is not located in a designated scenic vista, nor has the Imperial County General Plan designated the project site as an important visual resource (Imperial County, 2008). Alternative1 includes areas adjacent to SR 98. However, SR 98 is not designated as a state scenic highway nor is any of the roadways abutting or surrounding the project site designated or proposed scenic roadways. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are located in a designated scenic vista. Therefore, construction of Alternative 1 would not have a substantial adverse effect on a scenic vista. No construction-related impact to a scenic vista would occur under CEQA.

Operation and Maintenance

The discussion regarding the location of the project site in a scenic vista described under "Construction" also applies to "Operations and Maintenance". Alternative 1 would not have a substantial adverse effect on a scenic vista during operations and maintenance. No operations and maintenance related impact to a scenic vista would occur under CEQA.

Decommissioning

The discussion regarding the location of the project site in a scenic vista described under "Construction" also applies to Decommissioning. Alternative 1 would not have a substantial adverse effect on a scenic vista during decommissioning. No decommissioning related impact to a scenic vista would occur under CEQA.

Degrade Existing Visual Character or Quality of the Site

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

Construction

The components of the proposed project described under the Proposed Action also apply to Alternative 1. All components would be identical as would the alignment of the Gen-tie Line. The only difference is Alternative 1 would include an additional 230-kV line while the Proposed Action would accommodate only one 230-kV line.

An estimated forty-four towers will be installed as part of construction of the Gen-tie Line proposed as part of Alternative 1 (refer to Figures 2.0-22 through 2.0-25 in Chapter 2.0). The exact design of the towers has not yet been determined (refer to Figures 2.0-28, 2.0-31 and 2.0-33 in Chapter 2.0 to see possible double circuit tower type options). (Note: typical single-pole structure – double circuit (suspension/braced) tower structure is depicted in the visual simulation for KOP #3 and KOP #6).

CSE Facility Site

Alternative 1 will change the look and character of the CSE Facility site during construction in exactly the same way as the Proposed Action (refer to CSE Facility Site discussion under 4.1.3.1, Proposed Action).

Construction of the CSE Facility site would degrade the existing visual character or quality of the site and its surroundings, but not substantially based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to degrading the existing visual character or quality of the site as a result of construction of the CSE Facility proposed as part of Alternative 1.

Gen-tie Line

Alternative 1 will change the look and character of private and BLM lands in the Gen-tie Line corridor during construction in exactly the same way as the Proposed Action (refer to Gen-tie Line discussion under 4.1.3.1, Proposed Action). Although construction of the Gen-tie Line component of Alternative 1 would change the existing visual character of the site from agriculture land to a solar energy facility, with double circuit towers and an overhead transmission line adjacent to SR 98, the visibility of the project site varies from highly visible to barely visible in KOPs of the site. As shown in **Figure 4.1-3B**, the introduction of the Gen-tie Line would alter the existing visual character of the site. However, the Gen-tie Line would not substantially degrade the site's existing visual quality based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the Gen-tie Line.

Operation and Maintenance

The discussion regarding the CSE Facility and Gen-tie Line's potential to degrade the existing visual character or quality of the site described under "Construction" also applies to "Operations and Maintenance" for Alternative 1. The CSE Facility and Gen-tie Line would not substantially degrade the visual quality of the project site or surrounding area based on the project's location in an unpopulated area with no outstanding visual features. Therefore, the Proposed Action would have a less than significant impact with regard to substantially degrading the existing visual character or quality of the site during operations and maintenance of the CSE Facility and Gen-tie Line.

Decommissioning

At the end of the useful life of Alternative 1 approximately 30+ years in the future, it would be decommissioned and dismantled. Following decommissioning, the Applicant proposes that the site be reclaimed for agricultural uses. The Agricultural Reclamation Plan, when implemented, would result in visual recovery of lands disturbed by decommissioning to agricultural uses. Thus a less than significant impact under CEQA to visual resources would result from decommissioning Alternative 1.

New Source of Substantial Light or Glare

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

Construction

The discussion of light and glare sources provided for construction of the Proposed Action also applies to Alternative 1. Short-term sources of lighting would be introduced to the project site during construction as part of site security storage and staging areas. However, BMPs proposed by the Applicant would minimize illumination of the project facilities, vicinity, and nighttime sky. Thus, new sources of light and glare associated with construction of Alternative 1 would result in a less than significant impact under CEQA.

Operation and Maintenance

As with the Proposed Action, the project site for Alternative 1 is used for agricultural production and as such is not currently a source of light or glare. As part of Alternative 1, a lighting system will be installed identical to the one described for the Proposed Action (e.g. fixtures secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security). While the project would introduce some nighttime light, the project would be designed to avoid a substantial change in illumination in the existing night sky environment. Thus, new sources of light associated with operations and maintenance of Alternative 1 would result in a less than significant impact under CEQA.

Glare

The discussion of glare provided for the Proposed Action is identical for Alternative 1. As with the Proposed Action, PV modules proposed for the project would not create a source of glare during sunlight hours and no other reflective materials are proposed as part of the project. Therefore, operations and maintenance of Alternative 1 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.

Decommissioning

As with the Proposed Action, Alternative 1 would be decommissioned and dismantled at the end of its useful life. Although no decommissioning plan has been established, it is assumed that BMPs similar to those implemented during construction to minimize lighting and glare would be implemented, as necessary. Thus, new sources of light and glare associated with decommissioning of Alternative 1 would result in a less than significant impact under CEQA.

4.1.3.3 Alternative 2 - Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Similar to the Proposed Action, construction of Alternative 2 would cause temporary visual impacts due to the presence of equipment, materials, and workforce, though over an area approximately 335 acres smaller than would be covered by the Proposed Action. The industrial character of construction activities would constitute temporary direct visual impacts. Best Management Practices proposed by the Applicant would be implemented and areas temporarily disturbed on lands managed by the BLM would be addressed through the Reclamation Plan. Thus, impacts to visual resources associated with construction of Alternative 2 would be temporary and BMPs are included to restore disturbed areas not permanently covered by project infrastructure. Following restoration, no direct impact would occur.

Indirect (subsequent, long-term) impacts of construction are discussed under Operations and Maintenance.

Operation and Maintenance

The KOP analysis described for the Proposed Action also applies to Alternative 2 as the three parcels under Williamson Act Contract excluded as part of this alternative were not included as KOPs. The visual simulations for KOP #1 through #6 are all representative of Alternative 2. Please refer to the discussion provided under the Proposed Action with regard to direct and indirect impacts for the KOPs #1 through #6 and **Figures 4.1-1A, 4.1-1B, 4.1-2A, 4.1-2B, 4.1-3A, 4.1-3B, 4.1-4A, 4.1-4B, 4.1-5A, 4.1-5B, 4.1-6A,** and **4.1-6B**.

Decommissioning

Impacts to visual resources during decommissioning of Alternative 2 would be identical to the Proposed Action, but included 335 fewer acres. As with the Proposed Action, the complete removal of the facility as part of decommissioning Alternative 2 would leave a very prominent visual impact over the entire CSE Facility site. More agricultural areas would be adjacent to graded, disturbed soil areas under Alternative 2 due to the preservation of 335 acres as Williamson Act lands. This would result in a more pronounced contrast between decommissioned lands and agricultural lands (direct impact). As with the Proposed Action, visual recovery from land disturbance associated with decommissioning of Alternative 2 would occur as part of reclaiming the project site to agricultural uses and reduce direct visual impacts. No indirect (following decommissioning) impacts would occur.

B. CEQA Significance Determinations

Adverse effect on Scenic Vista

1) Have a substantial adverse effect on a scenic vista.

Construction

The project site for Alternative 2 is 335 acres smaller than for the Proposed Action. Like the Proposed Action, the project site for Alternative 2 is not located in a designated scenic vista, nor has the Imperial County General Plan designated the project site as an important visual resource (Imperial County, 2008). Alternative 2 includes fewer areas adjacent to SR 98 and surrounding roadways (Brockman Road, Pulliam Road and Fisher Road). In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are located in a designated scenic vista. Therefore, construction of Alternative 2 would not have a substantial adverse effect on a scenic vista. No construction-related impact to a scenic vista would occur under CEQA.

Operation and Maintenance

The discussion regarding the location of the project site in a scenic vista described under “Construction” also applies to “Operations and Maintenance”. Alternative 2 would not have a substantial adverse effect on a scenic vista during operations and maintenance. Therefore, no operations and maintenance impact to a scenic vista would occur under CEQA.

Decommissioning

The discussion regarding the location of the project site in a scenic vista described under "Construction" also applies to Decommissioning. Alternative 2 would not have a substantial adverse effect on a scenic vista during decommissioning. No decommissioning impact to a scenic vista would occur under CEQA.

Degrade Existing Visual Character or Quality of the Site

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

Construction

The components of the proposed project described under the Proposed Action also apply to Alternative 2. All components would be identical as would the alignment of the Gen-tie Line. The only difference is Alternative 2 would include development of 335 fewer acres (or approximately 45 MW less) than the Proposed Action

Like the Proposed Action, an estimated forty-four towers will be installed as part of construction of the Gen-tie Line proposed as part of Alternative 2 (refer to Figures 2.0-22 through 2.0-25 in Chapter 2.0). The exact design of the towers has not yet been determined (refer to Figures 2.0-28, 2.0-31 and 2.0-33 in Chapter 2.0 to see possible double circuit tower type options). (Note: typical single-pole structure – double circuit (suspension/braced) tower structure is depicted in the visual simulation for KOP #3 and KOP #6).

CSE Facility Site

Alternative 2 will change the look and character of the CSE Facility site during construction in the same way as the Proposed Action (refer to CSE Facility Site discussion under 4.1.3.1, Proposed Action) but affect 335 fewer acres. Thus the overall magnitude of the visual change would not be as extensive. Construction of the CSE Facility site, though 335 acres smaller, would still alter the existing visual character or quality of the site and its surroundings, but not substantially degrade existing visual quality based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the CSE Facility proposed as part of Alternative 2.

Gen-tie Line

Alternative 2 will change the look and character of private and BLM lands in the Gen-tie Line corridor during construction in exactly the same way as the Proposed Action (refer to Gen-tie Line discussion under 4.1.3.1, Proposed Action). Although construction of the Gen-tie Line component of Alternative 2 would change the existing visual character of the site from agriculture land to a solar energy facility with double circuit towers and an overhead transmission line adjacent to SR 98, the visibility of the project site varies from highly visible to barely visible in KOPs of the site. As shown in **Figure 4.1-3B**, the introduction of the Gen-tie Line would alter the existing visual character or quality of the site and its surroundings, but not substantially degrade existing visual quality based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the Gen-tie Line.

Operation and Maintenance

The discussion regarding the CSE Facility and Gen-tie Line's potential to degrade the existing visual character or quality of the site described under "Construction" also applies to "Operations and Maintenance" for Alternative 2. While the project would alter existing views, the CSE Facility and Gen-tie Line would not substantially degrade the visual quality of the project site or surrounding area based on the project's location in an unpopulated area with no outstanding visual features. Therefore, Alternative 2 would have a less than significant impact with regard to substantially degrading the existing visual character or quality of the site during operations and maintenance of the CSE Facility and Gen-tie Line.

Decommissioning

At the end of the useful life of Alternative 2 approximately 30+ years in the future, it would be decommissioned and dismantled. Approximately 335 fewer acres would require decommissioning compared to the Proposed Action. Following decommissioning, the Applicant proposes that the site be reclaimed for agricultural uses. The Agricultural Reclamation Plan, when implemented, would result in visual recovery of lands disturbed by decommissioning to agricultural uses. Thus a less than significant impact under CEQA to visual resources would result from decommissioning Alternative 2.

New Source of Substantial Light or Glare

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

Construction

The discussion of light and glare sources provided for construction of the Proposed Action also applies to Alternative 2. Short-term sources of lighting would be introduced to the project site during construction as part of site security storage and staging areas. However, BMPs proposed by the Applicant would minimize illumination of the project facilities, vicinity, and nighttime sky. Thus, new sources of light and glare associated with construction of Alternative 2 would result in a less than significant impact under CEQA.

Operation and Maintenance

As with the Proposed Action, the project site for Alternative 2 is used for agricultural production and as such is not currently a source of light or glare. As part of Alternative 2, a lighting system will be installed identical to the one described for the Proposed Action (e.g. fixtures secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security), but 335 fewer acres would require lighting compared to the Proposed Action. While the project would introduce some nighttime light, the project would be designed to avoid a substantial change in illumination in the existing night sky environment. Thus, new sources of light associated with operations and maintenance of Alternative 2 would result in a less than significant impact under CEQA.

Glare

The discussion of glare provided for the Proposed Action is identical for Alternative 2. As with the Proposed Action, PV modules proposed for the project would not create a source of glare during sunlight hours and no other reflective materials are proposed as part of the project. Therefore, operations and maintenance of Alternative 2 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.

Decommissioning

As with the Proposed Action, Alternative 2 would be decommissioned and dismantled at the end of its useful life. However, 335 fewer acres would require decommissioning activities compared to the Proposed Action. Although no decommissioning plan has been established, it is assumed that BMPs similar to those implemented during construction to minimize lighting and glare would be implemented, as necessary. Thus, new sources of light and glare associated with decommissioning of Alternative 2 would result in a less than significant impact under CEQA.

4.1.3.3 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Similar to the Proposed Action, construction of Alternative 3 would cause temporary visual impacts due to the presence of equipment, materials, and workforce. Alternative 3 would involve more construction activity associated with the 450-foot by 350-foot electric switch yard and four-breaker Ring Bus on the western edge of the CSE Facility site as well as the undercrossing location on BLM land. This area where the Ring Bus is located would be highly visible from SR 98, but construction of the undercrossing would less visible because it is setback from the north side of SR 98. Throughout the construction period, the industrial character of the activities would constitute temporary visual impacts compared to the existing rural/agricultural context. These visual changes would be considered a short-term direct impact. Best Management Practices proposed by the Applicant would be implemented and areas temporarily disturbed on BLM land would be addressed through the Restoration Plan. Thus, impacts to visual resources associated with construction of Alternative 3 would be temporary and BMPs are included to restore disturbed areas not permanently covered by project infrastructure. Following restoration, no direct impact would occur. Indirect (subsequent, long-term) impacts of construction are discussed under Operations and Maintenance.

Operation and Maintenance

The KOP analysis described for the Proposed Action also applies to Alternative 3. The 450-foot by 350-foot electric switch yard and four-breaker Ring Bus on the western edge of the CSE Facility site would be

located immediately west of the KOP and out of view (refer to Figure 2.0-37 in Chapter 2.0) . While the undercrossing represents a different configuration of the Gen-tie Line on BLM land than the Proposed Action, this area would not be highly visible or dominate views based on its location approximately 1,500 feet north of SR 98. The visual simulations for KOP #1 through #6 are all representative of Alternative 3 because double circuit towers were modeled in the visual simulations. Please refer to the discussion provided under the Proposed Action with regard to direct and indirect impacts for the KOPs #1 through #6 and **Figures 4.1-1A, 4.1-1B, 4.1-2A, 4.1-2B, 4.1-3A, 4.1-3B, 4.1-4A, 4.1-4B, 4.1-5A, 4.1-5B, 4.1-6A**, and **4.1-6B**.

Decommissioning

Impacts to visual resources during decommissioning of Alternative 3 would be similar but more intense than the Proposed Action due to the additional equipment included on the 450-foot by 350-foot electric switch yard (i.e. the four-breaker Ring Bus) as well as five H-frame undercrossing structures and three 3-pole tubular structures. As with the Proposed Action, the complete removal of the facility as part of decommissioning Alternative 3 would leave a very prominent visual impact over the entire CSE Facility site (direct impact) and a beneficial visual impact with regard to less electrical infrastructure in Utility Corridor N on land managed by the BLM. As with the Proposed Action, visual recovery from land disturbance associated with decommissioning of Alternative 3 would occur as part of reclaiming the project site to agricultural uses and reduce direct visual impacts. No indirect (following decommissioning) impacts would occur.

B. CEQA Significance Determinations

Adverse effect on Scenic Vista

1) Have a substantial adverse effect on a scenic vista.

Construction

Construction of Alternative 3 is similar to the Proposed Action but includes construction of a 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. On BLM land, Alternative 3 includes construction of an undercrossing using five H-frame undercrossing structures and three 3-pole tubular structures, and 11 fewer towers than the Proposed Action. Like the Proposed Action, the project site for Alternative 3 is not located in a designated scenic vista, nor has the Imperial County General Plan designated the project site as an important visual resource (Imperial County, 2008). Alternative 3 includes more development (the 450-foot by 350-foot electric switch yard and four-breaker Ring Bus) adjacent to SR 98 than the Proposed Action. In addition, none of the KOPs described above and in Section 3.1 of this EIR/EA are located in a designated scenic vista. Therefore, construction of Alternative 3 would not have a substantial adverse effect on a scenic vista. No construction-related impact to a scenic vista would occur under CEQA.

Operation and Maintenance

The discussion regarding the location of the project site in a scenic vista described under “Construction” also applies to “Operations and Maintenance.” Alternative 3 would not have a substantial adverse effect on a scenic vista during operations and maintenance. Therefore, no operations and maintenance related impact to a scenic vista would occur under CEQA.

Decommissioning

The discussion regarding the location of the project site in a scenic vista described under "Construction" also applies to Decommissioning. Alternative 3 would not have a substantial adverse effect on a scenic vista during decommissioning. Therefore, no decommissioning related impact to a scenic vista would occur under CEQA.

Degrade Existing Visual Character or Quality of the Site

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

Construction

The components of the proposed project described under the Proposed Action also apply to Alternative 3 with the addition of the 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. On BLM land, Alternative 3 includes construction of an undercrossing using five H-frame undercrossing structures and three 3-pole tubular structures and 11 fewer towers than the Proposed Action. All other components on the CSE Facility site would be identical. The alignment of the Gen-tie Line would be similar but shorter than the Proposed Action. Two approximately 2.5 mile-long 230-kV electric lines on new double-circuit towers would extend west from the Ring Bus to the radial SDG&E line (approximately 1.2 miles of this segment would be located on BLM land). These lines would follow the proposed Gen-tie Line route west to the existing 230-kV towers, then north across SR 98 to the tie-in point. At the tie-in point the Gen-tie Line would undercross the existing 230-kV lines (refer to Figure 2.0-37 and 2.0-39 in Chapter 2.0).

CSE Facility Site

Alternative 3 will change the look and character of the CSE Facility site during construction in a manner similar to the Proposed Action, (refer to CSE Facility Site discussion under 4.1.3.1, Proposed Action), but would also include more intensive development on the western-most parcel of the CSE Facility site (e.g. the Ring Bus) as well as the construction of a undercrossing on BLM land. Construction activities associated with the CSE Facility site, including the 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus, would temporarily alter the visual character of the site and its surroundings from SR 98. The area where construction of the undercrossing would occur on BLM land, while visible, would be setback north of SR 98. Development of Alternative 3 would not substantially degrade the visual character or quality of the site based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the CSE Facility proposed as part of Alternative 3.

Gen-tie Line

Alternative 3 will change the look and character of private and BLM lands in the Gen-tie Line corridor during construction. However, a much shorter segment of Gen-tie Line is proposed as part of Alternative 3 (approximately 1.25 miles of the Gen-tie Line would be on BLM land compared to 4.25 miles for the Proposed Action). In addition, an undercrossing at the existing 230-kV line would be constructed using five H-frame undercrossing structures and three 3-pole tubular structures. Although construction of the Gen-tie Line would change the existing visual character of private lands from agriculture land to an electrical transmission corridor with overhead transmission lines adjacent to SR 98, the visibility of the project site varies from highly visible to barely visible in KOPs of the site. The

undercrossing proposed as part of Alternative 3 would be located approximately 1,500 feet north of SR 98 and would align generally in an east to west direction somewhat parallel to SR 98. While it would still be visible at this distance, it would not be a dominant visual feature as other towers in the foreground would dominate views from this angle. As shown in **Figure 4.1-3B**, the introduction of the Gen-tie Line over SR 98 would change the existing visual character or quality of the site and its surroundings, but not substantially degrade the site's visual quality based on the project's location in an unpopulated area with no outstanding visual features. Therefore, less than significant impacts under CEQA would occur with regard to substantially degrading the existing visual character or quality of the site as a result of construction of the Gen-tie Line.

Operation and Maintenance

The discussion regarding the CSE Facility and Gen-tie Line's potential to degrade the existing visual character or quality of the site described under "Construction" also applies to "Operations and Maintenance" for Alternative 3. The CSE Facility and Gen-tie Line would not substantially degrade the visual quality of the project site or surrounding area based on the project's location in an unpopulated area with no outstanding visual features. Therefore, Alternative 3 would have a less than significant impact with regard to degrading the existing visual character or quality of the site during operations and maintenance of the CSE Facility and Gen-tie Line.

Decommissioning

At the end of the useful life of Alternative 3 approximately 30+ years in the future, it would be decommissioned and dismantled. More infrastructure would require dismantling in association with Alternative 3 (e.g. the equipment located in the 450-foot by 350-foot electric switch yard, undercrossing structures) compared to the Proposed Action. Following decommissioning, the Applicant proposes that the site be -reclaimed for agricultural uses. The Agricultural Reclamation Plan, when implemented, would result in visual recovery of lands disturbed by decommissioning to agricultural uses. Thus a less than significant impact under CEQA to visual resources would result from decommissioning Alternative 3.

New Source of Substantial Light or Glare

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

Construction

The discussion of light and glare sources provided for construction of the Proposed Action also applies to Alternative 3. Short-term sources of lighting would be introduced to the project site during construction as part of site security storage and staging areas. However, BMPs proposed by the Applicant would minimize illumination of the project facilities, vicinity, and nighttime sky. Thus, new sources of light and glare associated with construction of Alternative 3 would result in a less than significant impact under CEQA.

Operation and Maintenance

As with the Proposed Action, the CSE Facility site for Alternative 3 is used for agricultural production and as such is not currently a source of light or glare. As part of Alternative 3, a lighting system will be installed identical to the one described for the Proposed Action (e.g. fixtures secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security). While the

project would introduce some nighttime light, the project would be designed to avoid a substantial change in illumination in the existing night sky environment. Thus, new sources of light associated with operations and maintenance of Alternative 2 would result in a less than significant impact under CEQA.

Glare

The discussion of glare provided for the Proposed Action is identical for Alternative 3. As with the Proposed Action, PV modules proposed for the project would not create a source of glare during sunlight hours and no other reflective materials are proposed as part of the project. Therefore, operations and maintenance of Alternative 2 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.

Decommissioning

As with the Proposed Action, Alternative 3 would be decommissioned and dismantled at the end of its useful life approximately 30+ years in the future. However, additional infrastructure included as part of the Ring Bus and undercrossing would require decommissioning activities compared to the Proposed Action. Although no decommissioning plan has been established, it is assumed that BMPs similar to those implemented during construction to minimize lighting and glare would be implemented, as necessary. Thus, new sources of light and glare associated with decommissioning of Alternative 3 would result in a less than significant impact under CEQA.

4.1.3.4 Alternative 4- No Action/No Project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this alternative, the proposed project would not be constructed. No change in visual character would occur and no new sources of lighting or glare would be introduced to the project site or project area. No direct or indirect impacts to visual resources associated with construction would occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts to visual resources associated with operations and maintenance of the Proposed Action would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct or indirect impacts to visual resources would occur in association with decommissioning activities.

B. CEQA Significance Determinations

Construction

Under Alternative 4, no visual changes would occur. Thus, no impact with regard to visual resources including light and glare would occur under CEQA in association with Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site. Thus, no change in existing aesthetic character would occur and no impact with regard to visual resources would occur under CEQA in association with Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. No impacts to visual resources under CEQA would occur.

4.1.4 MITIGATION MEASURES

No mitigation measures are proposed, as no significant visual resource or light and glare impacts have been identified for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 – No Action/No Project under CEQA.

4.1.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, and Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 – No Action/No Project would not result in a significant visual resource, light or glare impact under CEQA; therefore, no mitigation is required.

SECTION 4.2
LAND USE AND SPECIAL DESIGNATIONS

4.2 LAND USE AND SPECIAL DESIGNATIONS

This section focuses on the proposed project/Proposed Action's consistency with existing land use plans, ordinances, regulations, policies, and the project's compatibility with existing or reasonably foreseeable land uses. The Project's compatibility with existing land use resources is also evaluated. The Project's impacts with respect to air quality, biological resources, cultural resources, noise, dust, public health, traffic and transportation, and visual resources are discussed in detail in separate sections of this EIR/EA.

Information contained in this section is based on review of the Imperial County General Plan (Imperial County, 1993), *California Desert Conservation Area Plan* (BLM, 1980), the *Yuha Basin Area of Critical Environmental Concern Management Plan* (BLM, 1981), and *FTHL Rangewide Management Strategy* (ICC, 2003).

4.2.1 METHODOLOGY FOR ANALYSIS

Evaluation of potential land use impacts of Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative was based on review of relevant planning documents, including the Imperial County General Plan, the Imperial County Land Use Ordinance, the Federal Land Policy and Management Act (FLPMA), and a field review of the project site and surrounding area conducted by Ericsson-Grant. The focus of the land use analysis is on land use impacts that would result from implementation of the proposed project/Proposed Action and alternatives. Land use conflicts are identified and evaluated based on existing land uses, land uses proposed as part of the project, land use designations, and standards and policies related to land use. Land use compatibility is based on the intensity and patterns of land use to determine whether the project would result in incompatible uses or nuisance impacts. Potential land use conflicts or incompatibility (specifically during construction activities) are usually the result of other environmental effects, such as generation of noise or air quality issues resulting from grading activities. Operational land use impacts of the project are evaluated in this section, and the reader is referred to Sections 4.1 through 4.15 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.

The Proposed Action was evaluated for its impacts on special designations based on a review of the FLPMA and California Desert Conservation Area Plan (CDCA). The Yuha Basin Area of Critical Environmental Concern (ACEC) would be considered a special designation.

4.2.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Sections 3.1 through 3.15 of Chapter 3.0 to provide the basis for the impact analysis in Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance, or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to changes in existing land uses. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance or decommissioning) or further removed in distance (for example, several miles from the project site).

4.2.2.1 CEQA Significance Criteria

The criteria listed below were used to determine if the proposed project/Proposed Action would result in impacts to land use. These criteria are the same as the significance criteria for Land Use listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would have a significant impact on land use if it would:

1) Physically divide an established community.
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.
3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.2.2.2 Issues Scoped Out as Part of the Initial Study

Criterion 1 was eliminated from further evaluation as part of the Initial Study because the proposed project does not physically divide any established community. Thus, no impact is identified for this issue area and it is not discussed further in this EIR/EA.

4.2.2.3 NEPA Requirements

The term "'Significantly' as used in NEPA requires considerations of both context and intensity…" (40 CFR 1508.27). Therefore, thresholds serve as a benchmark for determining if a project action will result in a significant adverse environmental impact when evaluated against the baseline. The environmental effects of the Proposed Action on land uses include an assessment of the context and intensity of the impacts as defined in the NEPA implementing regulations 40 CFR Part 1508.27.

The analysis of the effects of the Proposed Action, Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing must comply with NEPA requirements. Given the BLM land jurisdiction related to a segment of the Gen-tie Line, and that the CSE Facility would not be feasible without the electrical connection crossing federal land, the Proposed Action must comply with NEPA requirements.

For purposes of this EIR/EA, a significant special designations impact would occur if implementation of the Proposed Action, Proposed Action, Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing would:

4) Conflict with the management goals of any special designation area.

No conflicts with the management goals of any special designation area would occur under Alternative 4 - No Action/No Project Alternative as no development would occur.

4.2.3 ENVIRONMENTAL CONSEQUENCES

4.2.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed Gen-tie Line component of the Proposed Action is consistent with the Federal Land Policy and Management Policy Act (43 USC 1701 et seq., FLPMA), which encourages use of existing right-of-way when practical (Section 1763). The Gen-tie Line and access roads proposed under the Proposed Action would be consistent with this provision. The proposed Gen-tie Line is within a designated utility corridor and new roads that are not necessary for operation and maintenance of the Gen-tie Line will be restored following construction in accordance with a reclamation plan approved by the BLM. The CSE Facility site is on privately-owned land and therefore not subject to the FLPMA. As the Gen-tie Line is consistent with the FLPMA, no direct or indirect impacts to the plan would occur.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

The CDCA Plan is a comprehensive, long-range plan covering 25 million-acres. Approximately 12 million acres of this total are public lands administered by the BLM on behalf of the CDCA, including the portion of the proposed Gen-tie Line on federal lands. The Proposed Action is included in the "Land Use Activities" category of Transmission Lines as identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan. As noted in Table 1, under Multiple-Use Class L, M and I, "New…electric transmission facilities…may be allowed only within designated corridors (BLM, 1980, p. 15). The Southwest Powerlink 500-kV transmission line, an Imperial Irrigation District 230-kV line and the La Rosita 230-kV transmission line all align through Corridor N (BLM, 1985, p. 20). The proposed Gen-tie Line would extend through Corridor N. Because the proposed Gen-tie Line is allowed within Corridor N, a Plan Amendment is not needed. However, the Applicant has submitted an application for a grant of right-of-

way (ROW) from the BLM. The project's consistency with the CDCA Plan would result in no direct or indirect impacts to land use.

Yuha Desert Management Plan

The Yuha Desert Management Plan (YDMP) reexamined previous management efforts occurring in the Yuha Desert (BLM, 1985). The primary goal of the YDMP is to protect sensitive resource values while permitting compatible mineral, energy and recreation related activities. The proposed project is within the YDMP and is consistent with its goal to reduce impacts from electrical transmission lines and access roads. This is accomplished through locating the Gen-tie Line within Utility Corridor N. Thus, no direct or indirect impacts to land use as proposed in the YDMP would occur.

Flat-tailed Horned Lizard (FTHL) Rangewide Management Strategy

The FTHL Rangewide Management Strategy (Strategy) encourages surface-disturbing projects to be outside of Management Areas and limits the disturbance to one percent 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 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. To this end, the Proposed Action will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines with associated access roads thereby minimizing to the extent possible any additional disturbance to desert lands. The Proposed Action is designed to be consistent with the FTHL Rangewide Management Strategy. As such, no direct impacts to the Strategy would occur.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of the Proposed Action. Following construction, the project site would be accessed using only roadways that are necessary to maintain the site and facilities. The project would be operated and maintained within Utility Corridor N. All maintenance activities would be confined to existing roadways and disturbed areas. Therefore, the proposed project would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No direct or indirect impacts would occur to these conservation plans in association with operations and maintenance of the Proposed Action.

Decommissioning

At the end of the Proposed Action's operational life, all equipment and components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Some direct land use conflicts with surrounding agricultural lands may occur during decommissioning activities. However, these impacts would be temporary in nature and discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). Therefore, direct impacts to land use associated with decommissioning are anticipated.

B. CEQA Significance Determinations

Conflicts with Applicable Plans

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.

Construction

Federal Land Policy and Management Act, 1976

Construction of the proposed Gen-tie Line component of the Proposed Action is consistent with the Federal Land Policy and Management Act (FLPMA) which encourages use of existing right-of-way when practical (Section 503). No conflict with the FLPMA would occur and no impact would occur under CEQA.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

The proposed Gen-tie Line is allowed within Corridor N as identified in the CDCA Plan. The portion of the Gen-tie Line on federal land will require approval of a ROW grant by the BLM to allow construction and operation of the proposed electric line, any required improvements to existing unpaved access roads, and, if necessary, construction of new unpaved access roads within the federal lands managed by the BLM. With the approval of a ROW grant, construction of the Proposed Action would not conflict with the CDCA Plan. No conflict with the CDCA Plan would occur and no impact would occur under CEQA.

Yuha Desert Management Plan

The proposed project is within the YDMP and is consistent with its goal to reduce impacts from electrical transmission lines and access roads. This is accomplished through locating the Gen-tie Line within Utility Corridor N. Thus, no conflict with the Yuha Desert Management Plan would occur and no impact would occur under CEQA.

FTHL Rangewide Management Strategy

The Proposed Action will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines with associated access roads thereby minimizing to the extent possible any additional disturbance to desert lands, including habitat for FTHL. The Proposed Action is designed to be consistent with the FTHL Rangewide Management Strategy (Strategy). As such, no conflict with the Strategy would occur and no impact would occur under CEQA.

Imperial County General Plan

The CSE Facility portion of the Proposed Action is in Imperial County and is subject to the goals and policies of the Imperial County General Plan. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, aside from the following statement 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." The Land Use Element recognizes that geothermal plants, a form of renewable energy project, are permitted uses within the "Agriculture" land use category with approval of CUP and completion of environmental

review. The Applicant has requested CUP 10-0017 from the County and is preparing this EIR to fulfill the requirements of environmental review.

The Proposed Action is a conditionally permitted use under the A-2, A-2-R and A-3 zones, and is considered consistent with the "Agriculture" land use designation. A General Plan land use amendment would not be required for construction of the Proposed Action. Therefore, impacts of the project on the Imperial County General Plan are less than significant under CEQA.

County of Imperial Land Use Ordinance, Title 9

The Proposed Action is the construction and operation of a solar energy facility and associated Gen-tie Line. Development of the solar facility is subject to the County's land use ordinance. Pursuant to Title 9, Division 5, Chapter 8, "Solar energy electrical generator," "Electrical power generating plant," "Major facilities relating to the generation and transmission of electrical energy," and "Resource extraction and energy development," are uses that are permitted in the A-2, A-2-R and A-3 zone subject to approval of a Conditional Use Permit from Imperial County. As part of the Proposed Action, a CUP application (CUP10-0017) has been filed which would allow the uses of the Proposed Action including proposed access, to occur within the A-2, A-2-R and A-3 zones. Thus, the Proposed Action would be consistent with the land use ordinance and the underlying zoning of the proposed solar facility site. Therefore, no significant impact under CEQA related to the County of Imperial Land Use Ordinance would occur.

The Gen-tie Line connecting the CSE Facility to the electric grid at the Imperial Valley substation is proposed adjacent to the existing transmission lines within Utility Corridor N. Tower structures on private land will range from approximately 100 to 130 feet above ground and will be spaced typically 700 to 1,100 feet apart. Structures on federal land will range in height from approximately 100 to 150 feet above ground and spaced approximately 1,000 to 1,200 feet apart. Towers on federal land have the potential to be taller than those on private land in order to match the spacing of existing adjacent towers.

Heights for non-residential structures and commercial communication towers within zones A-2, A-2-R and A-3 are limited to 120 feet in height and must meet ALUC Plan requirements (Title 9 Division 5: Zoning Areas Established, Section 90508.07 and 90509.07). However towers of up to 130 feet in height are proposed on private lands. The Applicant has requested a variance (V10-0060 from the County). This variance applies only to the towers that will be within the private lands under the jurisdiction of Imperial County. The variance would eliminate for potential for conflicts with the height limit in A-2, A-2-R and A-3 zoning. Therefore, impacts would be considered less than significant under CEQA.

Airport Land Use Compatibility Plan (ALUCP)

The project site is approximately nine miles south of the Naval Air Facility, El Centro and approximately 7.5 miles west of the Calexico International Airport (GS Lyon, 2011a). The parcels that comprise the CSE Facility are not within any Airport Land Use Compatibility Zones. Furthermore, on March 16, 2016, the Airport Land Use Commission reviewed the application for the Proposed Action, including the proposed variance for the transmission tower height, and determined that the proposed project would be consistent with the Airport Land Use Compatibility Plan (ALUCP). Therefore, the land use for the proposed project facility is compatible with the ALUCP. No impacts to the ALUCP would occur in association with the Proposed Action under CEQA.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of the Proposed Action. Once the necessary ROW grant is approved by the BLM and the County has approved the CUP and Variance for the proposed project to be constructed, no additional conflicts with land use plans or policies are anticipated. Therefore, the proposed project would be consistent with applicable land use plans and policies and no impacts would occur under CEQA in association with operations and maintenance.

Decommissioning

When Proposed Action reaches the end of its operational life, the components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Intermittent land use conflicts may occur with regard to decommissioning activities and surrounding agricultural lands. However, these conflicts would be temporary in nature and are discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No impacts to land use plans and policies would occur under CEQA in association with decommissioning of the proposed project.

Conflict with Habitat Conservation Plan

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

Construction

Imperial County is not within the jurisdiction of any adopted habitat conservation plan or natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The CSE Facility and a portion of the Gen-tie Line through private land are in Imperial County and would have no impact to a habitat conservation plan or natural community conservation plan under CEQA.

The Gen-tie Line on federal lands managed by the BLM is subject to applicable conservation plans including the CDCA Plan, Yuha Basin Management Plan and FTHL Rangewide Management Strategy. The proposed Gen-tie Line and any new access roads on BLM lands would be considered an allowed use as they would be within a designated utility corridor (Utility Corridor N) per Map 16 of the CDCA Plan (BLM, 1980). Likewise, the Yuha Desert Management Plan and FTHL Rangewide Management Strategy allow and support location of utilities within the Yuha Desert if impacts are minimized. The Proposed Action will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines. Utility Corridor N supports multiple electric lines and has existing access roads. Locating in an existing utility corridor with access roads will minimize additional disturbance to desert lands. Therefore, the Proposed Action is designed to be consistent with the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. Impacts to applicable habitat conservation plans would be less than significant under CEQA.

Operations and Maintenance

The discussion of conflicts with an applicable habitat conservation plan provided under "Construction" also applies to Operations and Maintenance of the Proposed Action. Following construction, the project site would be accessed using only roadways that are necessary to maintain the site and facilities. The project would be operated and maintained within Utility Corridor N. All maintenance activities would be

confined to existing roadways and disturbed areas. Therefore, the proposed project would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No impacts to habitat conservation plans would occur in association with operations and maintenance of the Proposed Action under CEQA.

Decommissioning

When the Proposed Action reaches the end of its operational life, the components will be decommissioned and deconstructed. The project site will have been disturbed, developed and maintained as a solar energy facility. Decommissioning activities would be short-term. As no habitat conservation plan is currently in place in Imperial County, and it is speculative whether one would be adopted at the time of decommissioning, impacts are considered less than significant under CEQA.

C. NEPA Requirements

4) Conflict with the management goals of any special designation area.

Note: Appendix G of the State CEQA Guidelines does not provide significance criteria for special designations. Therefore, the following discussion is limited to direct and indirect impacts associated with construction, operations and maintenance and decommissioning.

Direct and Indirect Impacts

Construction

The Proposed Action is in the Yuha Basin Area of Critical Environmental Concern (ACEC) as identified on Map 17 of the California Desert Conservation Area (CDCA) Plan (BLM, 1985). The Yuha Basin covers approximately 40,622 acres and has prehistoric and historic values as well as wildlife habitat. The ACEC is considered a special designation within the Yuha Basin. Although the Gen-tie Line is allowed with approval of a grant of ROW from the BLM and would be within Utility Corridor N, short-term direct impacts to special designations would occur during construction. Temporary effects associated with fugitive dust, noise, visual alterations and potential plant and wildlife disturbance would occur in the ACEC. Fugitive dust during construction activities could impact the air quality. However mitigation measures have been identified (refer to mitigation measures AQ-1 and AQ-2 in Section 4.4, Air Quality) to reduce fugitive dust created during construction. Increases in ambient noise would occur in association with heavy equipment, trucks or other worker-related sounds. However, construction noise would be temporary, occurring for limited durations each day, and ceasing once construction is completed. Views from surrounding roadways would be temporarily altered with the introduction of construction equipment and vehicles to prepare the site, install foundations and erect towers. Visual alterations associated with construction equipment and activities would cease following the construction phase. Adverse effects to biological resources during construction (such as disturbance of FTHL, wetlands, and avian species) would be reduced through implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources). Indirect effects of construction (occurring at a later time) are addressed under Operations and Maintenance.

Operations and Maintenance

The Proposed Action would be within the Yuha Basin ACEC as mentioned above under “Construction”. Multiple electrical lines are currently in the Yuha Basin ACEC within Utility Corridor N. Once operational, the Proposed Action would expand the number of towers and electrical lines in Utility Corridor N. This is allowed with a grant of ROW from the BLM. No direct impacts to land use within a special designation

would occur. However, direct impacts such as changes in views or disturbance of native plant and wildlife may occur. Because the visual quality of the area is considered low to moderate, long-term changes in views as a result of additional electrical infrastructure in Utility Corridor N would not appear prominent or drastically change the existing visual environment. Implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources) would reduce adverse effects to native plant and wildlife (including avian species and FTHL) during operations and maintenance.

Decommissioning

The Proposed Action would be within the Yuha Basin ACEC as mentioned above under "Construction". Decommissioning activities would cause temporary fugitive dust and noise associated with removal of above-ground and buried infrastructure, heavy equipment trips, etc. Views would also be temporarily disturbed by the presences of dismantling activities. However, permanent views would be improved by the removal of one set of tower structures and associated electrical lines. After decommissioning is completed, visual impacts described for "Operation and Maintenance" above, would be improved with removal of a portion of electrical infrastructure in Utility Corridor N. This would be a beneficial direct impact of decommissioning the Proposed Action.

4.2.3.2 Alternative 1 – Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed double circuit gen-tie line structures on federal lands managed by the BLM is consistent with the Federal Land Policy and Management Act (FLPMA) which encourages use of existing ROW when practical (Section 503). As with the Proposed Action, the double circuit gen-tie line structures proposed as part of Alternative 1 are within a designated utility corridor. As the double circuit gen-tie line structures for Alternative 1 are consistent with the FLPMA, no direct or indirect impacts to this plan would occur.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

Alternative 1 would follow the same alignment as the Proposed Action within Utility Corridor N. Because the proposed double circuit gen-tie line structures are allowed within Corridor N, a Plan Amendment is not needed. Locating the double circuit tower structures in this corridor would minimize disturbance on BLM lands during construction. However, as with the Proposed Action, Alternative 1 would also require a grant of ROW from the BLM. Alternative 1 is considered consistent with the CDCA Plan. No direct or indirect impacts to the CDCA Plan would occur.

Yuha Desert Management Plan

As with the Proposed Action, Alternative 1 is within the YDMP and is consistent with its goal to reduce impacts from electrical transmission lines and access roads. Alternative 1 proposes double circuit towers which would accommodate the proposed gen-tie line as well as an additional 230-kV line. Alternative 1 is proposed within Utility Corridor N making its location consistent with the YDMP. Thus, no direct or indirect impacts to the YDMP would occur.

FTHL Rangewide Management Strategy

The FTHL Rangewide Management Strategy (Strategy) encourages surface-disturbing projects to be outside of Management Areas and limits the disturbance to one percent of the total land area in the Management Areas. As with the Proposed Action, Alternative 1 will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines with associated access roads thereby minimizing to the extent possible any additional disturbance to desert lands. In addition, Alternative 1 would support a double circuit which would eliminate the need for a separate tower that would otherwise be required to support an additional 230-kV electrical line. The tower structure's ability to support an additional electrical line would prevent, in part, impacts to FTHL associated with the construction of a separate set of gen-tie structures. Therefore, Alternative 1 would be consistent with the Strategy and no direct impacts are anticipated.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 1. Following construction, Alternative 1 would be accessed using only roadways that are necessary to maintain the site and facilities. The double circuit tower structures proposed as part of Alternative 1 would be operated and maintained within Utility Corridor N. All maintenance activities would be confined to existing roadways and disturbed areas. Therefore, Alternative 1 would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No conflicts with these conservation plans would occur during operations and maintenance of Alternative 1. Therefore, no direct or indirect impact would occur.

Decommissioning

At the end of the operational life of Alternative 1, all equipment and components will be decommissioned and deconstructed. Poles and double circuit towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required after Alternative 1 is decommissioned. The extent to which new access roads or staging areas may be needed on federal lands to facilitate decommissioning is unknown at this time. If new roads or staging areas are necessary, habitat or other sensitive desert resources identified in the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy could be disturbed. However, these impacts would be temporary in nature and are discussed in other applicable sections of this EIR/EA (e.g. Biological Resources, Cultural Resources). No direct impacts to land use would occur in association with decommissioning.

B. CEQA Significance Determination

Conflicts with Applicable Plans

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.

Construction

Federal Land Policy and Management Act, 1976

Alternative 1 proposes to install tower structures capable of supporting an additional 230-kV circuit within the same alignment as the Proposed Action. This is consistent with the FLPMA which encourages use of existing ROW when practical (Section 503). As with the Proposed Action, the portion of the Gen-tie Line proposed on federal land as part of Alternative 1 will require ROW approval by the Bureau of Land Management (BLM). As an added benefit, Alternative 1 would support an additional 230-kV electric line. No conflict with the FLPMA would occur and no impact would occur under CEQA.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

The proposed Gen-tie Line proposed as part of Alternative 1 is allowed within Utility Corridor N as identified in the CDCA Plan. The portion of the Gen-tie Line on federal land will require ROW approval by the BLM to allow construction and operation of the proposed electric line. Alternative 1's inclusion of double circuit towers would prevent, in part, impacts associated with the construction of a separate set of gen-tie structures within Utility Corridor N. Reducing the number of towers constructed in the CDCA Plan is a benefit of Alternative 1. No conflict with the CDCA Plan would occur and no impact would occur under CEQA.

Yuha Desert Management Plan

Alternative 1 is within the YDMP. Alternative 1 is consistent with the YDMP goal to reduce impacts from electrical transmission lines and access roads by including double circuit towers capable of supporting an additional 230-kV line. Like the Proposed Action, Alternative 1 is in Utility Corridor N and is consistent with the types of utilities allowed within this corridor. Thus, no conflict with the YDMP would occur and no impact would occur under CEQA.

Imperial County General Plan

The CSE Facility portion of Alternative 1 is in Imperial County and is a conditionally permitted use under the A-2, A-2-R and A-3 zones. As with the Proposed Action, Alternative 1 would require CUP from the County in order to construct the project. However, a General Plan amendment would not be required as Alternative 1 is considered consistent with the Imperial County "Agriculture" land use designation. Conflicts with height restrictions in zones A-2, A-2-R and A-3 would be addressed through a CUP variance. Therefore, impacts to the Imperial County General Plan are considered less than significant under CEQA.

County of Imperial Land Use Ordinance, Title 9

As with the proposed Action, Alternative 1 would require a CUP from the County to construct the project. Therefore, no impact related to the County of Imperial Land Use Ordinance would occur under CEQA.

The Gen-tie Line component of Alternative 1 is proposed adjacent to the existing transmission lines within Utility Corridor N. Towers up to 130 feet in height on private lands are anticipated in association with Alternative 1. These towers include double circuit structures capable of accommodating the proposed Gen-tie Line and an additional 230-kV electrical line. Non-residential structures in zones A-2, A-2-R and A-3 are limited to 120 feet in height and must be consistent with the ALUC Plan (Title 9 Division 5: Zoning Areas Established, Section 90508.07 and 90509.07). Therefore, a variance for towers in the jurisdiction of Imperial County applies to Alternative 1, just as occurs for the Proposed Action. Impacts associated with tower height would be addressed through a variance and would be considered less than significant under CEQA.

Airport Land Use Compatibility Plan (ALUCP)

The CSE Facility of Alternative 1 would occupy the same parcels as the Proposed Action. None of the parcels that comprise the CSE Facility are within any Airport Land Use Compatibility Zones. Alternative 1 would require review by the Airport Land Use Commission to determine if it is consistent with the Airport Land Use Compatibility Plan (ALUCP). The only difference between the Proposed Action and Alternative 1 is the use of double circuit towers as part of Alternative 1. Therefore, the land use for Alternative 1 is anticipated to be compatible with the ALUCP. No conflicts with the ALUCP would occur and no impact would occur under CEQA.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 1. No impacts or less than significant impacts would occur under CEQA with regard to conflicts with applicable land use plans and policies.

Decommissioning

At the end of the operational life of Alternative 1, all equipment and components will be decommissioned and deconstructed. Poles and double circuit towers used to support the Gen-tie Line and 230-kV electrical line will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required when Alternative 1 is decommissioned. Some indirect land use conflicts with surrounding agricultural lands may occur during decommissioning activities. However, these impacts would be temporary in nature and discussed in other applicable sections of this EIR/EA (e.g. e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No impacts to land use plans and policies would occur under CEQA in association with decommissioning Alternative 1.

Conflict with Habitat Conservation Plan

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

Construction

Imperial County is not within the jurisdiction of any adopted habitat conservation plan or natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The CSE Facility and a portion of the double circuit gen-tie through private land proposed as part of Alternative 1 are in Imperial County and would have no impact to a habitat conservation plan or natural community conservation plan under CEQA.

The double circuit gen-tie line proposed as part of Alternative 1 is on federal lands managed by the BLM. As such, Alternative 1 is subject to applicable conservation plans including the CDCA Plan, Yuha Basin Management Plan and FTHL Rangewide Management Strategy. The proposed double circuit gen-tie and any new access roads on BLM lands would be considered an allowed use as they would be within a designated utility corridor (Utility Corridor N) per Map 16 of the CDCA Plan (BLM, 1980). Likewise, the Yuha Desert Management Plan and FTHL Rangewide Management Strategy allow and support location of utilities within the Yuha Desert if impacts are minimized. Utility Corridor N supports multiple electric lines and has existing access roads. Locating Alternative 1 in an existing utility corridor with access roads will minimize additional disturbance to desert lands. Therefore, Alternative 1 is designed to be consistent with the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. Impacts to applicable habitat conservation plans resulting from Alternative 1 would be less than significant under CEQA.

Operations and Maintenance

The discussion of conflicts with an applicable habitat conservation plan provided under "Construction" also applies to Operations and Maintenance of the proposed project. Following construction, the project site would be accessed using only roadways that are necessary to maintain the site and facilities. The project would be operated and maintained within Utility Corridor N. All maintenance activities would be confined to existing roadways and disturbed areas. Therefore, the proposed project would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No impacts to habitat conservation plans under CEQA would occur in association with operations and maintenance of Alternative 1.

Decommissioning

When Alternative 1 reaches the end of its operational life, the components will be decommissioned and deconstructed. The project site will have been disturbed, developed and maintained as a solar energy facility. Decommissioning activities would be short-term. As no habitat conservation plan is currently in place in Imperial County, and it is speculative whether one would be adopted at the time of decommissioning, impacts are considered less than significant under CEQA.

C. NEPA Requirements

4) Conflict with the management goals of any special designation area.

Note: Appendix G of the State CEQA Guidelines does not provide significance criteria for special designations. Therefore, the following discussion is limited to direct and indirect impacts associated with construction, operations and maintenance and decommissioning. No CEQA determination is necessary.

Direct and Indirect Impacts

Construction

The Alternative 1 is in the Yuha Basin Area of Critical Environmental Concern (ACEC) as identified on Map 17 of the California Desert Conservation Area (CDCA) Plan (BLM, 1985). The Yuha Basin covers approximately 40,622 acres and has prehistoric and historic values as well as wildlife habitat. The ACEC is considered a special designation within the Yuha Basin. Although the Gen-tie Line is allowed with approval of a grant of ROW from the BLM and would be within Utility Corridor N, short-term direct impacts to special designations would occur during construction. Temporary effects associated with fugitive dust, noise, visual alterations and potential plant and wildlife disturbance would occur in the

ACEC. Fugitive dust during construction activities could impact the air quality. However mitigation measures have been identified (refer to mitigation measures AQ-1 and AQ-2 in Section 4.4, Air Quality) to reduce fugitive dust created during construction. Increases in ambient noise would occur in association with heavy equipment, trucks or other worker-related sounds. However, construction noise would be temporary, occurring for limited durations each day, and ceasing once construction is completed. Views from surrounding roadways would be temporarily altered with the introduction of construction equipment and vehicles to prepare the site, install foundations and erect towers. Visual alterations associated with construction equipment and activities would cease following the construction phase. Adverse effects to biological resources during construction (such as disturbance of FTHL, wetlands, and avian species) would be reduced through implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources). Indirect effects of construction (occurring at a later time) are addressed under Operations and Maintenance.

Operations and Maintenance

Like the Proposed Action, Alternative 1 would be within the Yuha Basin ACEC as mentioned above under "Construction." Multiple electrical lines are currently in the Yuha Basin ACEC within Utility Corridor N. Once operational, Alternative 1 would increase the number of towers and electrical lines in Utility Corridor N. As an allowed use, no direct impacts to special designations would occur in association with operations and maintenance of Alternative 1. However, direct impacts such as changes in views or disturbance of native plant and wildlife may occur. Because the visual quality of the area is considered low to moderate, long-term changes in views as a result of additional electrical infrastructure in Utility Corridor N would not appear prominent or drastically change the existing visual environment. Implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources) would reduce adverse effects to native plant and wildlife (including avian species and FTHL) during operations and maintenance.

Decommissioning

Alternative 1 would be within the Yuha Basin ACEC as mentioned above under "Construction". Decommissioning activities would cause temporary fugitive dust and noise associated with removal of above-ground and buried infrastructure, heavy equipment trips, etc. Views would also be temporarily disturbed by the presences of dismantling activities. However, permanent views would be improved by the removal of one set of tower structures and associated electrical lines. After decommissioning is completed, visual impacts described for "Operation and Maintenance" above, would be improved with removal of a portion of electrical infrastructure in Utility Corridor N. This would be a beneficial direct impact of decommissioning Alternative 1.

4.2.3.3 ALTERNATIVE 2 – REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed Gen-tie Line component of Alternative 2 would be identical to the Proposed Action. As a result, Alternative 2 is consistent with FLPMA which encourages use of existing ROW when practical (Section 503). The CSE Facility site proposed as part of Alternative 2 is on privately-owned land and therefore not subject to the FLPMA. As the gen-tie line component of Alternative 2 is consistent with the FLPMA, no direct or indirect impacts to the plan would occur.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

As with the Proposed Action, Alternative 2 includes a portion of the proposed Gen-tie Line on federal lands within in the CDCA Plan. Transmission Lines are identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan as an allowed use within a designated corridor (BLM, 1980). The proposed Gen-Tie Line would extend through Utility Corridor N as identified on Map 16 of the CDCA Plan (BLM, 1980). The Applicant has submitted an application for a grant of ROW from the BLM for the gen-tie line. Alternative 2 is consistent with the CDCA Plan and would result in no direct impacts to special designations.

Yuha Desert Management Plan

Alternative 2 proposes the same gen-tie components as the Proposed Action within the Yuha Desert Management Plan (YDMP). Like the Proposed Action, Alternative 2 would locate the proposed Gen-tie Line within Utility Corridor N. Placing infrastructure in Utility Corridor N is consistent with the YDMP's goal to reduce impacts from electrical transmission lines and access roads. Thus, no direct or indirect impacts to land use as proposed in the Yuha Desert Management Plan would occur in association with Alternative 2.

FTHL Rangewide Management Strategy

The FTHL Rangewide Management Strategy (Strategy) encourages surface-disturbing projects to be outside of Management Areas and limits the disturbance to one percent of the total land area in the Management Areas. As with the Proposed Action, Alternative 2 will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines with associated access roads thereby minimizing to the extent possible any additional disturbance to desert lands. Therefore, Alternative 2 would be consistent with the Strategy and no direct impacts would occur.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 2. Following construction, the project site would be accessed using only roadways that are necessary to maintain the site and facilities. Alternative 2 would be operated and maintained within Utility Corridor N. All maintenance activities would be confined to existing roadways and disturbed areas. Therefore, Alternative 2 would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No direct or indirect impacts would occur to these plans, or any special designations (e.g. ACEC) would occur in association with operations and maintenance of Alternative 2.

Decommissioning

At the end of the project's operational life, all equipment and components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Some temporary indirect land use conflicts with surrounding agricultural lands may occur during decommissioning activities. Likewise, if new roads or staging areas are necessary, habitat or other sensitive desert resources identified in the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy could be disturbed. However, these impacts would be temporary in nature and discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No direct impacts to land use or special designations are anticipated in association with decommissioning Alternative 2.

B. CEQA Significance Determination

Conflicts with Applicable Plans

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.

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed Gen-tie Line component of Alternative 2 would be identical to the Proposed Action. As a result, Alternative 2 is consistent with the FLPMA which encourages use of existing ROW when practical (Section 503). The CSE Facility site proposed as part of Alternative 2 is on privately-owned land and therefore not subject to the FLPMA. No conflict with the FLPMA for Alternative 2 would occur and no impact would occur under CEQA.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

As with the Proposed Action, Alternative 2 includes a portion of the proposed Gen-tie Line on federal lands within in the CDCA Plan. Transmission Lines are identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan as an allowed use within a designated corridor (BLM, 1980). The proposed Gen-Tie Line would extend through Utility Corridor N as identified on Map 16 of the CDCA Plan (BLM, 1980). The Applicant has submitted an application for a grant of ROW from the BLM for the gen-tie line. With the approval of a ROW grant, construction of Alternative 2 would not conflict with the CDCA Plan. Therefore, no conflict with the CDCA Plan would occur and no impact resulting from Alterative 2 would occur under CEQA.

Yuha Desert Management Plan

Alternative 2 proposes the same gen-tie components as the Proposed Action within the Yuha Desert Management Plan (YDMP). Like the Proposed Action, Alternative 2 would have locate the proposed Gen-tie Line within Utility Corridor N. Placing infrastructure in Utility Corridor N is consistent with the YDMP's goal to reduce impacts from electrical transmission lines and access roads. Thus, no conflict with the Yuha Desert Management Plan would occur and no impact would occur under CEQA.

Imperial County General Plan

The CSE Facility portion of Alternative 2 is in Imperial County and is subject to the goals and policies of the Imperial County General Plan. While solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, geothermal plants, a form of renewable energy project, are permitted uses within the "Agriculture" land use category with approval of CUP and completion of environmental review. Likewise, Alternative 2, as a renewable energy project, is subject to a CUP from the County and preparation of this EIR to fulfill the requirements of environmental review. Thus, no conflict with the Imperial County General Plan would occur in association with Alternative 2 and no impact would occur under CEQA.

County of Imperial Land Use Ordinance, Title 9

Identical to the Proposed Action, Alternative 2 is the construction and operation of a solar energy facility and associated Gen-tie Line. Development of the solar facility is subject to the County's land use ordinance. Pursuant to Title 9, Division 5, Chapter 8, "Major facilities relating to the generation and transmission of electrical energy" are permitted in the A-2, A-2-R and A-3 zone subject to approval of a Conditional Use Permit from Imperial County. A CUP application (CUP 10-0017) has been filed which would allow the uses of Alternative 2, including proposed access, to occur within the A-2, A-2-R and A-3 zones. Thus, Alternative 2 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.

Within zones A-2, A-2-R and A-3, heights for non-residential structures and commercial communication towers are limited to 120 feet in height and must meet ALUC Plan requirements (Title 9 Division 5: Zoning Areas Established, Section 90508.07 and 90509.07). Towers of up to 130 feet in height are proposed on private lands as part of Alternative 2. The Applicant has requested a variance (V10-0060) from the County which applies only to the towers that will be within the private lands under the jurisdiction of Imperial County. Thus, no conflict with the County of Imperial Land Use Ordinance, Title 9 would occur and no impact resulting from Alternative 2 would occur under CEQA.

Airport Land Use Compatibility Plan (ALUCP)

As with the Proposed Action, the parcels that comprise the CSE Facility for Alternative 2 are not within any Airport Land Use Compatibility Zones. Furthermore, on March 16, 2016, the Airport Land Use Commission reviewed the application for the Proposed Action, including the proposed variance for the transmission tower height, and determined that the proposed project would be consistent with the Airport Land Use Compatibility Plan (ALUCP). Alternative 2 is identical to the Proposed Action with the exception that parcels under Williamson Action Contract (approximately 335 acres) would not be included as part of the CSE Facility site. Therefore, since the land use for the Proposed Action is considered compatible with the ALUCP, the same would be true for Alternative 2. Likewise, no impact to the ALUCP resulting from Alternative 2 would occur under CEQA.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 2. Once the necessary ROW grant is approved by the BLM and the County has approved the CUP and Variance for the proposed project to be constructed, no additional conflicts with land use plans or policies are anticipated.

Therefore, the proposed project would be consistent with applicable land use plans and policies and no impacts would occur under CEQA in association with operations and maintenance of Alternative 2.

Decommissioning

When Alternative 2 reaches the end of its operational life, the components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Some temporary indirect land use conflicts with surrounding agricultural lands may occur during decommissioning activities. Likewise, if new roads or staging areas are necessary, habitat or other sensitive desert resources identified in the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy could be disturbed. However, these impacts would be temporary in nature and discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No impacts to applicable land use plans and policies are anticipated under CEQA in association with decommissioning Alternative 2.

Conflict with Habitat Conservation Plan

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

Construction

Imperial County is not within the jurisdiction of any adopted habitat conservation plan or natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The CSE Facility and a portion of the Gen-tie Line through private land proposed as part of Alternative 2 are in Imperial County and would have no impact to a habitat conservation plan or natural community conservation plan under CEQA.

Operations and Maintenance

The discussion of conflicts with an applicable habitat conservation plan provided under "Construction" also applies to Operations and Maintenance of Alternative 2.

Decommissioning

When Alternative 2 reaches the end of its operational life, the components will be decommissioned and deconstructed. The project site will have been disturbed, developed and maintained as a solar energy facility. Decommissioning activities would be short-term. As no habitat conservation plan is currently in place in Imperial County, and it is speculative whether one would be adopted at the time of decommissioning, impacts are considered less than significant under CEQA.

C. NEPA Requirements

4) Conflict with the management goals of any special designation area.

Note: Appendix G of the State CEQA Guidelines does not provide significance criteria for special designations. Therefore, the following discussion is limited to direct and indirect impacts associated with construction, operations and maintenance and decommissioning. No CEQA determination is necessary.

Direct and Indirect Impacts

Construction

Like the Proposed Action, Alternative 2 is in the Yuha Basin Area of Critical Environmental Concern (ACEC) as identified on Map 17 of the California Desert Conservation Area (CDCA) Plan (BLM, 1985). The ACEC is considered a special designation within the Yuha Basin. Although the Gen-tie Line is allowed with approval of a grant of ROW from the BLM and would be within Utility Corridor N, short-term direct impacts to special designations would occur during construction. Temporary effects associated with fugitive dust, noise, visual alterations and potential plant and wildlife disturbance would occur in the ACEC. Fugitive dust during construction activities could impact the air quality. However mitigation measures have been identified (refer to mitigation measures AQ-1 and AQ-2 in Section 4.4, Air Quality) to reduce fugitive dust created during construction. Increases in ambient noise would occur in association with heavy equipment, trucks or other worker-related sounds. However, construction noise would be temporary, occurring for limited durations each day, and ceasing once construction is completed. Views from surrounding roadways would be temporarily altered with the introduction of construction equipment and vehicles to prepare the site, install foundations and erect towers. Visual alterations associated with construction equipment and activities would cease following the construction phase. Adverse effects to biological resources during construction (such as disturbance of FTHL, wetlands, and avian species) would be reduced through implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources). Indirect effects of construction (occurring at a later time) are addressed under Operations and Maintenance.

Operations and Maintenance

Like the Proposed Action, Alternative 2 would be within the Yuha Basin ACEC as mentioned above under "Construction." Multiple electrical lines are currently in the Yuha Basin ACEC within Utility Corridor N. Once operational, Alternative 2 would increase the number of towers and electrical lines in Utility Corridor N. As an allowed use, no direct impacts to special designations would occur in association with operations and maintenance of Alternative 2. However, direct impacts such as changes in views or disturbance of native plant and wildlife may occur. Because the visual quality of the area is considered low to moderate, long-term changes in views as a result of additional electrical infrastructure in Utility Corridor N would not appear prominent or drastically change the existing visual environment. Implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources) would reduce adverse effects to native plant and wildlife (including avian species and FTHL) during operations and maintenance.

Decommissioning

Alternative 2 would be within the Yuha Basin ACEC as mentioned above under "Construction". Decommissioning activities would cause temporary fugitive dust and noise associated with removal of above-ground and buried infrastructure, heavy equipment trips, etc. Views would also be temporarily disturbed by the presences of dismantling activities. However, permanent views would be improved by the removal gen-tie towers and electrical lines within Utility Corridor N. This would be a beneficial direct impact of decommissioning Alternative 2.

4.2.1.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed Gen-tie Line component of Alternative 3 would follow a similar alignment. However, Alternative 3 would require a shorter (1.2 mile-long) Gen-tie Line segment on federal land compared to the Proposed Action (4.25 miles in length). Alternative 3 is also consistent with the FLPMA which encourages use of existing ROW when practical (Section 503). The CSE Facility site proposed as part of Alternative 3, including the450 foot by 350 foot electric switch yard, is on privately-owned land and therefore not subject to the FLPMA. As the gen-tie line component of Alternative 3 is consistent with the FLPMA, no direct or indirect impacts to the plan would occur.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

As with the Proposed Action, Alternative 3 includes a portion of the proposed Gen-tie Line on federal lands within in the CDCA Plan. However, Alternative 3 includes a shorter segment on federal lands (1.2 miles) compared to the Proposed Action (4.25 miles). Transmission Lines are identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan as an allowed use within a designated corridor (BLM, 1980). The Gen-Tie Line proposed as part of Alternative 3 would extend through Utility Corridor N as identified on Map 16 of the CDCA Plan (BLM, 1980), but would tie in to the SDG&E electric line adjacent to the first set of existing 230-kV tower structures to the north of SR 98. As a result, Alternative 3 would require 11 fewer towers within the CDCA Plan compared to the Proposed Action. The Applicant has submitted an application for a grant of ROW from the BLM for the gen-tie line. Alternative 3 is consistent with the CDCA Plan and would result in no direct impacts to special designations.

Yuha Desert Management Plan

Alternative 3 proposes 11 fewer tower structures than the Proposed Action within the Yuha Desert Management Plan (YDMP). Like the Proposed Action, Alternative 3 would locate the proposed Gen-tie

Line within Utility Corridor N. However, Alternative 3 would tie-in to existing SDG&E electric line and would not require separate towers and wiring all the way to the Imperial Valley Substation. Placing infrastructure in Utility Corridor N is consistent with the YDMP's goal to reduce impacts from electrical transmission lines and access roads. Thus, no direct or indirect impacts to land use as proposed in the Yuha Desert Management Plan would occur in association with Alternative 3.

FTHL Rangewide Management Strategy

The FTHL Rangewide Management Strategy (Strategy) encourages surface-disturbing projects to be outside of Management Areas and limits the disturbance to one percent of the total land area in the Management Areas. As with the Proposed Action, Alternative 3 will use existing access roads to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. In addition, Alternative 3 proposes 11 fewer towers than the Proposed Action thereby minimizing to the extent possible any additional disturbance to desert lands. Therefore, Alternative 3 would be consistent with the Strategy and no direct impacts would occur.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 3. Following construction, the project site would be accessed using only roadways that are necessary to maintain the site and facilities. Alternative 2 would be operated and maintained within Utility Corridor N. All maintenance activities would be confined to existing roadways and disturbed areas. Therefore, Alternative 3 would be consistent with applicable habitat conservation plans including the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy. No direct or indirect impacts would occur to these plans, or any special designations (e.g. ACEC) would occur in association with operations and maintenance of Alternative 3.

Decommissioning

At the end of the operational life of Alternative 3, all equipment and components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed as well as all equipment associated with the Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house). A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Some temporary indirect land use conflicts with surrounding agricultural lands may occur during decommissioning activities. Likewise, if new roads or staging areas are necessary, habitat or other sensitive desert resources identified in the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy could be disturbed. However, these impacts would be temporary in nature and discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No direct impacts to land use or special designations are anticipated in association with decommissioning Alternative 3.

B. CEQA Significance Determination

Conflicts with Applicable Plans

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.

Construction

Federal Land Policy and Management Act, 1976

Construction and operation of the proposed Gen-tie Line component of Alternative 3 would result in 11 fewer towers on federal land compared to the Proposed Action. In addition, Alternative 3 includes a Gen-tie Line which would connect to the existing radial SDG&E line adjacent to the first set of existing towers north of SR 98. Alternative 3 is consistent with the FLPMA which encourages use of existing ROW when practical (Section 503). The CSE Facility site proposed as part of Alternative 2 is on privately-owned land and therefore not subject to the FLPMA. No conflict with the FLPMA for Alternative 2 would occur and no impact would occur under CEQA.

California Desert Conservation Area (CDCA) Plan, 1980 as Amended

As with the Proposed Action, Alternative 3 includes a portion of the proposed Gen-tie Line on federal lands within in the CDCA Plan. However, Alternative 3 would have a shorter segment (1.2 miles in length) on federal lands compared to the Proposed Action (4.25 miles in length). Transmission Lines are identified in Table 1, Multiple-Use Class Guidelines, of the CDCA Plan as an allowed use within a designated corridor (BLM, 1980). The Gen-Tie Line proposed as part of Alternative 3 would extend through Utility Corridor N as identified on Map 16 of the CDCA Plan (BLM, 1980). The Applicant has submitted an application for a grant of ROW from the BLM for the gen-tie line. With the approval of a ROW grant, construction of Alternative 3 would not conflict with the CDCA Plan. Therefore, no conflict with the CDCA Plan would occur and no impact resulting from Alterative 3 would occur under CEQA.

Yuha Desert Management Plan

Alternative 3 includes a shorter gen-tie line within the Yuha Desert Management Plan (YDMP) compared to the Proposed Action. Like the Proposed Action, Alternative 3 would locate the proposed Gen-tie Line within Utility Corridor N. However, 11 fewer towers would be required and a 1.2 mile segment rather than a 4.25 mile segment (Proposed Action) is included as part of Alternative 3. Placing infrastructure in Utility Corridor N is consistent with the YDMP's goal to reduce impacts from electrical transmission lines and access roads. Thus, no conflict with the Yuha Desert Management Plan would occur and no impact would occur under CEQA.

Imperial County General Plan

The CSE Facility portion of Alternative 3, including the 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus is in Imperial County and is subject to the goals and policies of the Imperial County General Plan. While solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, geothermal plants, a form of renewable energy project, are permitted uses within the "Agriculture" land use category with approval of CUP and completion of environmental review. Likewise, Alternative 3, as a renewable energy project, is subject to a CUP from the County and preparation of this EIR to fulfill the requirements of environmental review. Thus, no conflict with the Imperial County General Plan would occur in association with Alternative 3 and no impact would occur under CEQA.

County of Imperial Land Use Ordinance, Title 9

As with the Proposed Action, Alternative 3 is the construction and operation of a solar energy facility and associated Gen-tie Line. Development of the solar facility is subject to the County's land use ordinance. Pursuant to Title 9, Division 5, Chapter 8, "Major facilities relating to the generation and transmission of electrical energy" are permitted in the A-2, A-2-R and A-3 zone subject to approval of a Conditional Use Permit from Imperial County. A CUP application (CUP 10-0017) has been filed which would allow the uses of Alternative 3, including proposed access, to occur within the A-2, A-2-R and A-3 zones. Thus, Alternative 3 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.

Within zones A-2, A-2-R and A-3, heights for non-residential structures and commercial communication towers are limited to 120 feet in height and must meet ALUC Plan requirements (Title 9 Division 5: Zoning Areas Established, Section 90508.07 and 90509.07). Towers of up to 130 feet in height are proposed on private lands as part of Alternative 3. The Applicant has requested a variance (V10-0060) from the County which applies only to the towers that will be within the private lands under the jurisdiction of Imperial County. Thus, no conflict with the County of Imperial Land Use Ordinance, Title 9 would occur and no impact resulting from Alternative 3 would occur under CEQA.

Airport Land Use Compatibility Plan (ALUCP)

As with the Proposed Action, the parcels that comprise the CSE Facility for Alternative 3 are not within any Airport Land Use Compatibility Zones. Furthermore, on March 16, 2016, the Airport Land Use Commission reviewed the application for the Proposed Action, including the proposed variance for the transmission tower height, and determined that the proposed project would be consistent with the Airport Land Use Compatibility Plan (ALUCP). Alternative 3 is similar to the Proposed Action, but differs in that it includes a 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus as part of the CSE Facility and requires 11 fewer tower structures on federal lands. Therefore, since the land use for the Proposed Action is considered compatible with the ALUCP, the same would be true for Alternative 3. Likewise, no impact to the ALUCP resulting from Alternative 3 would occur under CEQA.

Operations and Maintenance

The discussion of compatibility with applicable land use plans and policies provided under "Construction" also applies to Operations and Maintenance of Alternative 3. Once the necessary ROW grant is approved by the BLM and the County has approved the CUP and Variance for the proposed project to be constructed, no additional conflicts with land use plans or policies are anticipated. Therefore, the proposed project would be consistent with applicable land use plans and policies and no impacts would occur under CEQA in association with operations and maintenance of Alternative 3.

Decommissioning

When Alternative 3 reaches the end of its operational life, the components will be decommissioned and deconstructed. Poles and towers used to support aboveground wires will be removed. A ROW grant from the BLM and CUP and variance for height exceedance from the County would no longer be required. Some temporary indirect land use conflicts with surrounding agricultural lands may occur during decommissioning activities. Likewise, if new roads or staging areas are necessary, habitat or other sensitive desert resources identified in the CDCA Plan, Yuha Desert Management Plan, and FTHL Rangewide Management Strategy could be disturbed. However, these impacts would be temporary in

nature and discussed in other applicable sections of this EIR/EA (e.g. Section 4.4 Air Quality, Section 4.7, Cultural Resources, Section 4.12 Biological Resources,). No impacts to applicable land use plans and policies are anticipated under CEQA in association with decommissioning Alternative 3.

Conflict with Habitat Conservation Plan

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

Construction

Imperial County is not within the jurisdiction of any adopted habitat conservation plan or natural community conservation plan, or other approved local, regional, or state habitat conservation plan. The CSE Facility and a portion of the Gen-tie Line through private land proposed as part of Alternative 3 are in Imperial County and would have no impact to a habitat conservation plan or natural community conservation plan under CEQA.

Operations and Maintenance

The discussion of conflicts with an applicable habitat conservation plan provided under "Construction" also applies to Operations and Maintenance of Alternative 3.

Decommissioning

When Alternative 3 reaches the end of its operational life, the components will be decommissioned and deconstructed. The project site will have been disturbed, developed and maintained as a solar energy facility. Decommissioning activities would be short-term. As no habitat conservation plan is currently in place in Imperial County, and it is speculative whether one would be adopted at the time of decommissioning, impacts are considered less than significant under CEQA.

C. NEPA Requirements

4) Conflict with the management goals of any special designation area.

Note: Appendix G of the State CEQA Guidelines does not provide significance criteria for special designations. Therefore, the following discussion is limited to direct and indirect impacts associated with construction, operations and maintenance and decommissioning of the above NEPA criterion.

Direct and Indirect Impacts

Construction

Like the Proposed Action, Alternative 3 is in the Yuha Basin Area of Critical Environmental Concern (ACEC) as identified on Map 17 of the California Desert Conservation Area (CDCA) Plan (BLM, 1985). The ACEC is considered a special designation within the Yuha Basin. Although the Gen-tie Line is allowed with approval of a grant of ROW from the BLM and would be within Utility Corridor N, short-term direct impacts to special designations would occur during construction. Temporary effects associated with fugitive dust, noise, visual alterations and potential plant and wildlife disturbance would occur in the ACEC. Fugitive dust during construction activities could impact the air quality. However mitigation measures have been identified (refer to mitigation measures AQ-1 and AQ-2 in Section 4.4, Air Quality) to reduce fugitive dust created during construction. Increases in ambient noise would occur in association with heavy equipment, trucks or other worker-related sounds. However, construction noise would be temporary, occurring for limited durations each day, and ceasing once construction is

completed. Views from surrounding roadways would be temporarily altered with the introduction of construction equipment and vehicles to prepare the site, install foundations and erect towers. Visual alterations associated with construction equipment and activities would cease following the construction phase. Adverse effects to biological resources during construction (such as disturbance of FTHL, wetlands, and avian species) would be reduced through implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources). Indirect effects of construction (occurring at a later time) are addressed under Operations and Maintenance.

Operations and Maintenance

Like the Proposed Action, Alternative 3 would be within the Yuha Basin ACEC as mentioned above under "Construction." Multiple electrical lines are currently in the Yuha Basin ACEC within Utility Corridor N. Once operational, Alternative 3 would increase the number of towers and electrical lines in Utility Corridor N. As an allowed use, no direct impacts to special designations would occur in association with operations and maintenance of Alternative 3. However, direct impacts such as changes in views or disturbance of native plant and wildlife may occur. Because the visual quality of the area is considered low to moderate, long-term changes in views as a result of additional electrical infrastructure in Utility Corridor N would not appear prominent or drastically change the existing visual environment. Implementation of mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources) would reduce adverse effects to native plant and wildlife (including avian species and FTHL) during operations and maintenance.

Decommissioning

Alternative 3 would be within the Yuha Basin ACEC as mentioned above under "Construction." Decommissioning activities would cause temporary fugitive dust and noise associated with removal of above-ground and buried infrastructure, heavy equipment trips, etc. Views would also be temporarily disturbed by the presences of dismantling activities. However, permanent views would be improved by the removal gen-tie towers and electrical lines within Utility Corridor N. This would be a beneficial direct impact of decommissioning Alternative 3 with regard to a special designation.

4.2.3.4 Alternative 4 – No Action/No project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under Alternative 4, the BLM would not grant a ROW, and Imperial County would not approve a CUP or variance for the Proposed Action. As a result, no solar energy project would be constructed on county lands, and the project site would remain in agricultural production. No tower structures to support a gen-tie line in association with the Proposed Action would occur on BLM land. No direct or indirect impacts to land use or special designations would occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts to land use or special designations associated with operations and maintenance of the Proposed Action would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No impact to land use or special designations would occur.

B. CEQA Significance Determinations

Construction

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed. Agricultural operations would continue on the project site and no Williamson Act Contracts would need to be cancelled. No impacts to land use under CEQA would occur.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site and no Williamson Act Contracts would need to be cancelled. No impacts to land use under CEQA would occur.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. No impacts to land use under CEQA would occur.

4.2.4 MITIGATION MEASURES

Temporary direct impacts associated with fugitive dust, noise, visual alterations and potential disturbance of native plants and wildlife were identified for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Likewise, indirect impacts were identified with regard to visual changes and biological resources for the Proposed Action, Alternative 1, 2 and 3. Mitigation measures to address direct and indirect impacts resulting from construction are identified for air quality (refer to mitigation measures AQ-1 and AQ-2 in Section 4.4, Air Quality) to reduce fugitive dust created during construction. Mitigation measures BIO-1 through BIO-8 (refer to Section 4.12, Biological Resources) are identified to reduce impacts to FTHL, wetlands, and avian species, native plant and wildlife during construction and operations and maintenance.

No impacts to land use and special designations were identified for Alternative 4 - No Action/No Project Alternative. As a result, no mitigation measures are required for this alternative.

4.2.5 RESIDUAL IMPACTS AFTER MITIGATION

Applicable mitigation measures would reduce impacts associated with air quality (during construction) and potential disturbance of native plants and wildlife (during construction and operations and maintenance). No residual impacts to air quality or biological resources are anticipated after mitigation.

SECTION 4.3
TRANSPORTATION AND CIRCULATION

4.3 TRANSPORTATION AND CIRCULATION

This section discusses the transportation and access impacts that would occur with implementation of the proposed project/Proposed Action and alternatives. Impacts may occur from introduction of construction-related traffic on local roads, physical changes to roads, and access points created to allow entry and exit from the project site. Information contained in this section is summarized from the *Draft Traffic Impact Analysis* prepared by LOS Engineering, Inc. (LOS, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.

4.3.1 METHODOLOGY FOR ANALYSIS

The following describes the methodology used for the various aspects of the traffic analysis.

4.3.1.1 INTERSECTIONS

The operating conditions of the study intersections are measured using the Highway Capacity Manual (HCM) LOS designations ranging from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. LOS worsens from A to F based on delay in seconds at the intersection (refer to Table 3.3-2 in Section 3.3).

4.3.1.2 ROADWAY SEGMENTS

Roadway segments were analyzed based on the functional classification of the roadway using the Imperial County Standard Street Classification capacity lookup table. The roadway segment capacity and LOS standards used to analyze roadway segments are summarized in Table 3.3-3 in Section 3.3.

4.3.1.3 FREEWAY SEGMENTS

Freeway segments were analyzed based on a multi-lane highway LOS criterion using a Volume to Capacity (V/C) ratio as outlined in the 2000 Highway Capacity Manual. The accepted methodology by Caltrans for the analysis of freeway sections is to use the most current edition of the HCM as noted on page 5 of Caltrans' *Guide for the Preparation of Traffic Impact Studies,* December 2002. Freeway LOS operations are based on Caltrans' *Guide for the Preparation of Traffic Impact Studies* V/C ratios (identified in Table 3.3-4 in Section 3.3).

4.3.1.4 SCENARIOS

The project trip generation consists of a construction phase and operations phase. Construction activities are expected to take approximately 22 to 28 months for Phase I and 15 to 18 months for Phase II. Phase I construction is assumed to have the highest intensity while the operations phase is assumed to have significantly fewer resulting from five to seven full-time employees required to operate the project. Therefore, the higher and more conservative Phase I construction based trip generation was used to determine potential project impacts. This approach provides a worst-case scenario and conservative estimates of potential project related traffic impacts.

The number of scenarios analyzed for the proposed project/Proposed Action is based on the methodology outlined in the Imperial County 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. Excerpts from the *Traffic Study and Report Policy* showing the scenario criteria are included in Appendix A of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.

The following scenarios were analyzed for the proposed project/Proposed Action:

- Existing (Year 2011) Conditions (discussed in Section 3.3)
- Existing (Year 2011) Plus Project Conditions
- Year 2012 Conditions (Without Project)
- Year 2012 Plus Project Conditions

A. Existing (Year 2011) Plus Project Conditions

This section documents the impacts of combining total project traffic (construction and shuttle trips) with existing conditions. Existing Plus Project Conditions traffic volumes are shown in **Figure 4.3-1A** and **Figure 4.3-1B**.

Construction of Phase I includes site preparation, foundation construction, erection of major equipment and structures, installation of electrical systems, control systems, and start-up/testing. Phase I construction is assumed to take an average of 25 months starting in early 2012 and would create construction traffic from late 2011 or early 2012 through 2014. However, the peak construction is expected to occur during month six (mid-2012) with approximately 360 workers (Note: Project description details are included in Appendix J of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA). Therefore, the peak construction period is assumed to be year 2012. The number of workers before and after month six will be less than 360. Work hours are generally between 7am and 5pm Monday through Saturday. In addition to workers, equipment deliveries and trucks carrying materials and supplies will contribute trips during construction period. As shown in **Table 4.3-1,** the peak construction traffic during month six of Phase I is calculated at 1,260 ADT with 414 AM peak hour trips (387 inbound and 27 outbound) and 414 PM peak hour trips (27 inbound and 387 outbound).

TABLE 4.3-1
PROJECT TRIP GENERATION SUMMARY

Proposed Construction Related Traffic	ADT	AM (7 AM)		PM (5 PM)	
		IN (7 AM)	OUT (7 AM)	IN (5 PM)	OUT (5 PM)
Peak Construction Workers[1]	720	360	0	0	360
Equipment Deliveries and construction Truck Trips (with PCE)[2]	540	27	27	27	27
Total Traffic During Peak Construction Period	**1,260**	**387**	**27**	**27**	**387**

Source: LOS, 2011.
Notes: [1] Number of construction workers and construction trucks provided by applicant.
[2] Passenger Car Equivalent (PCE) factor of 3 applied to each truck; therefore, 540 ADT equals 90 daily trucks.
ADT = average daily trips

The Phase II construction trip generation is estimated to grow to approximately 250 workers during month four of Phase II. Because Phase II will have approximately 30 percent fewer construction workers than Phase I, the more conservative Phase I peak conditions were used to estimate construction trips. The Phase II construction date has not yet been determined.

Construction Trip Distribution and Assignment

The Applicant has indicated that the labor pool for the construction workforce is anticipated to come primarily (about 85 percent) from Imperial County. This labor pool would be supplemented by specialists and or equipment from outside the 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 2000 Census from the U.S. Census Bureau (Note: 2000 Census figures were used because 2010 Census population details for this study area were not available at time of this analysis was undertaken). The percentage of local construction workforce by city/community and county is shown in **Table 4.3-2**.

TABLE 4.3-2
CONSTRUCTION WORKFORCE SOURCES BASED ON CENSUS 2000 POPULATIONS (85 PERCENT LOCAL)

85 Percent Local Workforce	2000 Census Population	Percentage of Total	Percentage of Construction Employees (85 Percent From Within Imperial County)
Calipatria	7,289	6%	5%
Westmorland	2,131	2%	2%
Brawley	22,052	20%	17%
Imperial	7,560	7%	6%
El Centro	37,835	35%	29%
Holtville	5,612	5%	4%
Calexico	27,109	25%	21%
Total	109,588	100%	85%

Source: LOS, 2011. Note: Total percentage may be off by 1% due to rounding.

Based on the workforce identified in **Table 4.3-2**, the regional construction distribution (source of construction traffic) is shown in **Figure 4.3-2** with the study area distribution shown in **Figure 4.3-3A** and **Figure 4.3-3B**. The construction trip assignment is shown in **Figure 4.3-4A** and **Figure 4.3-4B**.

After the construction workers arrive at the two dedicated storage and parking areas, they will be transported by shuttle buses to the active construction area(s). Each construction area has a primary and secondary access point as shown in **Figure 4.3-5**. All of the construction areas have access points from County roads except for one area that only has access from SR 98. This one area (east of Drew Road and south of SR 98) may require a Caltrans encroachment permit for access onto SR 98. If so required, the Caltrans encroachment will be separately obtained.

To account for the construction traffic between the dedicated storage areas and the active construction areas, 10 percent of the peak construction worker traffic (36 peak hour trips and 72 ADT) was assigned between the storage areas and the general project area. Additionally, all of the equipment delivery truck traffic (54 peak hour trips and 540 ADT) was also assigned to the general project area. The equipment delivery truck traffic of 540 ADT is a passenger car equivalent that converts 90 daily trucks into passenger cars used in the traffic analysis. Ninety daily trucks equals 180 truck round trips times a passenger car equivalent factor of 3 (180 x 3 = 540) to reach 540 ADT. The assignment of shuttle and equipment vehicles between the two dedicated storage areas and the overall construction areas are shown in **Figure 4.3-6A** and **Figure 4.3-6B**.

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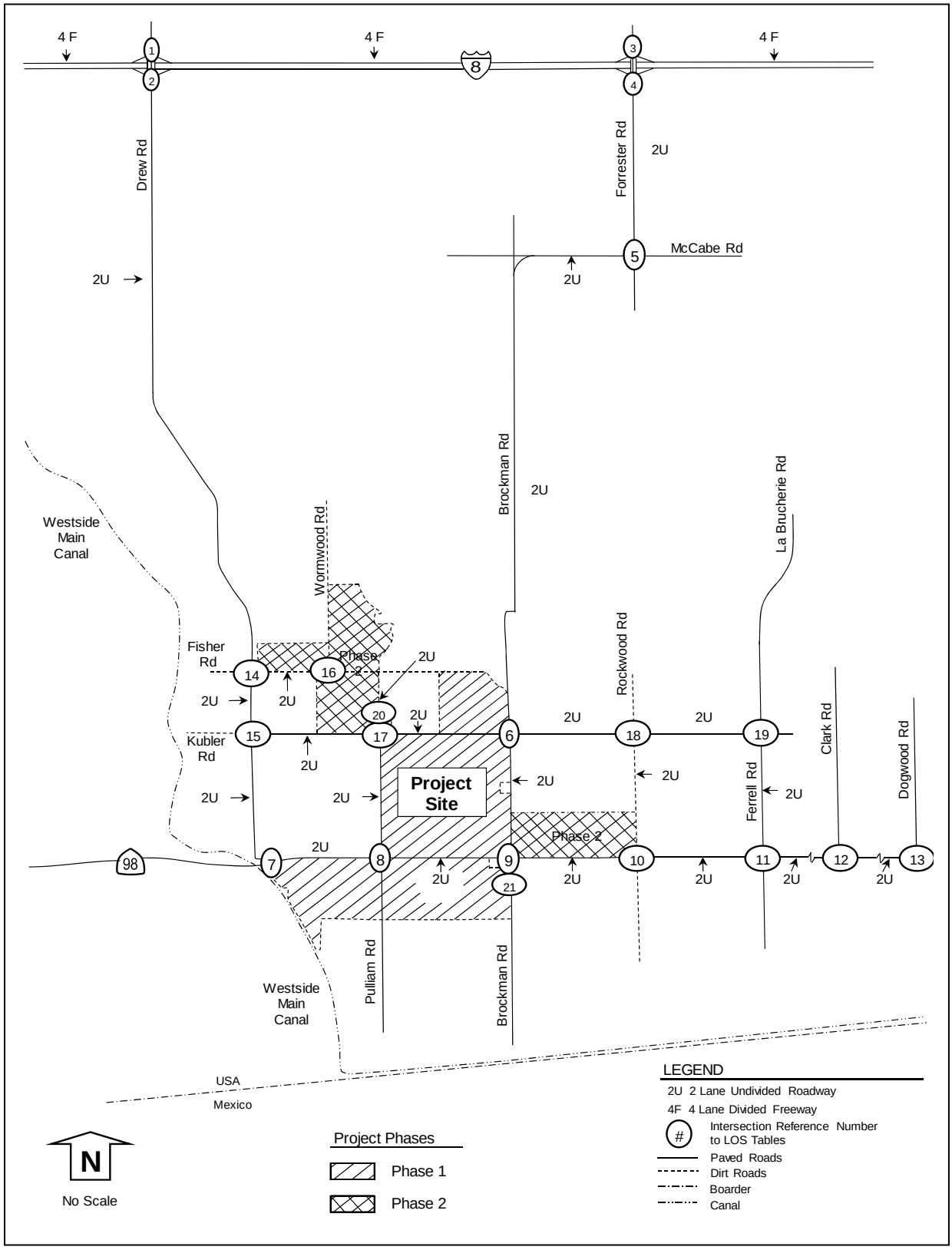

Source: LOS, 2011.

FIGURE 4.3-1A
EXISTING (YEAR 2011) PROJECT VOLUMES

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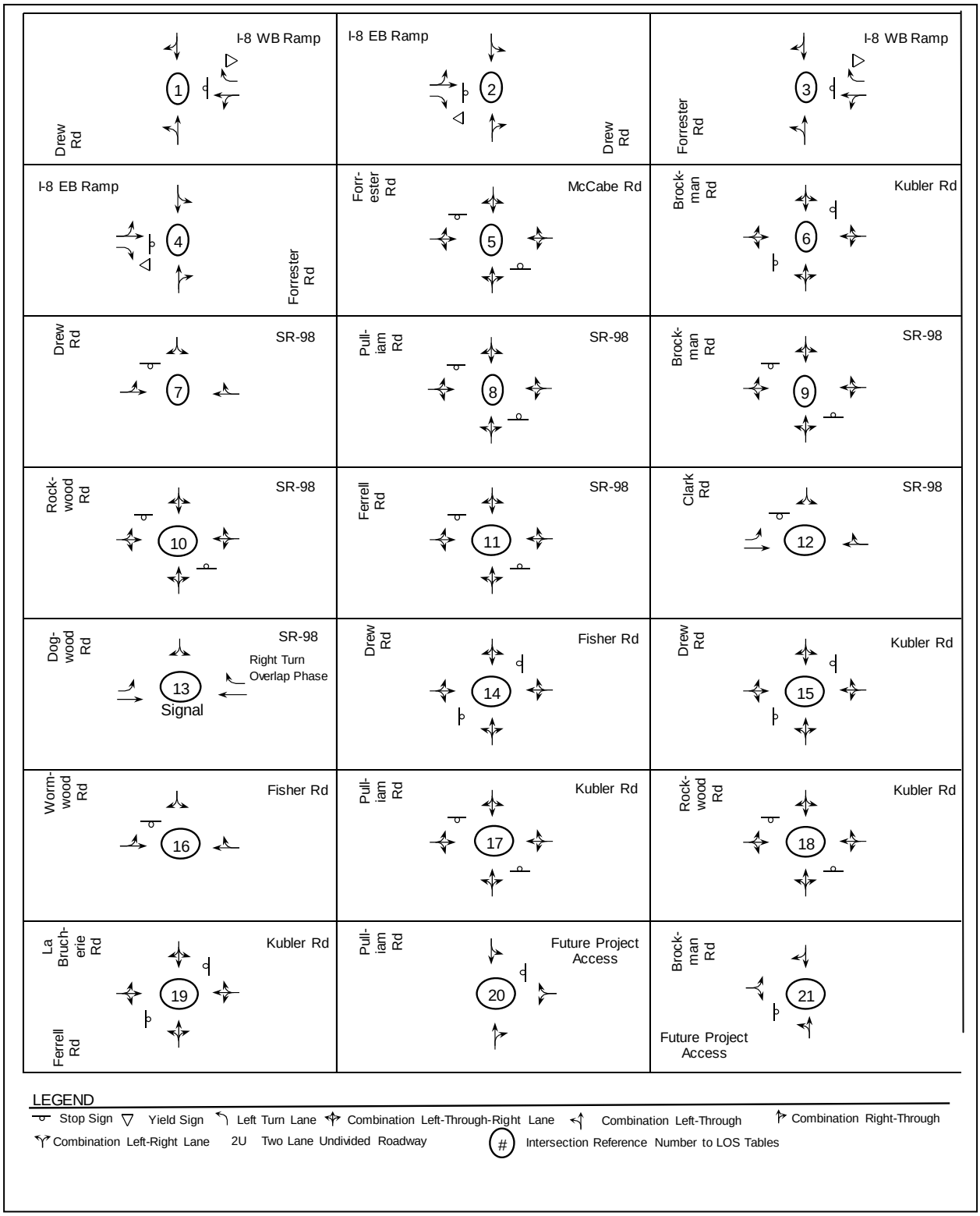

Source: LOS, 2011.

FIGURE 4.3-1B
EXISTING (YEAR 2011) ROADWAY CONDITIONS

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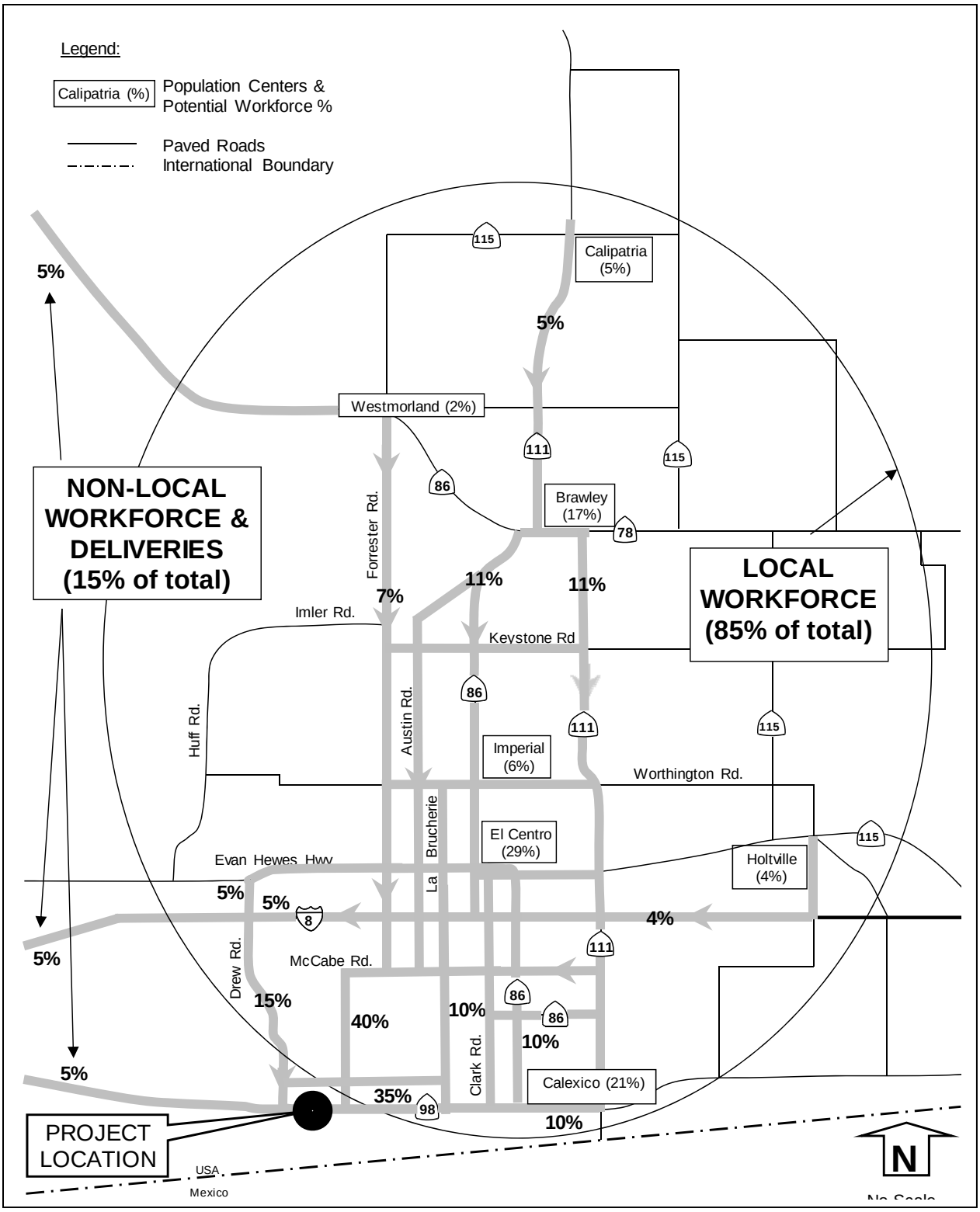

Source: LOS, 2011.

FIGURE 4.3-2
REGIONAL CONSTRUCTION DISTRIBUTION

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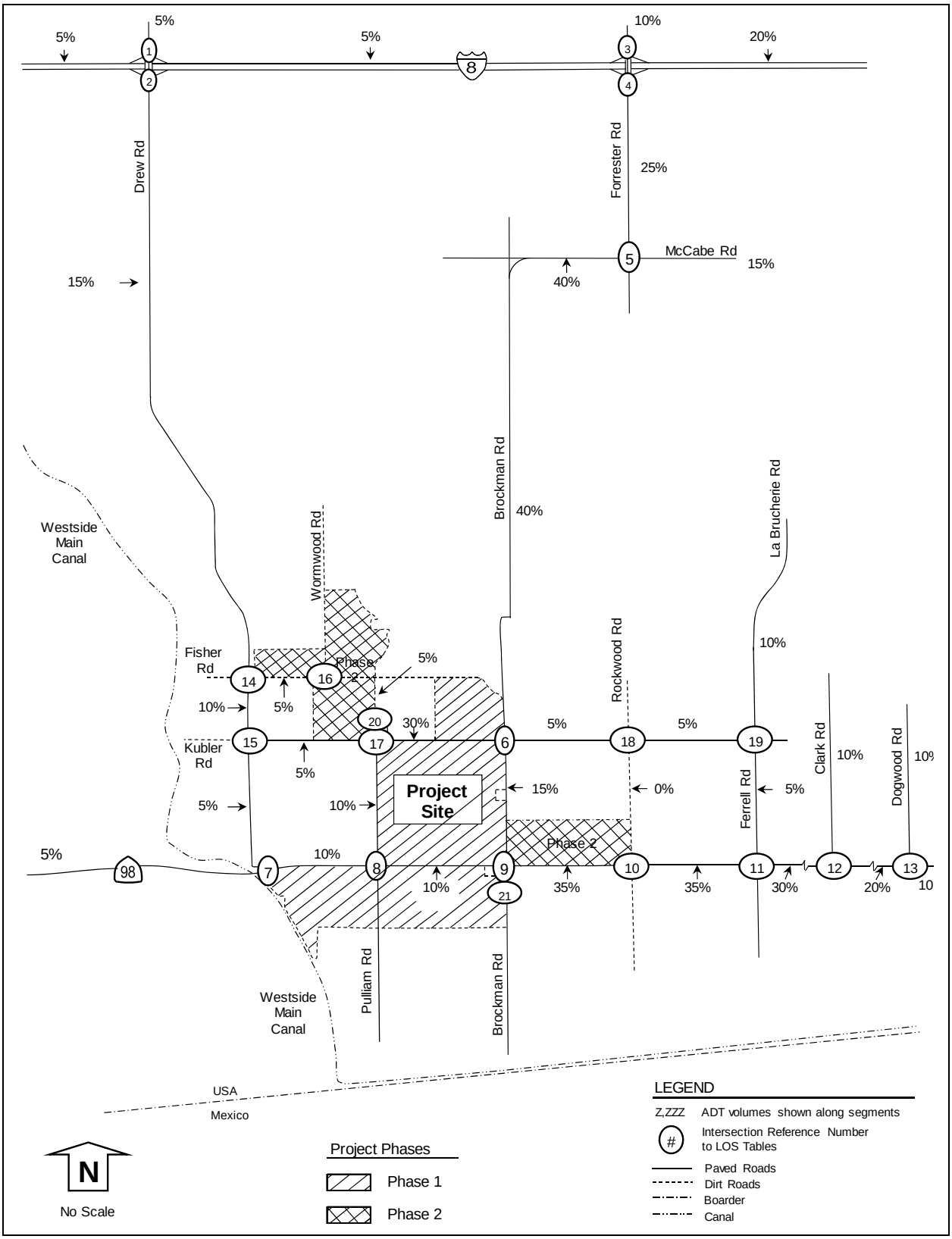

Source: LOS, 2011.

FIGURE 4.3-3A
LOCAL CONSTRUCTION DISTRIBUTION

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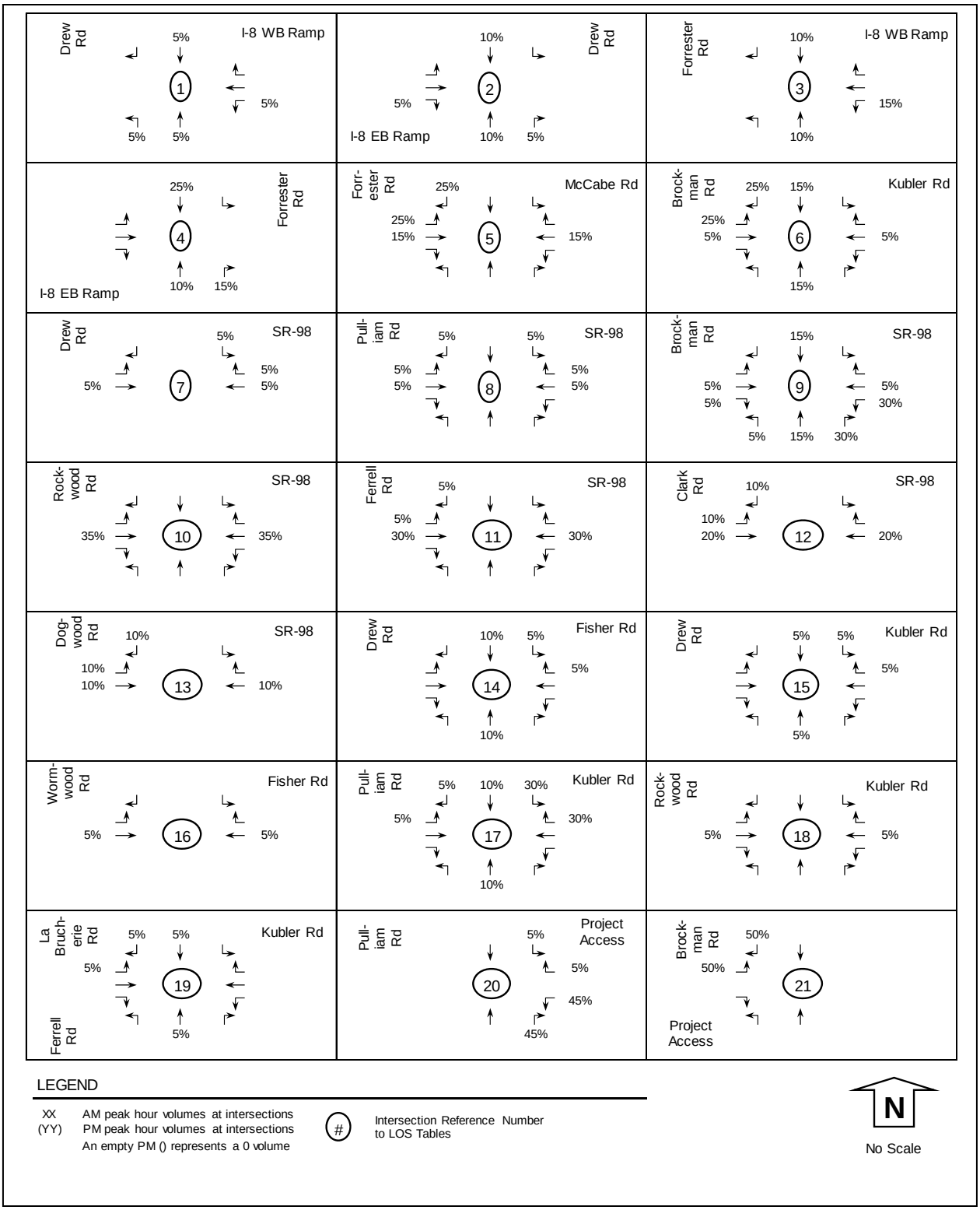

Source: LOS, 2011.

FIGURE 4.3-3B
LOCAL CONSTRUCTION DISTRIBUTION

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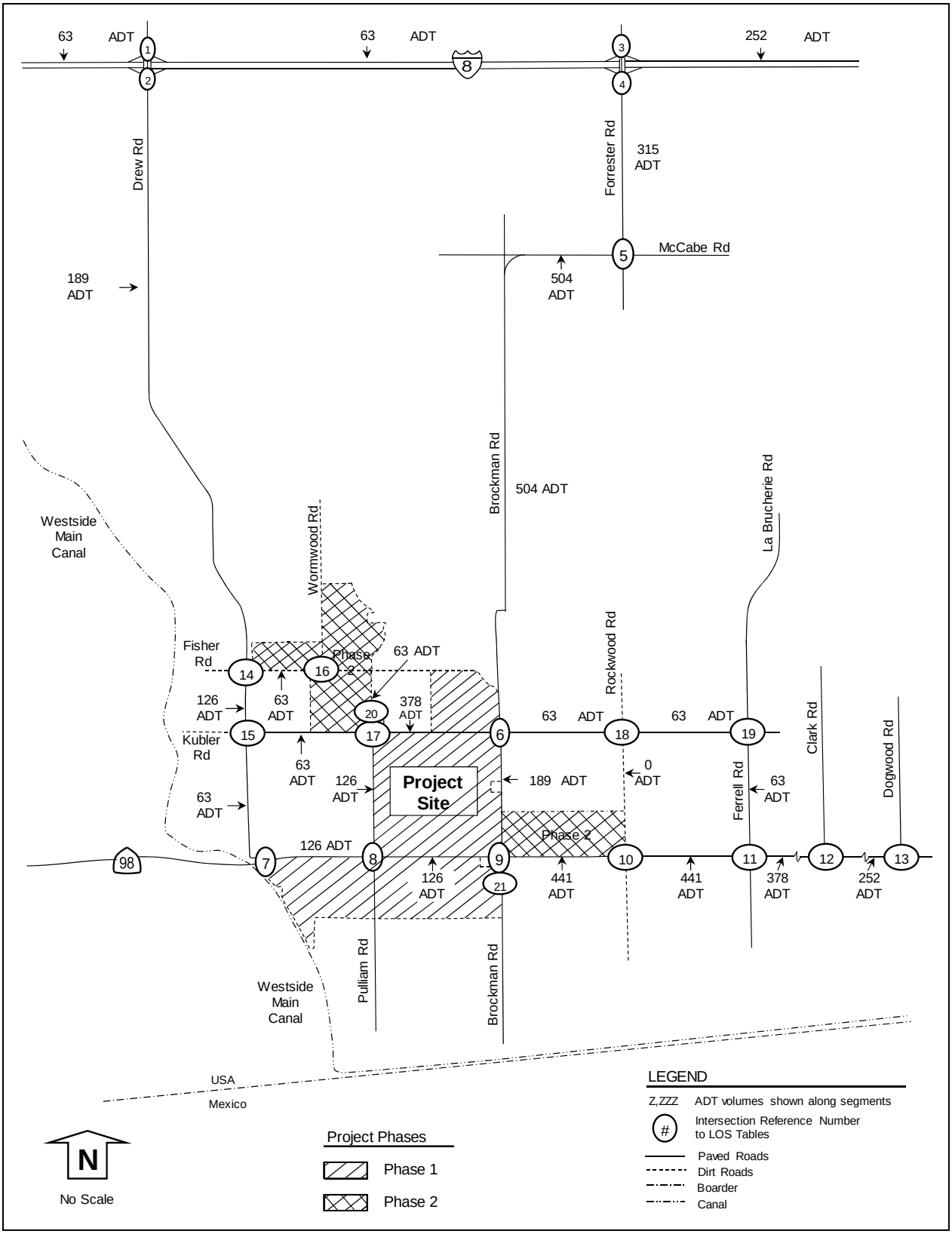

Source: LOS, 2011.

FIGURE 4.3-4A
CONSTRUCTION TRIP ASSIGNMENT

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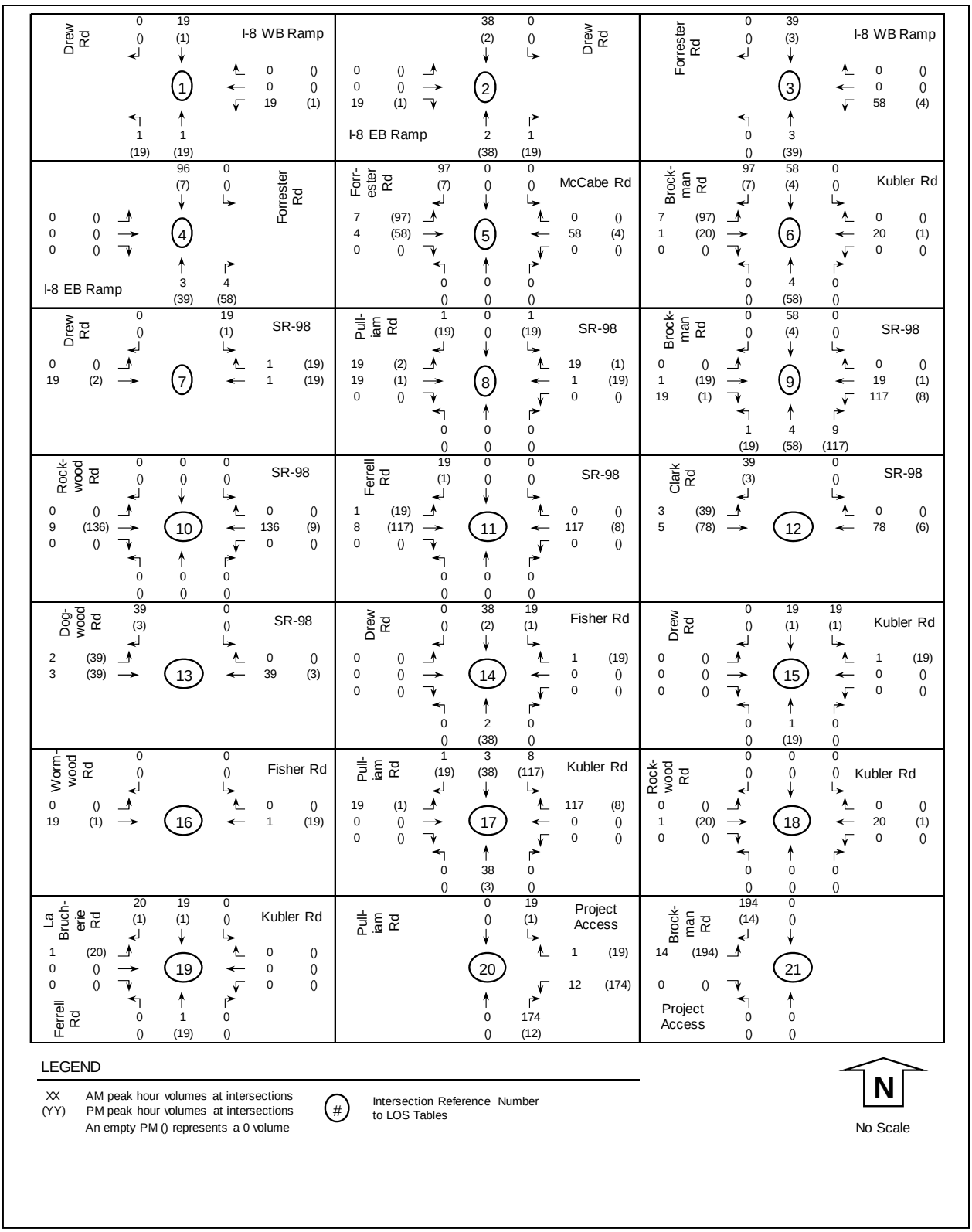

Source: LOS, 2011.

FIGURE 4.3-4B
CONSTRUCTION TRIP ASSIGNMENT

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Source: LOS, 2011.

FIGURE 4.3-5
ACCESS GATES AND STAGING AREAS OVERVIEW

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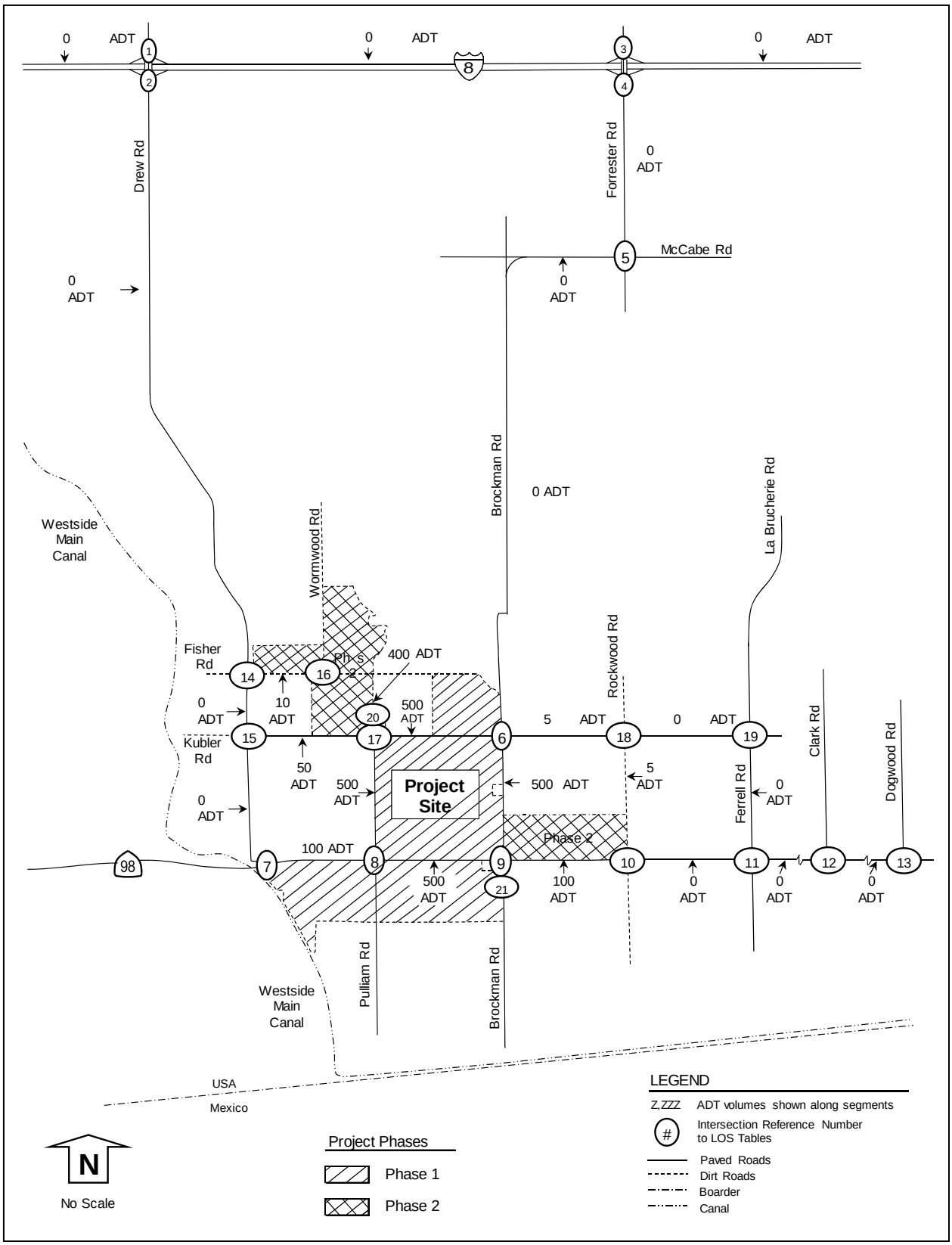

Source: LOS, 2011.

FIGURE 4.3-6A
SHUTTLE AND EQUIPMENT TRIP ASSIGNMENT

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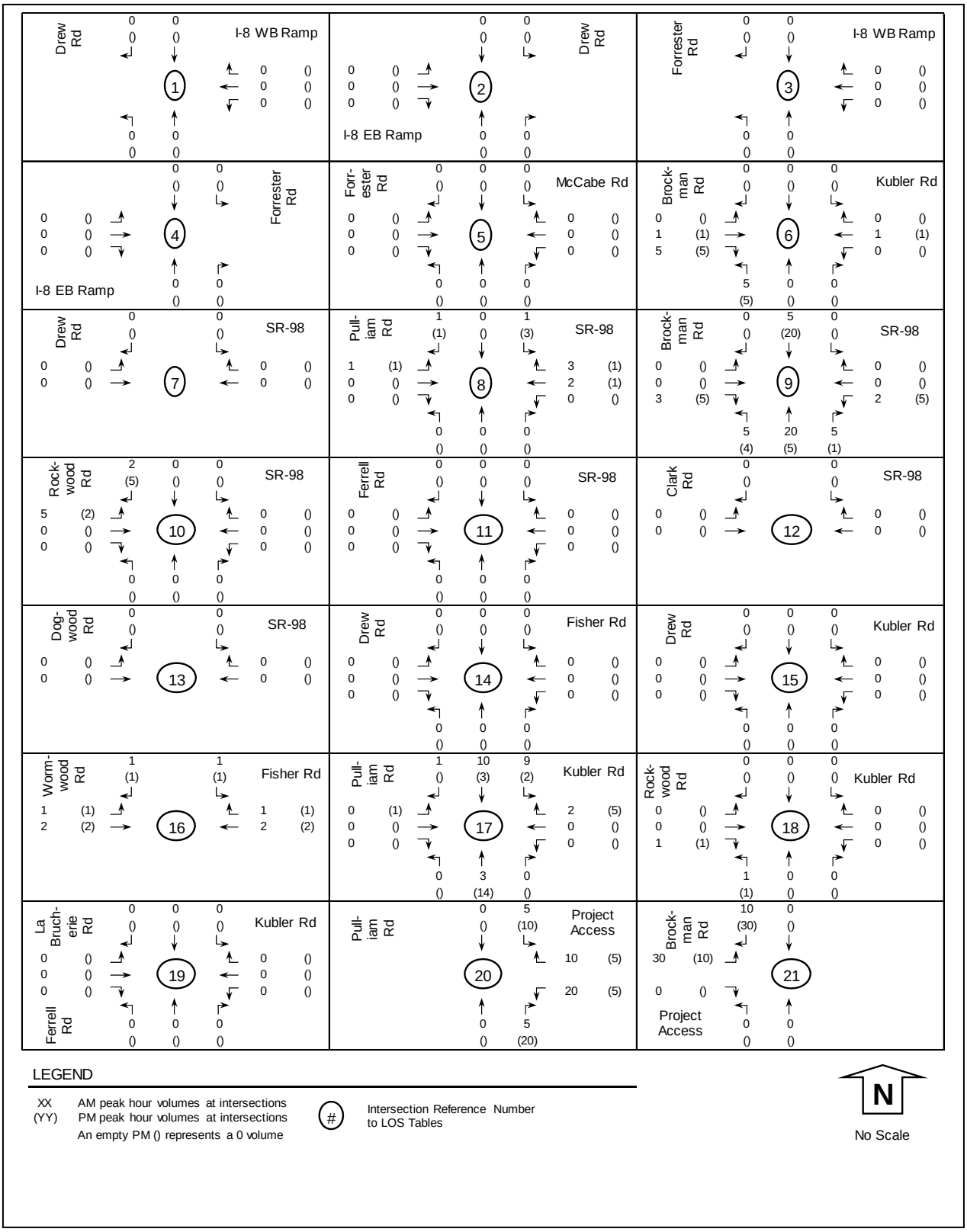

Source: LOS, 2011.

FIGURE 4.3-6B
SHUTTLE AND EQUIPMENT TRIP ASSIGNMENT

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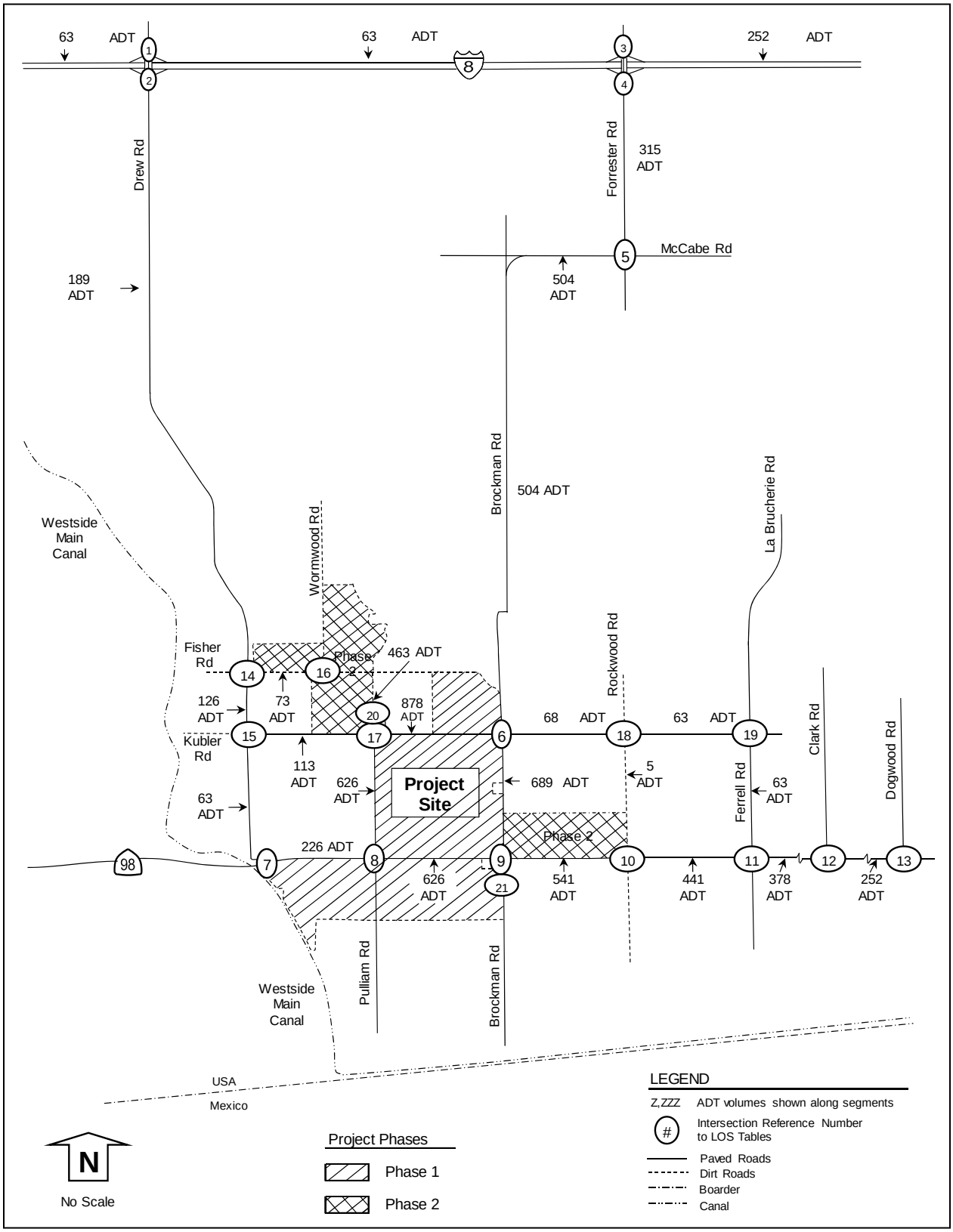

Source: LOS, 2011.

FIGURE 4.3-7A
PROJECT (CONSTRUCTION AND SHUTTLE) TRIP ASSIGNMENT

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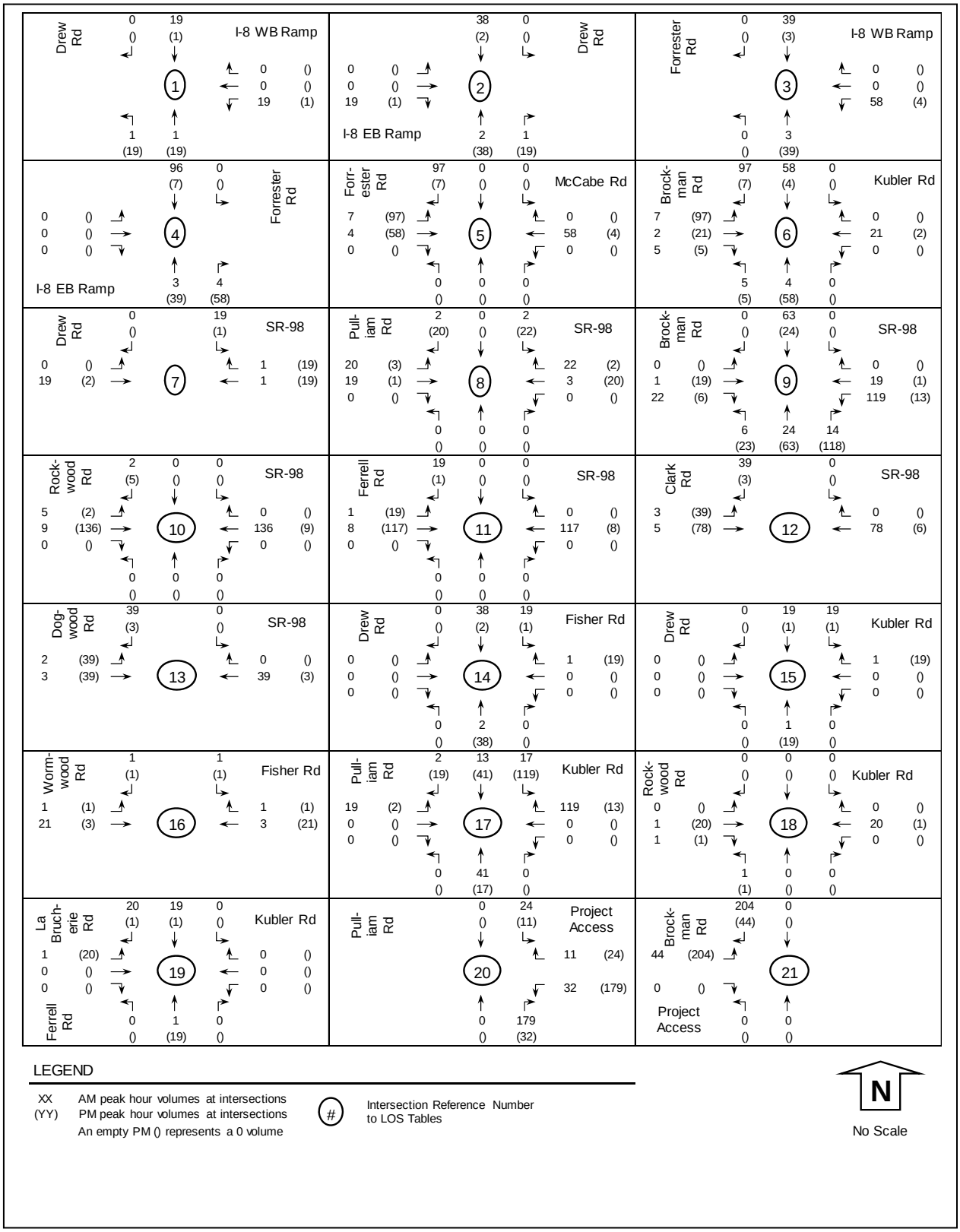

Source: LOS, 2011.

FIGURE 4.3-7B
PROJECT (CONSTRUCTION AND SHUTTLE) TRIP ASSIGNMENT

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The construction trips (**Figure 4.3-4A** and **Figure 4.3-4B**) and shuttle/equipment trips (**Figure 4.3-6A** and **Figure 4.3-6B**) are combined and referenced as project trips as shown in **Figure 4.3-7Aa** and **Figure 4.3-7B**.

B. Year 2012 Conditions (Without Project)

Year 2012 Conditions Without Project reflect traffic at the peak month of construction activities (mid-2012). Year 2012 background volumes are based on increasing the existing year 2011 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 Imperial County General Plan. Three growth rate options were considered (the Imperial County General Plan Land Use Element [2.2 percent], the 2000 Southern California Association of Governments [2.4 percent], and the Southern California Association of Governments Community Development Division's 2004 *Regional Transportation Plan Socio-Economic Forecast Report* [2.8 percent]). The most conservative growth rate of 2.8 percent was selected for the annual population growth rate. (The growth factor support data are included in Appendix L of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.) The construction peak background Year 2012 volumes were calculated by increasing year 2011 volumes by 2.8 percent. Year 2012 Conditions Without Project provide a baseline for assessing impacts resulting from the addition of project traffic.

C. Year 2012 Plus Project Conditions

Year 2012 Plus Project Conditions reflect the addition of construction traffic onto Year 2012 Conditions Without Project during the anticipated construction peak (month six).

D. Proposed Action Operations and Maintenance Trip Generation

According to the Applicant, the Proposed Action will primarily operate during daylight hours and will require (on average) approximately five to seven full-time personnel for operations and maintenance. Full-time employees would operate the facility and provide routine maintenance on a daily basis. On average, the operations and maintenance trip generation is estimated at 15 to 21 ADT with 5 to 7 AM and 5 to 7 PM peak hour trips.

During a typical year, the project will require up to 10 daily water trucks for panel washing over approximately 15 business days. Panel washing is estimated to take place one to four times a year. During the washing period, the total project daily traffic may increase to 40 or 50 ADT over a 15 business day period.

Since the operations and maintenance traffic generation is significantly less than the construction traffic, the higher and more conservative construction trip generation is used to determine potential traffic impacts resulting from the Proposed Action. In other words, the construction phase was used for the traffic analysis because it is calculated to generate significantly higher traffic (about 60 times more) than would occur when the project is operational. Thus the traffic analysis focuses on construction, rather than operations and maintenance, to provide a worst-case scenario analysis of impacts.

4.3.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct transportation and circulation impacts from the Proposed Action or an alternative are related to changes traffic volumes and patterns. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.3.2.1 CEQA SIGNIFICANCE CRITERIA

The CEQA significance criteria listed below were used to determine if the proposed project would result in impacts to transportation and circulation. These criteria are the same as the significance criteria for Transportation/Traffic listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines with the addition of the criterion regarding parking capacity. This criterion was added because the Proposed Action includes a parking component. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative would have a significant impact on transportation and circulation if it would:

1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

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

5) Result in inadequate emergency access.

6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

7) Result in inadequate parking capacity.

The significance criteria for traffic impacts are based on the Imperial County Planning and Development Services Department level of service (LOS) standard of the Imperial County General Plan Circulation and Scenic Highways Element dated January 29, 2008. Imperial County's goal is to have 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 impact. Page 55 of the Circulation and Scenic Highways Element states: "The County's goal for an acceptable traffic service standard on an ADT (average daily trips) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections." (An excerpt from the *Circulation and Scenic Highways Element* is included in Appendix E as part of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA).

The current practice of determining direct and cumulative impacts in Imperial County is defined by the significance criteria provided in **Table 4.3-3** which was obtained from several EIRs for projects in Imperial County. The significance criteria were confirmed with the Imperial County Department of Public Works in April 2011. (Copies of traffic significance criteria from other EIRs are included in Appendix F of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA).

TABLE 4.3-3
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	NA	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	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and delay increases by $\geq$ 10.0 seconds	LOS F	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	LOS 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	NA	Direct[1]

TABLE 4.3-3
SIGNIFICANCE CRITERIA

Existing	Existing + Project	Existing + Project + Cumulative Projects	Impact Type
LOS D	LOS D and V/C > 0.02	LOS D or worse	Cumulative
LOS D	LOS E or F	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and V/C increases by >0.09	LOS F	Direct
Any LOS	LOS E or worse & V/C 0.02 to 0.09	LOS E or worse	Cumulative
Any LOS	LOS E or worse & V/C < 0.02	Any LOS	None

Source: LOS, 2011.
Notes: LOS: Level of Service. NA: Not Applicable.
[1] Exception: post-project segment operation is LOS D and intersections along segment are LOS D or better resulting in no significant impact.

4.3.2.2 ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Note that two CEQA significance criteria were scoped out as part of the Initial Study. Criterion 3 was eliminated from further analysis because the proposed project would not result in changes to existing air traffic patterns through an increase in traffic levels or change in location. Criterion 6 was eliminated because the proposed project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.3.2.3 NEPA REQUIREMENTS

The National Environmental Protection Act (NEPA) does not provide any standards specific to transportation. Nor has the federal government (NEPA) established any standards for congestion as this is a matter of local preference. To this end, the CEQA Criteria identified above also serve to fulfill the NEPA Requirement for a basis of analysis to evaluate transportation effects associated with the Proposed Action and Alternatives 1, 2, 3, and 4.

4.3.3 ENVIRONMENTAL CONSEQUENCES

4.3.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in susbections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Existing (Year 2011) Plus Project Conditions

Direct and Indirect Impacts

Construction

This discussion analyzes the direct and indirect impacts of combining total project traffic (construction and shuttle trips) with existing conditions. Existing plus total project volumes are shown in **Figure 4.3-8A** and **Figure 4.3-8B**.

Intersections

Table 4.3-4 summarizes intersection LOS. Under existing (Year 2011) Plus Project Conditions, the study intersections were calculated to operate at LOS C or better. Only one intersection, Forrester Road to I-8 eastbound ramp, operates at LOS C in the PM peak hour (and LOS B in the AM peak hour). Six intersections operate at LOS B in both the AM and PM peak hours. Two operate at LOS B in the AM peak hour only and two operate at LOS B in the PM peak hour only. No direct project impacts to study area intersections were calculated due to the addition of construction traffic to existing traffic. Moreover, the increases in traffic resulting from construction of the Proposed Action would not exceed LOS standards. Therefore, no direct and indirect impacts to study area intersections would result from construction traffic.

Roadway Segments

Table 4.3-5 summarizes roadway segment LOS. Under existing (Year 2011) Plus Project Conditions, the roadway segments were calculated to operate at LOS C or better. Four roadway segments would operate at LOS C. The majority of segments would operate at LOS A (thirteen). Five segments would operate at LOS B and four would operate at LOS C. No direct project impacts to study area roadway segments were calculated due to the addition of construction traffic to existing traffic. Moreover, the increases in traffic resulting from implementation of the proposed project would not exceed V/C ratios or LOS standards. Therefore no direct and indirect impacts to study area roadway segments would result from construction traffic.

Freeway Segments

Table 4.3-6 summarizes freeway segment LOS. Under existing (Year 2011) Plus Project Conditions, the freeway segments were calculated to operate above LOS C (at LOS A and LOS B). I-8 from Dunaway Road to Drew Road would continue to operate at LOS A in the AM and PM peak hours in both directions (eastbound and westbound). I-8 from Drew Road to Forrester Road would operate at LOS A during the AM and PM peak hour in the eastbound direction, LOS A in the AM peak hour in the westbound direction, and LOS B during the PM peak hour in the westbound direction. I-8 from Forrester Road to Imperial Avenue would operate at LOS A during the AM and PM peak hour in the eastbound direction, and LOS B during the AM and PM peak hour in the westbound direction. No direct project impacts were calculated due to the addition of construction traffic to existing traffic would occur. Moreover, the increases in traffic resulting from project construction would not exceed V/C ratios or LOS standards.

Therefore, no direct and indirect impacts to study area freeway segments would result from construction traffic.

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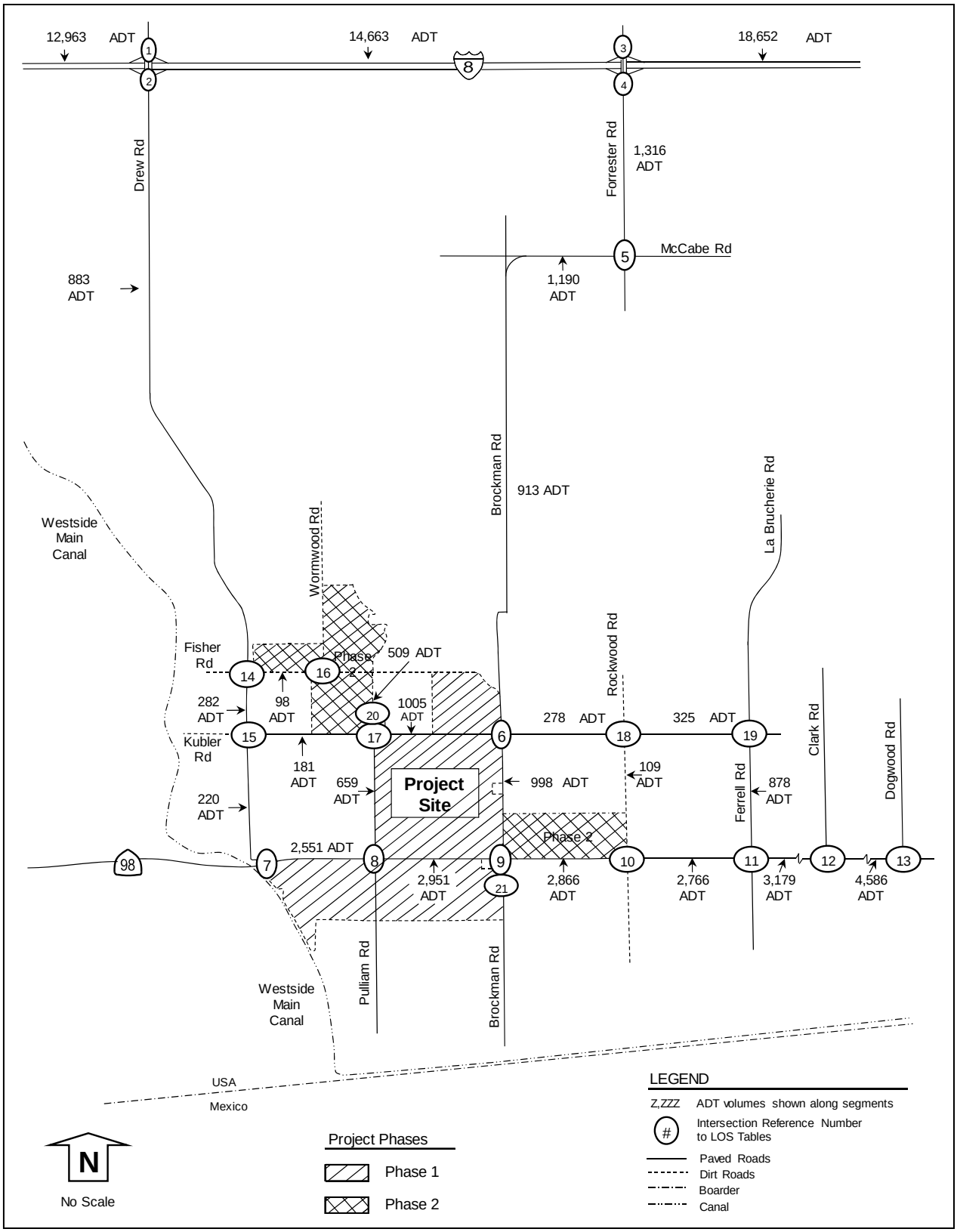

Source: LOS, 2011.

FIGURE 4.3-8A
EXISTING (YEAR 2011) + PROJECT VOLUMES

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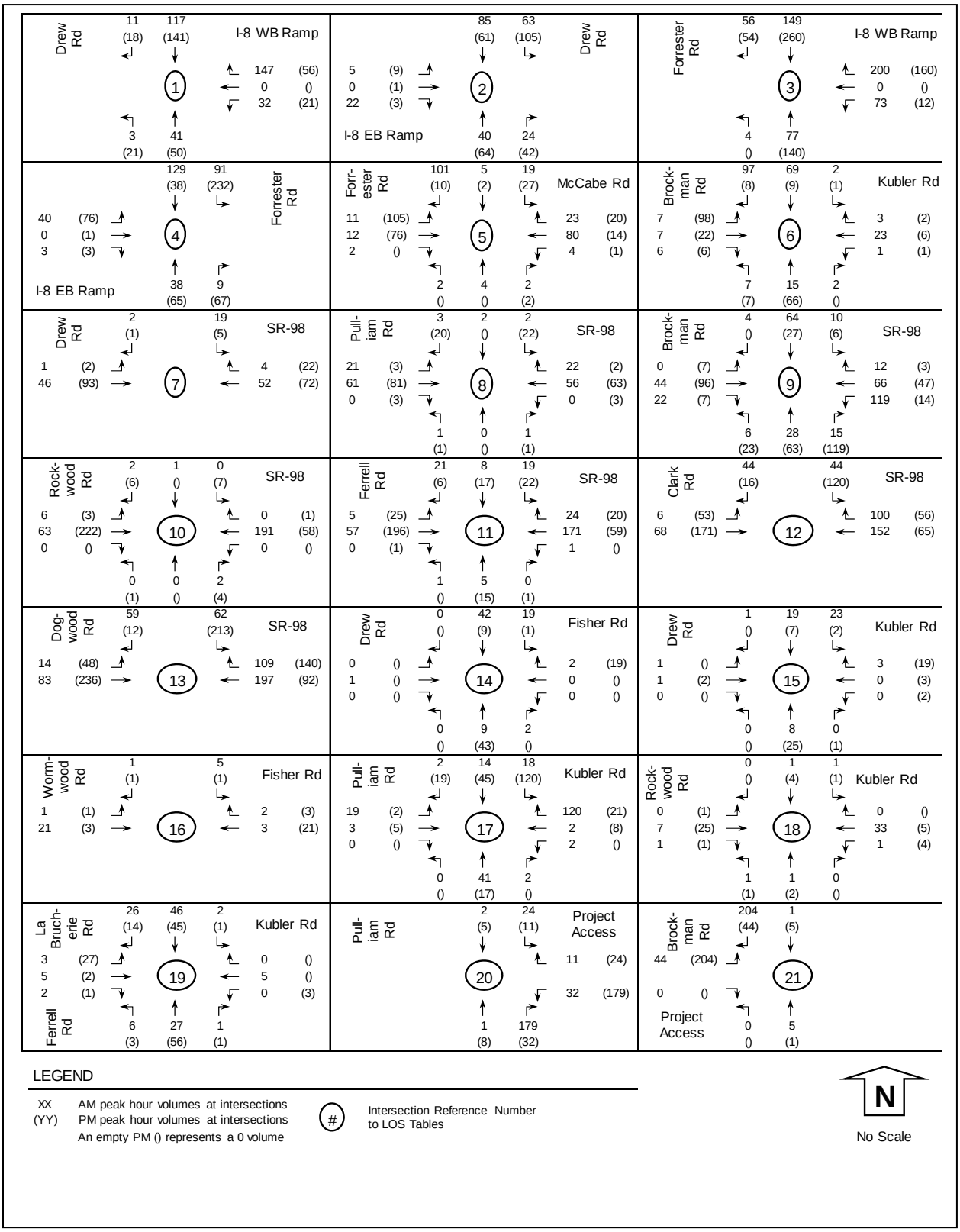

Source: LOS, 2011.

FIGURE 4.3-8B
EXISTING (YEAR 2011) + PROJECT VOLUMES

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Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2011 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2011 Plus Project Conditions.

CEQA Significance Determination

Conflict with Applicable Circulation Plan, Ordinance or Policy

1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Conflict with an Applicable Congestion Management Program

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Construction

As shown in **Table 4.3-4, Table 4.3-5** and **Table 4.3-6,** the Proposed Action would not substantially increase traffic volumes at study intersections, roadway segments of freeway segments under Year 2011 Plus Project Conditions. (Intersection LOS calculations are included in Appendix K of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.) All study area intersections, roadway segments and freeway segments would continue to operate at LOS C or better. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. No LOS standard would be exceeded individually or cumulatively under Year 2011 Plus Project Conditions. Therefore, construction traffic impacts under Year 2011 Plus Project Conditions are considered less than significant under CEQA.

Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

B. Year 2012 Conditions (Without Project)

Year 2012 Conditions Without Project reflect when the project is anticipated to be at the peak month of construction activities (mid-2012). The construction peak background year 2012 volumes are shown in

Figure 4.3-9A and **Figure 4.3-9B**. Year 2012 Conditions Without Project provide a baseline for assessing impacts resulting from the addition of project traffic.

Direct and Indirect Impacts

Construction

Intersection

Intersection LOS is shown in **Table 4.3-7** (Intersection LOS calculations are included in Appendix M of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA). Under Year 2012 Conditions Without Project, the study intersections were calculated to operate at LOS C or better. The majority of intersections would operate at LOS A in both the AM and PM peak hour. Only the intersection of Forrester Road at I-8 eastbound ramp would operate at LOS C in the PM peak hour (and LOS B in the AM peak hour). Fourteen intersections would operate at LOS A in both the AM and PM peak hours. Three would operate at LOS A in the AM peak hour and LOS B in the PM peak hour. The intersection of SR 98 and Dogwood Road would operate at LOS B in both the AM and PM peak hour.

Roadway Segments

Roadway segment LOS is shown in **Table 4.3-8**. Under Year 2012 Conditions Without Project, the study area roadway segments were calculated to operate at LOS C or better. Thirteen segments would operate at LOS A, four would operate at LOS B and 4 would operate at LOS C.

TABLE 4.3-4
EXISTING (YEAR 2011) PLUS PROJECT INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	Existing (Year 2011)		Existing (Year 2011)			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Drew Road at I-8 WB Ramp (U)	Minor Leg	AM	9.2	A	9.3	A	0.1	None
		PM	9.0	A	9.2	A	0.2	None
2) Drew Road at I-8 EB Ramp (U)	Minor Leg	AM	9.6	A	9.6	A	0.0	None
		PM	10.9	B	11.1	B	0.2	None
3) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.8	A	10.1	B	0.3	None
		PM	9.8	A	10.2	B	0.4	None
4) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	10.8	B	11.9	B	1.1	None
		PM	16.9	C	19.2	C	2.3	None
5) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.1	A	9.9	A	0.8	None
		PM	9.0	A	10.9	B	1.9	None
6) Brockman Road at Kubler Road (U)	Minor Leg	AM	9.1	A	10.3	B	1.2	None
		PM	8.9	A	10.0	B	1.1	None
7) SR 98 at Drew Road (U)	Minor Leg	AM	8.6	A	9.1	A	0.5	None
		PM	9.2	A	9.4	A	0.2	None
8) SR 98 at Pulliam Road (U)	Minor Leg	AM	9.3	A	9.4	A	0.1	None
		PM	9.0	A	9.4	A	0.4	None
9) SR 98 at Brockman Road (U)	Minor Leg	AM	9.4	A	13.7	B	4.3	None
		PM	9.7	A	11.1	B	1.4	None
10) SR 98 at Rockwood Road (U)	Minor Leg	AM	9.7	A	9.8	A	0.1	None
		PM	9.4	A	9.8	A	0.4	None
11) SR 98 at Ferrell Road (U)	Minor Leg	AM	9.8	A	10.9	B	1.1	None
		PM	10.1	B	11.5	B	1.4	None
12) SR 98 at Clark Road (U)	Minor Leg	AM	9.9	A	10.4	B	0.5	None
		PM	10.7	B	12.8	B	2.1	None
13) SR 98 at Dogwood Road (S)	All	AM	10.7	B	11.6	B	0.9	None
		PM	10.9	B	12.1	B	1.2	None
14) Drew Road at Fisher Road (U)	Minor Leg	AM	9.1	A	9.6	A	0.5	None
		PM	0.0	A	8.6	A	8.6	None
15) Drew Road at Kubler Road (U)	Minor Leg	AM	8.9	A	9.3	A	0.4	None
		PM	9.1	A	9.2	A	0.1	None
16) Wormwood Road Minor at Fisher Road (U)	Minor Leg	AM	8.5	A	8.6	A	0.1	None
		PM	0.00	A	8.5	A	8.5	None
17) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.8	A	10.4	B	1.6	None
		PM	9.0	A	9.9	A	0.9	None
18) Rockwood Road Minor at Kubler Road (U)	Minor Leg	AM	9.1	A	9.1	A	0.0	None
		PM	9.1	A	9.2	A	0.1	None
19) Ferrell Road at Minor at Kubler Road (U)	Minor Leg	AM	9.5	A	9.8	A	0.3	None
		PM	9.2	A	9.4	A	0.2	None
20) Brockman Road at Project Access (U)	Minor Leg	AM	DNE	DNE	9.5	A	NA	None
		PM	DNE	DNE	9.9	A	NA	None
21) Pulliam Road At Project Access (U)	Minor Leg	AM	DNE	DNE	9.3	A	NA	None
		PM	DNE	DNE	9.7	A	NA	None

Source: LOS, 2011.

Notes:
[1] Intersection Control - (S) Signalized, (U) Unsignalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service.
[4] Delta = increase in delay from project.
[5] Type of Impact or none.

DNE: Does not exist.
NA: Not Applicable
EB = eastbound
WB = westbound

TABLE 4.3-5
EXISTING (YEAR 2011) PLUS PROJECT ROADWAY SEGMENT LOS

Segment	Classification (as built)	Existing (Year 2011)				Project Daily Volume	Existing (Year 2011) + Project					
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact ?
Brockman Road												
McCabe Road to Kubler Road	Major Collector (2U)	409	7,100	0.06	A	504	913	7,100	0.13	A	0.07	None
Kubler Road to SR 98	Major Collector (2U)	309	7,100	0.04	A	689	998	7,100	0.14	A	0.10	None
Drew Road												
I-8 to Fisher Road	Prime Arterial (2U)	694	7,100	0.10	A	189	883	7,100	0.12	A	0.03	None
Fisher Road to Kubler Road	Prime Arterial (2U)	156	7,100	0.02	A	126	282	7,100	0.04	A	0.02	None
Kubler Road to SR 98	Prime Arterial (2U)	157	7,100	0.02	A	63	220	7,100	0.03	A	0.01	
Ferrel Road												
Kubler Road to SR 98	Major Collector (2U)	815	7,100	0.11	A	63	878	7,100	0.12	A	0.01	None
Fisher Road												
Drew Road to Wormwood Road	Minor Collector (Dirt 2U)	25	1,500	0.02	C	73	98	1,500	0.07	C	0.05	None
Forrester Road												
I-8 to McCabe Road	Prime Arterial (2U)	1,001	7,100	0.14	A	315	1,316	7,100	0.19	A	0.04	None
Kubler Road												
Drew Road to Pulliam Road	Minor Collector (2U)	68	7,100	0.01	A	113	181	7,100	0.03	A	0.02	None
Pulliam Road to Brockman Road	Minor Collector (2U)	127	7,100	0.02	A	878	1,005	7,100	0.14	A	0.12	None
Brockman Road to Rockwood Road	Minor Collector (2U)	210	7,100	0.03	A	68	278	7,100	0.04	A	0.01	None
Rockwood Road to Ferrell Road	Minor Collector (2U)	262	7,100	0.04	A	63	325	7,100	0.05	A	0.01	None
McCabe Road												
Brockman Road to Forrester Road	Major Collector (2U)	686	7,100	0.10	A	504	1,190	7,100	0.17	A	0.07	
Pulliam Road												
Fisher Road to Kubler Road	Minor Collector (Dirt 2U)	46	1,500	0.03	C	463	509	1,500	0.34	C	0.31	None
Kubler Road to SR 98	Minor Collector (2U)	33	7,100	0.00	A	626	659	7,100	0.09	A	0.09	None
Rockwood Road												
Kubler Road to SR 98	Minor Collector (Dirt 2U)	104	1,500	0.07	C	5	109	1,500	0.07	C	0.00	None
SR 98												
Drew Road to Pulliam Road	State Highway (2U)	2,325	7,100	0.33	B	226	2,511	7,100	0.36	B	0.03	None
Pulliam Road to Brockman Road	State Highway (2U)	2,325	7,100	0.33	B	626	2,951	7,100	0.42	B	0.09	None
Brockman Road to Rockwood Road	State Highway (2U)	2,325	7,100	0.33	B	541	2,866	7,100	0.40	B	0.08	None
Rockwood Road to Ferrell Road	State Highway (2U)	2,325	7,100	0.33	B	441	2,766	7,100	0.39	B	0.06	None
Ferrell Road to Clark Road	State Highway (2U)	2,801	7,100	0.39	B	378	3,179	7,100	0.45	B	0.05	None
Clark Road to Dogwood Road	State Highway (2U)	4,334	7,100	0.61	C	252	4,586	7,100	0.65	C	0.04	None

Source: LOS, 2011. *Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element.* *LOS: Level of Service. 2U = 2 lane undivided roadway.*
V/C: Volume to Capacity ratio. *LOS based on actual number of lanes currently constructed. Daily volume is a 24 hour volume.* *Impact? = type of impact (none, cumulative, or direct).*

TABLE 4.3-6
EXISTING (YEAR 2011) PLUS PROJECT FREEWAY LOS

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Ave			
Year 2011 (Forecasted from 2009)												
ADT	12,900				14,600				18,400			
Peak Hour	AM		PM		AM		PM		AM		PM	
Directions	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]	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517
D Factor[3]	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581
Truck Factor[4]	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376
Peak Hour Volume	434	1,095	624	1,304	491	1,239	706	1,476	618	1,562	890	1,860
V/C	.092	.233	.133	.277	.104	.264	.150	.314	.132	.332	.189	.396
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Project Peak Hour Volume	19	1	1	19	19	1	1	19	5	77	77	5
Existing (2011) + Project												
Peak Hour Volume	453	1,096	625	1,323	510	1,240	707	1,495	623	1,639	967	1,865
Volume to Capacity (V/C)	0.096	0.233	0.133	0.281	0.108	0.264	0.150	0.318	0.133	0.349	0.206	0.397
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Increase in V/C	0.004	0.000	0.000	0.004	0.004	0.000	0.000	0.004	0.001	0.016	0.016	0.001
Impact?	None	None	None	None	None	None	None	None	None	None	None	None

Source: LOS ,2011.

Notes: [1] Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.

[2] Latest K factor (percentage of the AADT in both directions during the peak hour) from Caltrans (based on 2007 report).

[3] Latest D factor (percentage of traffic in the peak direction during the peak hour) 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).

Impact? = Direct, Cumulative, or None. ADT = Average Daily Trips EB = eastbound WB = westbound

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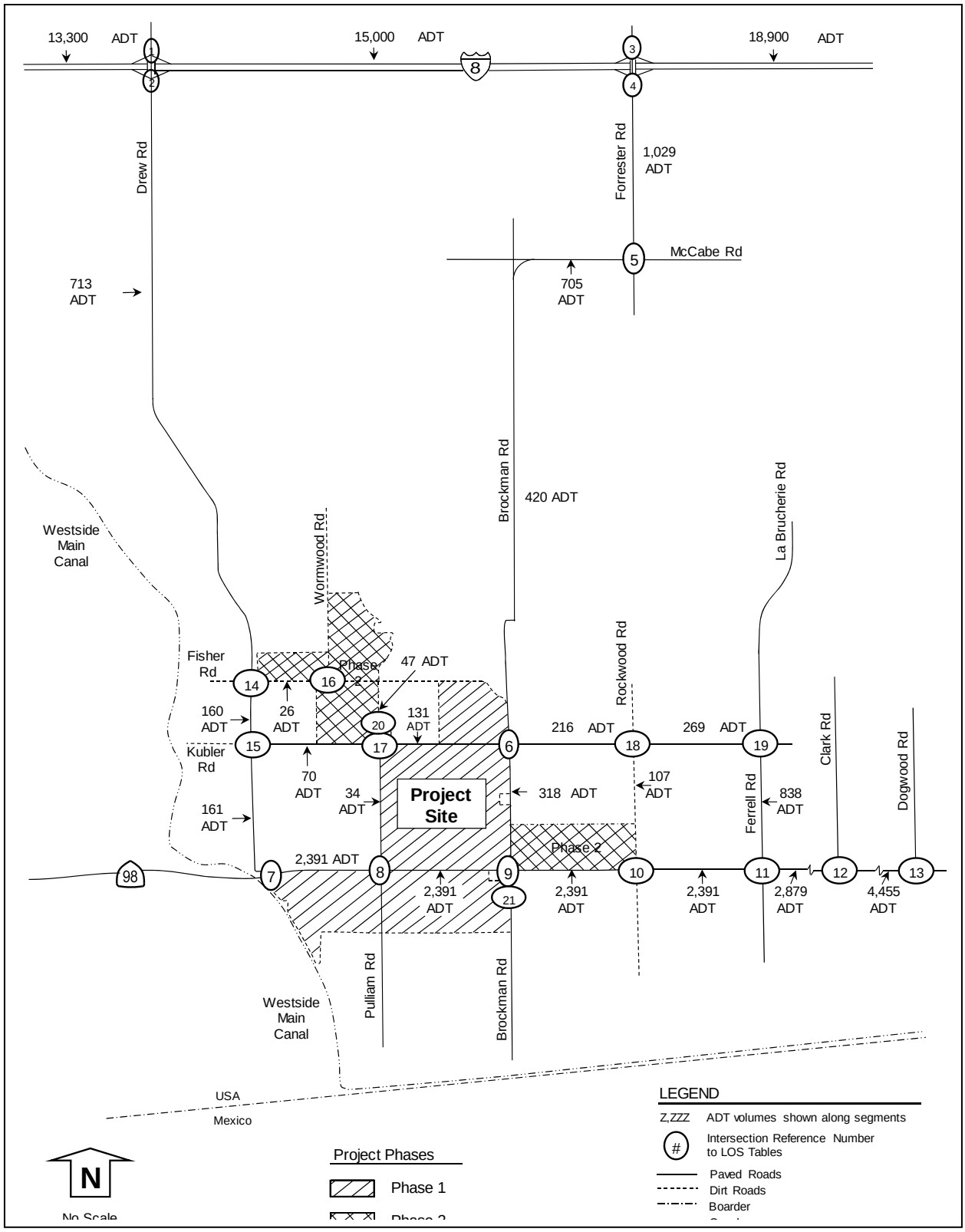

Source: LOS, 2011.

FIGURE 4.3-9A
YEAR 2012 VOLUMES

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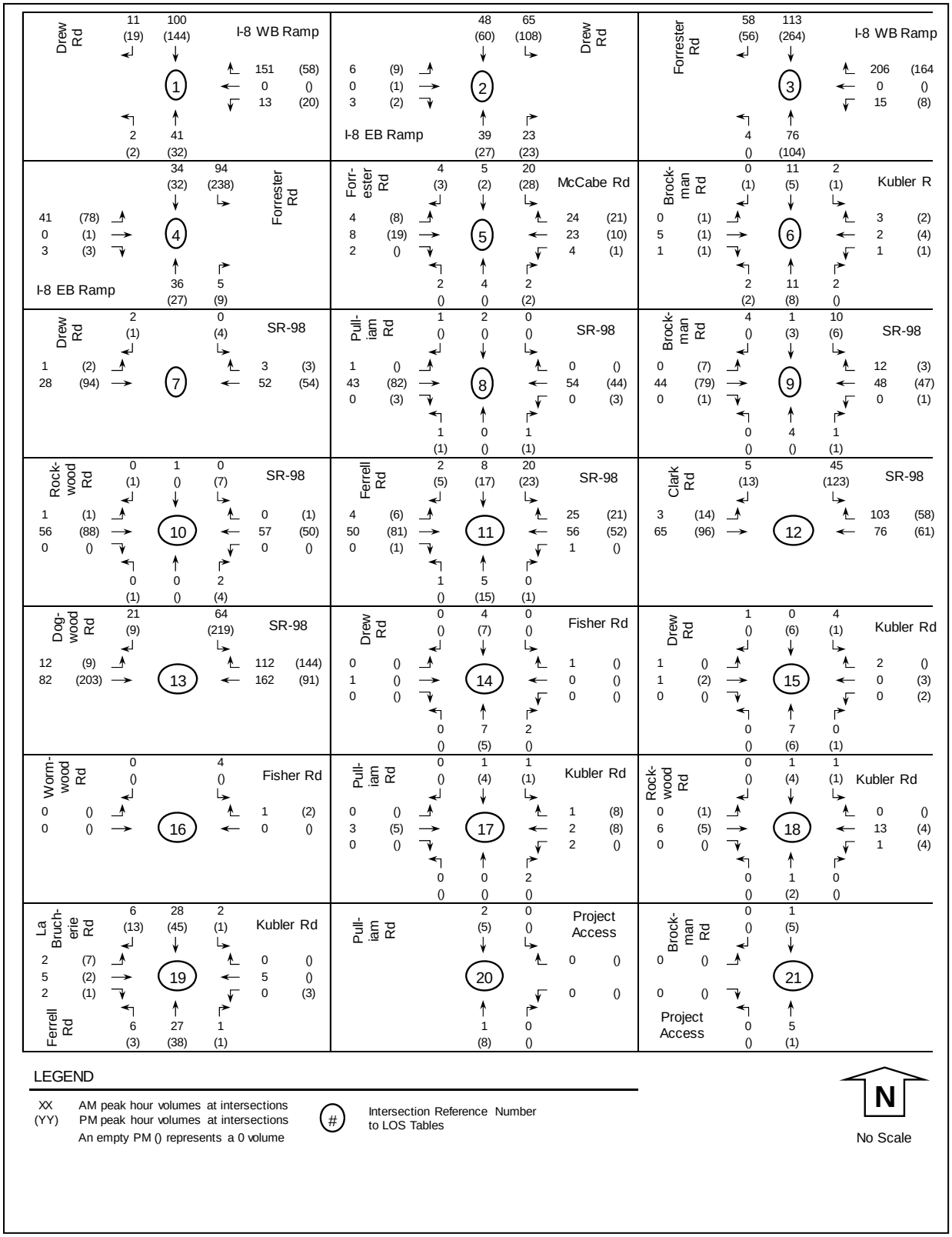

Source: LOS, 2011.

FIGURE 4.3-9B
YEAR 2012 VOLUMES

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TABLE 4.3-7
YEAR 2012 INTERSECTION LOS (WITHOUT PROJECT)

Intersection & (Control)[1]	Movement	Peak Hour	Year 2012	
			Delay[2]	LOS[3]
1) Drew Road at I-8 WB Ramp (U)	Minor Leg	AM	9.2	A
		PM	9.0	A
2) Drew Road at I-8 EB Ramp (U)	Minor Leg	AM	9.7	A
		PM	10.9	B
3) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.8	A
		PM	9.8	A
4) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	10.8	B
		PM	17.4	C
5) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.1	A
		PM	9.0	A
6) Brockman Road at Kubler Road (U)	Minor Leg	AM	9.1	A
		PM	8.9	A
7) SR 98 at Drew Road (U)	Minor Leg	AM	8.6	A
		PM	9.2	A
8) SR 98 at Pulliam Road (U)	Minor Leg	AM	9.3	A
		PM	9.1	A
9) SR 98 at Brockman Road (U)	Minor Leg	AM	9.4	A
		PM	9.7	A
10) SR 98 at Rockwood Road (U)	Minor Leg	AM	9.7	A
		PM	9.4	A
11) SR 98 at Ferrell Road (U)	Minor Leg	AM	9.9	A
		PM	10.1	B
12) SR 98 at Clark Road (U)	Minor Leg	AM	9.9	A
		PM	10.8	B
13) SR 98 at Dogwood Road (S)	All	AM	10.7	B
		PM	11.0	B
14) Drew Road at Fisher Road (U)	Minor Leg	AM	9.1	A
		PM	0.0	A
15) Drew Road at Kubler Road (U)	Minor Leg	AM	8.9	A
		PM	9.1	A
16) Wormwood Road Minor at Fisher Road (U)	Minor Leg	AM	8.5	A
		PM	0.0	A
17) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.8	A
		PM	9.0	A
18) Rockwood Road Minor at Kubler Road (U)	Minor Leg	AM	9.1	A
		PM	9.1	A
19) Ferrell Road at Minor at Kubler Road (U)	Minor Leg	AM	9.5	A
		PM	9.2	A
20) Brockman Road at Project Access (U)	Minor Leg	AM	DNE	DNE
		PM	DNE	DNE
21) Pulliam Road At Project Access (U)	Minor Leg	AM	DNE	DNE
		PM	DNE	DNE

Source: LOS, 2011.
Notes: [1]Intersection Control - (S) Signalized, (U) Unsignalized. *[3] LOS: Level of Service.*
[2] Delay - HCM Average Control Delay in seconds. *DNE: Does Not Exist*

TABLE 4.3-8
YEAR 2012 ROADWAY SEGMENT LOS (WITHOUT PROJECT)

Segment	Classification (as built)	Year 2012			
		Daily Volume	LOS C Capacity	V/C	LOS
Brockman Road					
McCabe Road to Kubler Road	Major Collector (2U)	420	7,100	0.06	A
Kubler Road to SR 98	Major Collector (2U)	318	7,100	0.04	A
Drew Road					
I-8 to Fisher Road	Prime Arterial (2U)	713	7,100	0.10	A
Fisher Road to Kubler Road	Prime Arterial (2U)	160	7,100	0.02	A
Kubler Road to SR 98	Prime Arterial (2U)	161	7,100	0.02	A
Ferrel Road					
Kubler Road to SR 98	Major Collector (2U)	838	7,100	0.12	A
Fisher Road					
Drew Road to Wormwood Road	Minor Collector (Dirt 2U)	26	1,500	0.02	C
Forrester Road					
I-8 to McCabe Road	Prime Arterial (2U)	1,029	7,100	0.14	A
Kubler Road					
Drew Road to Pulliam Road	Minor Collector (2U)	70	7,100	0.01	A
Pulliam Road to Brockman Rd	Minor Collector (2U)	131	7,100	0.02	A
Brockman Road to Rockwood Road	Minor Collector (2U)	216	7,100	0.03	A
Rockwood Road to Ferrell Road	Minor Collector (2U)	269	7,100	0.04	A
McCabe Road					
Brockman Road to Forrester Road	Major Collector (2U)	705	7,100	0.10	A
Pulliam Road					
Fisher Road to Kubler Road	Minor Collector (Dirt 2U)	47	1,500	0.03	C
Kubler Road to SR 98	Minor Collector (2U)	34	7,100	0.00	A
Rockwood Road					
Kubler Road to SR 98	Minor Collector (Dirt 2U)	107	1,500	0.07	C
SR 98					
Drew Road to Pulliam Road	State Highway (2U)	2,391	7,100	0.34	B
Pulliam Road to Brockman Road	State Highway (2U)	2,391	7,100	0.34	B
Brockman Road to Rockwood Road	State Highway (2U)	2,391	7,100	0.34	B
Rockwood Road to Ferrell Road	State Highway (2U)	2,391	7,100	0.34	B
Ferrell Road to Clark Road	State Highway (2U)	2,879	7,100	0.41	B
Clark Road to Dogwood Road	State Highway (2U)	4,455	7,100	0.63	C

Source: LOS, 2011.
Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element.
2U = 2 lane undivided roadway. LOS: Level of Service. LOS based on actual number of lanes currently constructed.
Daily volume is a 24 hour volume. V/C: Volume to Capacity ratio.

Freeway Segments

Freeway segment LOS is summarized in **Table 4.3-9.** Under Year 2012 Conditions Without Project, the freeway segments were calculated to operate at above LOS C at LOS A and LOS B. I-8 from Dunaway Road to Drew Road would continue to operate at LOS A in the AM and PM peak hours in both directions (eastbound and westbound). I-8 from Drew Road to Forrester Road would operate at LOS A during the AM and PM peak hour in the EB direction, LOS A in the AM peak hour in the westbound direction, and LOS B during the PM peak hour in the westbound direction. I-8 from Forrester Road to Imperial Avenue

would operate at LOS A during the AM and PM peak hour in the eastbound direction and LOS B during the AM and PM peak hour in the westbound direction. No direct project impacts were calculated due to the addition of project traffic to existing traffic would occur.

TABLE 4.3-9
YEAR 2012 FREEWAY LOS (WITHOUT PROJECT)

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Ave			
Year 2012 (Forecasted from 2009)												
ADT	13,300				15,000				18,900			
Peak Hour	AM		PM		AM		PM		AM		PM	
Directions	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]	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517
D Factor[3]	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581
Truck Factor[4]	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376
Peak Hour Volume	447	1,129	643	1,344	504	1,273	726	1,516	635	1,605	914	1,910 0
V/C	.095	.240	.137	.286	.107	.271	.154	.323	.135	.341	.195	.406
LOS	A	A	A	A	A	A	A	B	A	B	A	B

Source: LOS, 2011.

Notes: [1] Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.

[2] Latest K factor (percentage of the AADT in both directions during the peak hour) from Caltrans (based on 2007 report).

[3] Latest D factor (percentage of traffic in the peak direction during the peak hour) 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).

LOS: Level of Service. LOS based on actual number of lanes currently constructed.

V/C: Volume to Capacity ratio. EB = eastbound WB = westbound

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2012 Conditions Without Project.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2012 Conditions Without Project.

CEQA Significance Determinations

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways (refer to Table 4.3-3).

Construction

Year 2012 Conditions Without Project provide a baseline of traffic projected to occur in the project study area without construction of the Proposed Action. As shown in **Table 4.3-7, Table 4.3-8** and **Table 4.3-9,** the study intersections, roadway segments, and freeway segments were calculated to operate at LOS C or better under Year 2012 without the Proposed Action.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

C. Year 2012 Plus Project Conditions

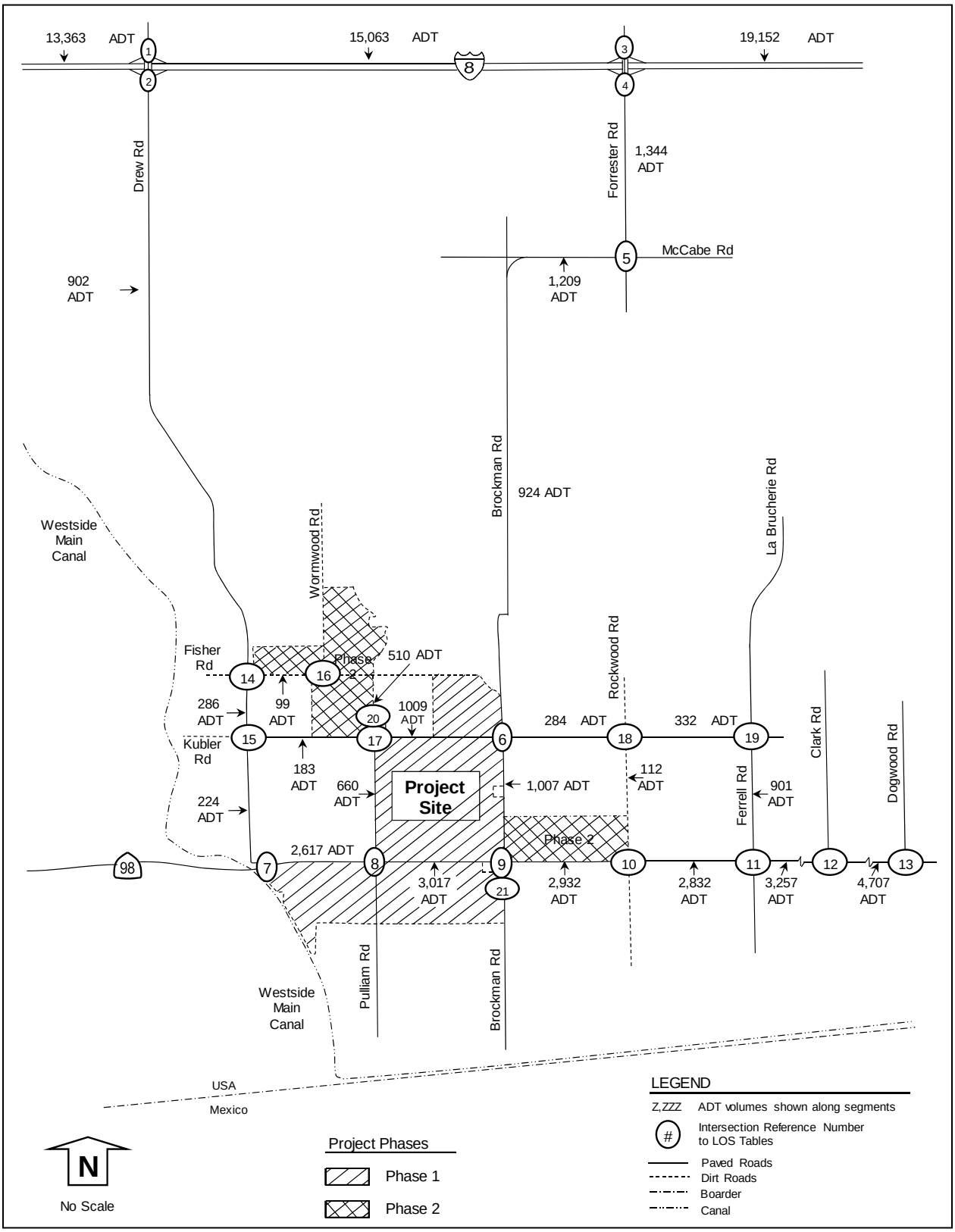
Year 2012 Plus Project Conditions examines the addition of construction traffic from the Proposed Action onto Year 2012 Conditions Without Project. The Year 2012 Plus Project Conditions are modeled for the anticipated construction peak (month six). Year 2012 Plus Project construction traffic volumes are shown in **Figure 4.3-10A** and **Figure 4.3-10B**.

Direct and Indirect Impacts

Construction

Intersections

Table 4.3-10 summarizes intersection LOS for Year 2012 Plus Project Conditions. (Intersection LOS calculations are included in Appendix N of the *Draft Traffic Impact Analysis*. This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR/EA.) As shown in **Table 4.3-10**, under Year 2012 Plus Project Conditions with the Drew Road interchange open, the study intersections were calculated to operate at LOS C or better. Only one intersection, Forrester Road to I-8 eastbound ramp would operate at LOS C in the PM peak hour (and LOS B in the AM peak hour). Six intersections would operate at LOS B in both the AM and PM peak hours. Two intersections would operate at LOS B in the AM peak hour only and two intersections would operate at LOS B in the PM peak hour only. No direct project impacts to study area intersections were calculated due to the addition of project traffic to existing traffic. Moreover, the increases in traffic during peak construction of the Proposed Action would not exceed LOS standards in Year 2012. Therefore, no direct or indirect construction traffic impacts to study area intersections would occur under Year 2012 Plus Project Conditions for the Proposed Action.



Source: LOS, 2011.

FIGURE 4.3-10A
YEAR 2012 PLUS PROJECT VOLUMES

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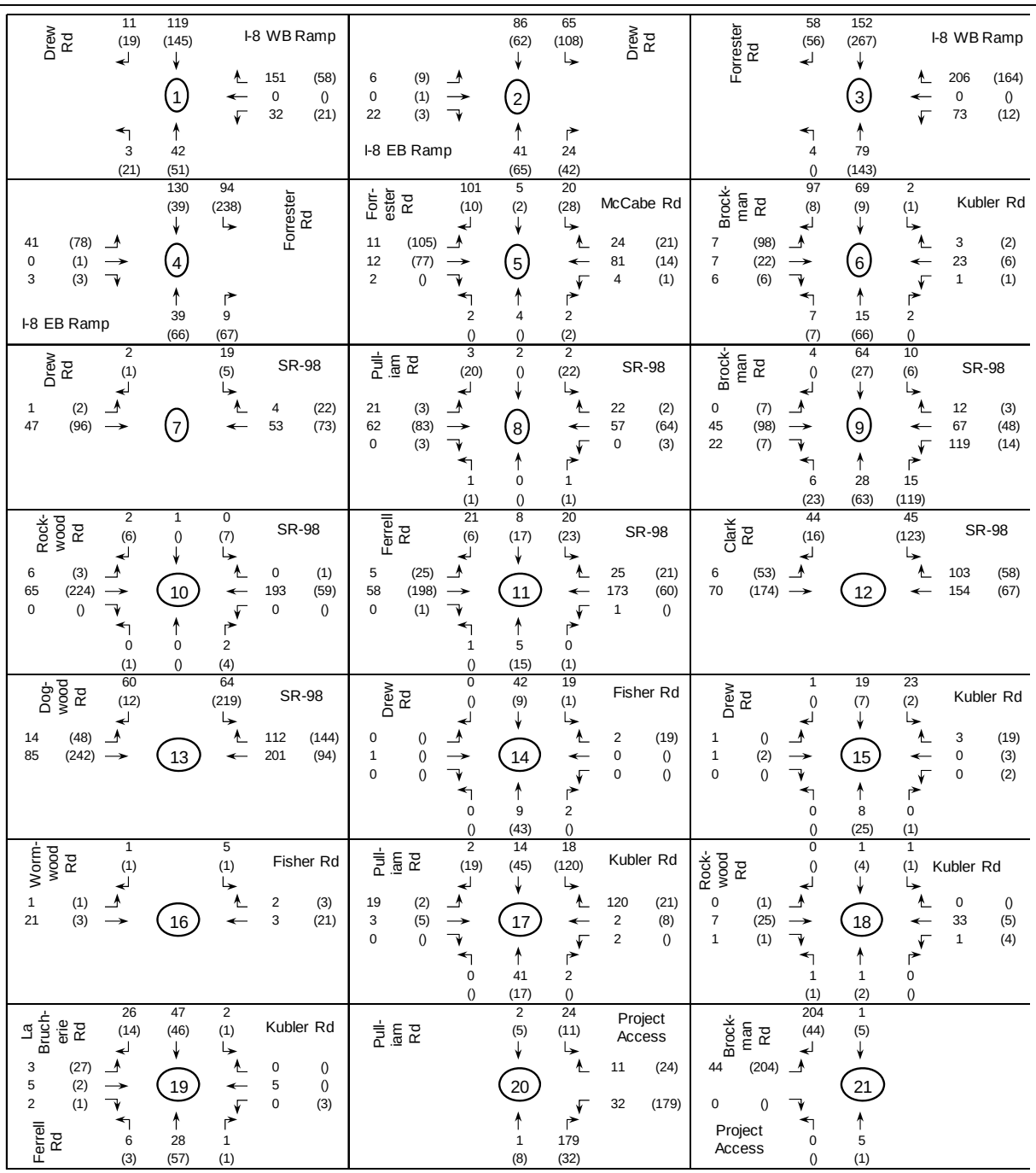

Source: LOS, 2011.

FIGURE 4.3-10B
YEAR 2012 PLUS PROJECT VOLUMES

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Roadway Segments

Table 4.3-11 summarizes roadway segment LOS for Year 2012 Plus Project Conditions. As shown, all roadway segments were calculated to operate at LOS C or better with no change in LOS from Year 2012 Conditions Without Project. Four roadway segments would operate at LOS C. The majority (thirteen) of segments would operate at LOS A. Five roadway segments would operate at LOS B and four roadway segments would operate at LOS C. No direct project impacts to study area roadway segments were calculated due to the addition of peak construction traffic to existing traffic in Year 2012. Moreover, the increases in traffic during peak construction of the Proposed Action would not exceed V/C ratios or LOS standards. Therefore, no direct or indirect construction traffic impacts to study area roadway segments would occur under Year 2012 Plus Project Conditions for the Proposed Action.

Freeway Segments

Table 4.3-12 summarizes freeway segment LOS. Under year 2012 Plus Project Conditions, the freeway segments were calculated to operate above LOS C at LOS A and LOS B. No change in LOS would occur in Year 2012 with the addition of project traffic. I-8 from Dunaway Road to Drew Road is projected to operate at LOS A in the AM and PM peak hours in both directions (eastbound and westbound). I-8 from Drew Road to Forrester Road is projected to operate at LOS A during the AM and PM peak hour in the EB direction, LOS A in the AM peak hour in the westbound direction, and LOS B during the PM peak hour in the westbound direction. I-8 from Forrester Road to Imperial Avenue is projected to operate at LOS A during the AM and PM peak hour in the eastbound direction, LOS B during the AM and PM peak hour in the westbound direction. No direct project impacts were calculated due to the addition of project traffic to existing traffic. Moreover, the increases in traffic during peak construction of the Proposed Action would not exceed V/C ratios or LOS standards. Therefore, no direct or indirect construction traffic impacts to study area freeway segments would occur under Year 2012 Plus Project Conditions for the Proposed Action.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2012 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of the Proposed Action is not discussed with regard to Year 2012 Plus Project Conditions.

CEQA Significance Determinations

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

TABLE 4.3-10
YEAR 2012 WITH AND WITHOUT PROJECT - INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	Year 2012		Year 2012 + Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Drew Road at I-8 WB Ramp (U)	Minor Leg	AM	9.2	A	9.3	A	0.1	None
		PM	9.0	A	9.3	A	0.3	None
2) Drew Road at I-8 EB Ramp (U)	Minor Leg	AM	9.6	A	9.7	A	0.1	None
		PM	10.9	B	11.2	B	0.3	None
3) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.8	A	10.2	B	0.4	None
		PM	9.8	A	10.2	B	0.4	None
4) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	10.8	B	12.1	B	1.3	None
		PM	16.9	C	19.9	C	3.0	None
5) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.1	A	9.9	A	0.8	None
		PM	9.0	A	11.0	B	2.0	None
6) Brockman Road at Kubler Road (U)	Minor Leg	AM	9.1	A	10.3	B	1.2	None
		PM	8.9	A	10.0	B	1.1	None
7) SR 98 at Drew Road (U)	Minor Leg	AM	8.6	A	9.1	A	0.5	None
		PM	9.2	A	9.5	A	0.3	None
8) SR 98 at Pulliam Road (U)	Minor Leg	AM	9.3	A	9.4	A	0.1	None
		PM	9.0	A	9.4	A	0.4	None
9) SR 98 at Brockman Road (U)	Minor Leg	AM	9.4	A	13.7	B	4.3	None
		PM	9.7	A	11.2	B	1.5	None
10) SR 98 at Rockwood Road (U)	Minor Leg	AM	9.7	A	9.9	A	0.2	None
		PM	9.4	A	9.8	A	0.4	None
11) SR 98 at Ferrell Road (U)	Minor Leg	AM	9.8	A	10.9	B	1.1	None
		PM	10.1	B	11.5	B	1.4	None
12) SR 98 at Clark Road (U)	Minor Leg	AM	9.9	A	10.5	B	0.6	None
		PM	10.7	B	13.0	B	2.3	None
13) SR 98 at Dogwood Road (S)	All	AM	10.7	B	11.6	B	0.9	None
		PM	10.9	B	12.1	B	1.2	None
14) Drew Road at Fisher Road (U)	Minor Leg	AM	9.1	A	9.6	A	0.5	None
		PM	0.0	A	8.6	A	8.6	None
15) Drew Road at Kubler Road (U)	Minor Leg	AM	8.9	A	9.3	A	0.4	None
		PM	9.1	A	9.2	A	0.1	None
16) Wormwood Road Minor at Fisher Road (U)	Minor Leg	AM	8.5	A	8.6	A	0.1	None
		PM	0.00	A	8.5	A	0.5	None
17) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.8	A	10.4	B	1.6	None
		PM	9.0	A	9.9	A	0.9	None
18) Rockwood Road Minor at Kubler Road (U)	Minor Leg	AM	9.1	A	9.1	A	0.0	None
		PM	9.1	A	9.2	A	0.1	None
19) Ferrell Road at Minor at Kubler Road (U)	Minor Leg	AM	9.5	A	9.8	A	0.3	None
		PM	9.2	A	9.5	A	0.3	None
20) Brockman Road at Project Access (U)	Minor Leg	AM	DNE	DNE	9.5	A	NA	None
		PM	DNE	DNE	9.9	A	NA	None
21) Pulliam Road At Project Access (U)	Minor Leg	AM	DNE	DNE	9.3	A	NA	None
		PM	DNE	DNE	9.7	A	NA	None

Source: LOS, 2011.

Notes: [1] Intersection Control - (S) Signalized, (U) Unsignalized. [3] LOS: Level of Service. [5] Type of Impact or none. DNE: Does not exist.
[2] Delay - HCM Average Control Delay in seconds. [4] Delta = increase in delay from project. NA: Not Applicable.

TABLE 4.3-11
YEAR 2012 WITH AND WITHOUT PROJECT - ROADWAY SEGMENT LOS

Segment	Classification (as built)	Year 2012				Project Daily Volume	Year 2012 + Project					
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact ?
Brockman Road												
McCabe Road to Kubler Road	Major Collector (2U)	420	7,100	0.06	A	504	924	7,100	0.13	A	0.071	None
Kubler Road to SR 98	Major Collector (2U)	318	7,100	0.04	A	689	1,007	7,100	0.14	A	0.097	None
Drew Road												
I-8 to Fisher Road	Prime Arterial (2U)	713	7,100	0.10	A	189	902	7,100	0.13	A	0.027	None
Fisher Road to Kubler Road	Prime Arterial (2U)	160	7,100	0.02	A	126	286	7,100	0.04	A	0.018	None
Kubler Road to SR 98	Prime Arterial (2U)	161	7,100	0.02	A	63	224	7,100	0.03	A	0.009	
Ferrel Road												
Kubler Road to SR 98	Major Collector (2U)	838	7,100	0.12	A	63	901	7,100	0.13	A	0.009	None
Fisher Road												
Drew Road to Wormwood Road	Minor Collector (Dirt 2U)	26	1,500	0.02	C	73	99	1,500	0.07	C	0.049	None
Forrester Road												
I-8 to McCabe Road	Prime Arterial (2U)	1,029	7,100	0.14	A	315	1,344	7,100	0.19	A	0.044	None
Kubler Road												
Drew Road to Pulliam Road	Minor Collector (2U)	70	7,100	0.01	A	113	183	7,100	0.03	A	0.016	None
Pulliam Road to Brockman Road	Minor Collector (2U)	131	7,100	0.02	A	878	1,009	7,100	0.14	A	0.124	None
Brockman Road to Rockwood Road	Minor Collector (2U)	216	7,100	0.03	A	68	284	7,100	0.04	A	0.010	None
Rockwood Road to Ferrell Road	Minor Collector (2U)	269	7,100	0.04	A	63	332	7,100	0.05	A	0.009	None
McCabe Road												
Brockman Road to Forrester Road	Major Collector (2U)	705	7,100	0.10	A	504	1,209	7,100	0.17	A	0.071	
Pulliam Road												
Fisher Road to Kubler Road	Minor Collector (Dirt 2U)	47	1,500	0.03	C	463	510	1,500	0.34	C	0.309	None
Kubler Road to SR 98	Minor Collector (2U)	34	7,100	0.00	A	626	660	7,100	0.09	A	0.088	None
Rockwood Road												
Kubler Road to SR 98	Minor Collector (Dirt 2U)	107	1,500	0.07	C	5	112	1,500	0.07	C	0.003	None
SR 98												
Drew Road to Pulliam Road	State Highway (2U)	2,391	7,100	0.34	B	226	2,617	7,100	0.37	B	0.032	None
Pulliam Road to Brockman Road	State Highway (2U)	2,391	7,100	0.34	B	626	3,017	7,100	0.42	B	0.088	None
Brockman Road to Rockwood Road	State Highway (2U)	2,391	7,100	0.34	B	541	2,932	7,100	0.41	B	0.076	None
Rockwood Road to Ferrell Road	State Highway (2U)	2,391	7,100	0.34	B	441	2,832	7,100	0.40	B	0.062	None
Ferrell Road to Clark Road	State Highway (2U)	2,879	7,100	0.41	B	378	3,257	7,100	0.46	B	0.053	None
Clark Road to Dogwood Road	State Highway (2U)	4,455	7,100	0.63	C	252	4,707	7,100	0.66	C	0.035	None

Source: LOS, 2011. Notes: Classification based on 1/29/08 Circulation and Scenic Highways Element. LOS = Level of Service 2U = 2 lane undivided roadway V/C: Volume to Capacity ratio. Daily volume is a 24 hour volume. LOS based on actual number of lanes currently constructed. Impact? = type of impact (none, cumulative, or direct).

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TABLE 4.3-12
YEAR 2012 WITH AND WITHOUT PROJECT - FREEWAY LOS

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Ave			
Year 2012 (Forecasted from 2009)												
ADT	13,000				15,000				18,900			
Peak Hour	AM		PM		AM		PM		AM		PM	
Directions	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
# 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]	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517	.1076	.0963	.0917	.1517
D Factor[3]	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581	.2616	.7384	.4419	.5581
Truck Factor[4]	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376	.8376
Peak Hour Volume	434	1,095	624	1,304	491	1,239	706	1,476	618	1,562	890	1,860
V/C	0.092	0.233	0.133	0.277	0.104	0.264	0.150	0.314	0.132	0.332	0.189	0.396
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Project Peak Hour	19	1	1	19	19	1	1	19	5	77	77	5
Year 2012 Plus Project												
Peak Hour Volume	453	1,096	625	1,323	510	1,240	707	1,495	623	1,639	967	1,865
V/C	.096	.233	.133	.281	.108	.264	.150	.318	.133	.349	.206	.397
LOS	A	A	A	A	A	A	A	B	A	B	A	B
Increase in V/C	.004	.000	.000	.004	.000	.000	.000	.004	.001	.016	.016	.001
Impact?	None	None	None	None	None	None	None	None	None	None	None	None

Source: LOS, 2011.
Notes:
[1] Capacity of 2,350 passenger cars per hour per lane (pcphpl) from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] Latest K factor (percentage of the AADT in both directions during the peak hour) from Caltrans (based on 2007 report).
[3] Latest D factor (percentage of traffic in the peak direction during the peak hour) 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).
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = Direct, Cumulative, or None. EB = eastbound WB = westbound

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways(refer to Table 4.3-3).

Construction

Intersections

As shown in **Table 4.3-10**, the increases in traffic during peak construction of the Proposed Action would not exceed LOS standards in Year 2012. Therefore, construction traffic impacts to study area intersections would be considered less than significant under CEQA for Year 2012 Plus Project Conditions for the Proposed Action.

Roadway Segments

As shown in **Table 4.3-11**, the increases in traffic during peak construction of the Proposed Action would not exceed V/C ratios or LOS standards. Therefore, construction traffic impacts to study area roadway segments would be considered less than significant under CEQA for Year 2012 Plus Project Conditions for the Proposed Action.

Freeway Segments

As shown in **Table 4.3-12**, the increases in traffic during peak construction of the Proposed Action would not exceed V/C ratios or LOS standards. Therefore, construction traffic impacts to study freeway segments would be considered less than significant under CEQA for Year 2012 Plus Project Conditions for the Proposed Action.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for the Proposed Action.

D. Hazards Due to a Design Feature

Direct and Indirect Impacts

Construction

Construction does not involve any roadway design elements with the exception of access road turnouts to the project site. During construction, access to the project will be provided from US Interstate 8 (I-8) via Drew Road and Brockman Road, SR 98 and local roads. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to Figure 2.0-4 and Figure 2.0-16 in Chapter 2.0) having direct access off of SR 98. Brockman Road south of SR 98 will be used to access the CSE Facility substation and the common services areas.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Therefore, compliance with Caltrans requirements would reduce direct impacts associated with design features.

Several new unpaved access roads will be constructed to accommodate construction activities. These roads will be generally up to 16-feet wide with 2-foot high berms on either side. New access road construction may involve mowing, blading, tree removal, and bridge/culvert construction. New roads that are not necessary for operation and maintenance of the electric line will be restored following construction in accordance with a reclamation plan approved by the BLM. Approved new access roads will be staked to a standard width of up to 20-feet wide.

In the area where the Gen-tie Line is adjacent to the existing 230-kV electric lines and associated access roads, short "spur" access roads will be constructed from the existing access roads to each Gen-tie tower location in order to minimize disturbance. The spur roads will be new unpaved access roads constructed in accordance with the specifications above. The portion of the Gen-tie Line near the Imperial Valley Substation is expected to be accessed via the existing unpaved substation access road that intersects SR 98 approximately 4 miles southwest of Imperial Valley Substation. Gen-tie Line structures closer to SR 98 will be accessed via the existing unpaved transmission line access road that intersects SR 98 approximately 2.5 miles south of the Imperial Valley substation.

Where the Gen-tie Line diverts from the existing 230-kV lines and associated access roads and aligns east toward private land, a new bladed access road will be constructed within the right-of-way and intersect Mount Signal Road to provide access to the Gen-tie Towers. The new bladed road will be a 16-foot wide unpaved access road with 2-foot high berms on either side. The towers in this segment could be accessed either from Mount Signal Road or via the existing 230-kV transmission line access road from SR 98.

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal will be accessed via Mount Signal Road or from the existing farm roads aligning north to south and intersecting SR 98. From these roads, individual Gen-tie Line structure site locations will be accessed by traveling across the existing farm fields. While construction traffic could result in some conflicts with agricultural equipment, any impacts would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after construction.

No hazards due to a design feature are anticipated in association with roads constructed to accommodate construction activities. In addition, speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during construction (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0). Therefore, no direct or indirect impacts associated with hazards due to a design feature would occur in association with construction of the Proposed Action.

Operations and Maintenance

To accommodate operations and maintenance, access to the project site will be provided via US Interstate 8 (I-8), SR 98 and local roads. From I-8 the site will be accessed via Drew Road or Brockman Road. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. All-weather, 24-foot wide, gravel roads are proposed inside the perimeter of each fenced solar field area. Interior gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields (Note: Interior roads are depicted east to west in the conceptual site plan (refer to Figure 2.0-8 and Figure 2.0-9 in Chapter 2.0). A minimum of 20-foot wide spacing will be left in the perpendicular direction to the interior roads at a spacing of no more than

500 feet. These 20-foot wide breaks would be native soil unless otherwise shown on the site plan. Graveled areas to support a minimum turning diameter of 60 feet will be at each inverter equipment enclosure/pad area and inside each access gate. Where inverter equipment enclosure/pad areas are adjacent, a single turnaround will be provided. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line in Chapter 2.0).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will be bladed where sufficient access does not exist. In addition, speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0).

With the incorporation of adequate site circulation for emergency vehicles, provision of access for fire protection, use of existing roads, and reduced vehicles speeds, no direct or indirect impacts to circulation design hazards would result in association with operations and maintenance of the Proposed Action.

Decommissioning

During decommissioning gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. No direct or indirect impacts associated with hazards due to a design feature are anticipated in association with decommissioning the Proposed Action.

CEQA Significance Determination

Hazards due to a Design Feature

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

Construction

The project would not change the surrounding circulation network. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to Figure 2.0-4 and Figure 2.0-16 in Chapter 2.0) having direct access off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) right-of-ways will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line in Chapter 2.0). As such, the project will not substantially increase hazards due to a design feature. Therefore, roadway design hazards are considered to result in a less than significant impact under CEQA.

Use of existing farm roads aligning north to south and intersecting SR 98 to access the Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal could result in incompatibilities with farm equipment using these roads. Likewise, using existing farm fields to access individual Gen-tie Line structure site locations could also cause conflicts with farm equipment. However, any conflicts with construction equipment and farm equipment would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction. Therefore, increases in hazards due to incompatible uses are considered to result in a less than significant impact under CEQA.

Operations and Maintenance

Design features of the proposed project's circulation system include access points and an extensive system of interior roads within each solar field area. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed during construction by obtaining a Caltrans encroachment permit to protect public safety (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line in Chapter 2.0).

A grid network of gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields and be surrounded by an all-weather, 24-foot wide gravel perimeter road. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from

Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line in Chapter 2.0).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will provide sufficient access for maintenance activities. Speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0).

Based on design features (adequate access), compliance with local (Fire Department) and federal (BLM) requirements, and incorporation of mitigation (refer to Table 2.0-5 and Table 2.0-6 in Chapter 2.0), the Proposed Action would not substantially increase hazards due to a design feature or incompatible uses. Therefore, less than significant impacts under CEQA would occur in association with hazards due to a design feature during operations and maintenance of the Proposed Action.

Decommissioning

During decommissioning gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. Any incompatibilities with farm equipment on local roadways or in surrounding agricultural fields would be temporary. No design hazards would occur in association with decommissioning the Proposed Action. Therefore, less than significant impacts under CEQA would occur in association with hazards due to a design feature during decommissioning of the Proposed Action.

E. Emergency Access

Indirect and Direct Impacts

Construction

Emergency access to the project site during construction would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

Operations and Maintenance

Access roads are proposed throughout the solar field which would provide emergency access during operations and maintenance. Any gates onsite will have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Through incorporation of adequate design features to accommodate emergency access, no direct or indirect impacts to emergency access would occur during operations and maintenance of the Proposed Action.

Decommissioning

Activities associated with decommissioning would remove gravel roads and restore these areas to an appropriate contour. Removal of roads would eliminate gravel areas to drive on. However, fencing surrounding the project site would also be removed which would open up emergency access from more areas rather than just access gates. Therefore, no direct or indirect impacts are anticipated in association with emergency access during decommissioning of the Proposed Action.

CEQA Significance Determinations

Emergency Access

5) Result in inadequate emergency access.

Construction

During construction, emergency access to the project site would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. Therefore, construction of the Proposed Action would result in less than significant impacts to emergency access under CEQA.

Operations and Maintenance

The project site includes access roads throughout the solar field which would provide emergency access during operations and maintenance. To facilitate access, any gates onsite will have a knox box or equivalent access mechanism in order to be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Emergency vehicles will be accommodated through the incorporation of turning circles with a minimum outside radius of 60 feet at regular intervals on interior roads. Spacing between interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Emergency access availability for fire protection and emergency vehicle movement are proposed by design. Therefore, operation and maintenance of the Proposed Action would result in less than significant impacts to emergency access under CEQA.

Decommissioning

Activities associated with decommissioning would result in dismantling all infrastructure associated with the Proposed Action, including removal of gravel roads and fencing surrounding the project site. As a result, emergency access would be available from multiple entry points off of surrounding roadways rather than just a few access gates. Therefore, decommissioning of the Proposed Action would result in less than significant impacts to emergency access under CEQA.

F. Parking Capacity

Indirect and Direct Impacts

Construction

Construction workers will be directed to park in one of the two dedicated multi-use areas. One area is in the northeast corner of the intersection of Pulliam Road and Kubler Road. The other is south of SR 98 west of Brockman Road (refer to **Figure 2.0-16** in Chapter 2.0). From these locations workers will be transported by construction vehicles (such as SUVs, shuttle bus), to active construction areas. Alternatively, workers may walk to the active construction area when the construction area is near the

parking area. No direct or indirect impacts would occur with regard to parking capacity during construction of the Proposed Action.

Operations and Maintenance

Employees and visitors will use on-site parking provided at the common services area. Paved parking would include two handicap accessible spaces. The paved parking area will contain a total of approximately 24 parking spaces and approximately half of the spaces will be covered with an overhead canopy. Five to seven full-time employees are anticipated to work on the site. Therefore, no direct or indirect impacts to parking capacity would occur during operations and maintenance.

Decommissioning

During decommissioning, all existing on-site infrastructure including the paved parking area would be removed. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Therefore, no direct or indirect impacts to parking capacity would occur during decommissioning.

CEQA Significance Determinations

Parking Capacity

7) Result in inadequate parking capacity.

Construction

During construction, two dedicated multi-use areas will be used for worker parking the northeast corner of the intersection of Pulliam Road and Kubler Road; and south of SR 98 west of Brockman Road. Should these dedicated parking areas not be sufficient to accommodate construction workers, abundant parking is also available along roadways surrounding the project site. Therefore, no impacts to parking capacity under CEQA would occur during construction of the Proposed Action.

Operations and Maintenance

A paved parking area including a total of approximately 24 parking spaces to serve visitors and employees is proposed in the common services area. Approximately half of the spaces will be covered with an overhead canopy. Paved parking would include two handicap accessible spaces. Five to seven full-time employees are anticipated to work on the site leaving approximately 19 to 17 spaces available at any given time for visitors. Therefore, because adequate parking is included as part of the Proposed Action and no impact to parking capacity would occur under CEQA during operations and maintenance of the Proposed Action.

Decommissioning

Decommissioning activities would remove all on-site infrastructure including roadways, the common services area and its associated paved parking area. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Additional parking would be available along area roadways. Under no circumstances would a shortage of parking capacity occur in association with decommissioning activities. Therefore, no impact to parking capacity under CEQA would occur during decommissioning of the Proposed Action.

4.3.3.2 ALTERNATIVE 1 - DOUBLE CIRCUIT GEN-TIE LINE STRUCTURES

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Existing (Year 2011) Plus Project Conditions

Direct and Indirect Impacts

Construction

Alternative 1 is anticipated to result in traffic volumes similar to the Proposed Action because the Gen-tie Line would be constructed in the same alignment identified for the Proposed Action. The only difference would be that the tower structures would be capable of supporting an additional 230-kV circuit, rather than a single circuit. Existing plus total project volumes shown in **Figure 4.3-7A** and **Figure 4.3-7B** would also be applicable to Alternative 1.

Intersections

Table 4.3-4 summarizes intersection LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the study intersections were calculated to operate at LOS C or better. Moreover, the increases in traffic resulting from construction of the Proposed Action would not exceed LOS standards. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area intersections would occur under Alternative 1.

Roadway Segments

Table 4.3-5 summarizes roadway segment LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the roadway segments were calculated to operate at LOS C or better. Moreover, the increases in traffic resulting from implementation of the proposed project would not exceed V/C ratios or LOS standards. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area roadway segments would occur under Alternative 1.

Freeway Segments

Table 4.3-6 summarizes freeway segment LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the freeway segments were calculated to operate above LOS C (at LOS A and LOS B). No direct project impacts would occur due to the addition of construction traffic to existing traffic. Moreover, the increases in traffic resulting from project construction would not exceed V/C ratios or LOS standards. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area freeway segments would occur under Alternative 1.

Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2011 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2011 Plus Project Conditions.

CEQA Significance Determination

Conflict with Applicable Circulation Plan, Ordinance or Policy

1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Conflict with Applicable Congestion Management Plan

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Construction

As shown in **Table 4.3-4, Table 4.3-5** and **Table 4.3-6,** the Proposed Action would not substantially increase traffic volumes at study intersections, roadway segments of freeway segments under Year 2011 Plus Project Conditions. All study area intersections, roadway segments and freeway segments would continue to operate at LOS C or better. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. No LOS standard would be exceeded individually or cumulatively under Year 2011 Plus Project Conditions. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, construction traffic impacts under Year 2011 Plus Project Conditions for Alternative 1 are considered less than significant under CEQA.

Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

B. Year 2012 Conditions (Without Project)

Year 2012 Conditions Without Project reflect when the project is anticipated to be at the peak month of construction activities (mid-2012). Year 2012 Conditions Without Project provide a baseline for assessing impacts resulting from the addition of project traffic. The construction peak background year 2012 volumes are shown in **Figure 4.3-9A** and **Figure 4.3-9B**.

Direct and Indirect Impacts

Construction

Intersection

Intersection LOS is shown in **Table 4.3-7** for the Proposed Action. Under Year 2012 Conditions Without Project, all study intersections were calculated to operate at LOS C or better. The same Year 2012 Conditions Without Project would apply if Alternative 1 were implemented.

Roadway Segments

Roadway segment LOS is shown in **Table 4.3-8** for the Proposed Action. Under Year 2012 Conditions Without Project, all study area roadway segments were calculated to operate at LOS C or better. The same Year 2012 Conditions Without Project would apply if Alternative 1 were implemented.

Freeway Segments

Freeway segment LOS is summarized in **Table 4.3-9** for the Proposed Action**.** Under Year 2012 Conditions Without Project, the freeway segments were calculated to operate at above LOS C at LOS A and LOS B. No direct project impacts were calculated due to the addition of project traffic to existing traffic would occur. The same Year 2012 Conditions Without Project would apply if Alternative 1 were implemented.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2012 Conditions Without Project.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2012 Conditions Without Project.

CEQA Significance Determination

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways (refer to Table 4.3-3).

Construction

Year 2012 Conditions Without Project provide a baseline of traffic projected to occur in the project study area without construction of the Proposed Action. As shown in **Table 4.3-7, Table 4.3-8** and **Table 4.3-9,** the study intersections, roadway segments, and freeway segments were calculated to operate at LOS C

or better under Year 2012 without the project. The same Year 2012 Conditions Without Project would apply if Alternative 1 were implemented.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

C. Year 2012 Plus Project Conditions

Year 2012 Plus Project Conditions examines the addition of construction traffic from the Proposed Action onto Year 2012 Conditions Without Project. The Year 2012 Plus Project Conditions are modeled for the anticipated construction peak (month six). Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Thus Year 2012 Plus Project construction traffic volumes shown in **Figure 4.3-10A** and **Figure 4.3-10B** would be similar for Alternative 1.

Direct and Indirect Impacts

Construction

Intersections

Table 4.3-10 summarizes intersection LOS for Year 2012 Plus Project Conditions. As shown in **Table 4.3-10**, under Year 2012 Plus Project Conditions with the Drew Road interchange open, all study intersections were calculated to operate at LOS C or better for the Proposed Action. No direct project impacts to study area intersections were calculated due to the addition of project traffic to existing traffic. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area intersections would occur under Year 2012 Plus Project Conditions for Alternative 1.

Roadway Segments

Table 4.3-11 summarizes roadway segment LOS for Year 2012 Plus Project Conditions. As shown, all roadway segments were calculated to operate at LOS C or better with no change in LOS from Year 2012 Conditions Without Project. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area roadway segments would occur under Year 2012 Plus Project Conditions for Alternative 1.

Freeway Segments

Table 4.3-12 summarizes freeway segment LOS. Under year 2012 Plus Project Conditions, the freeway segments were calculated to operate above LOS C at LOS A and LOS B for the Proposed Action. No change in LOS would occur in Year 2012 with the addition of project traffic. Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Therefore, no direct or indirect impacts to study area freeway segments would occur under Year 2012 Plus Project Conditions for Alternative 1.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2012 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of Alternative 1 is not discussed with regard to Year 2012 Plus Project Conditions.

CEQA Significance Determination

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways (refer to Table 4.3-3).

Construction

As shown in **Table 4.3-10, Table 4.3-11** and **Table 4.3-12,** the study intersections, roadway segments, and freeway segments were calculated to operate at LOS C or better during peak construction of the Proposed Action (Year 2012 Plus Project Conditions). Alternative 1 is anticipated to generate construction traffic volumes similar to the Proposed Action. Construction traffic impacts to study area intersections, roadway segments and freeway segments under Year 2012 Plus Project Conditions are considered less than significant under CEQA for the Proposed Action. Likewise, construction traffic impacts under Year 2012 Plus Project Conditions for Alternative 1 are considered less than significant under CEQA.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 1.

D. Hazards Due to a Design Feature

Direct and Indirect Impacts

Construction

Construction does not involve any roadway design elements with the exception of access road turnouts to the project site. During construction, access to the project will be provided from US Interstate 8 (I-8)

via Drew Road and Brockman Road, SR 98 and local roads. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to **Figure 2.0-4** and **Figure 2.0-16** in Chapter 2.0) having direct access off of SR 98. Brockman Road south of SR 98 will be used to access the CSE Facility substation and the common services areas.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Therefore, compliance with Caltrans requirements would reduce direct impacts associated with design features.

Several new unpaved access roads will be constructed to accommodate construction activities. These roads will be generally up to 16-feet wide with 2-foot high berms on either side. New access road construction may involve mowing, blading, tree removal, and bridge/culvert construction. New roads that are not necessary for operation and maintenance of the electric line will be restored following construction in accordance with a reclamation plan approved by the BLM. Approved new access roads will be staked to a standard width of up to 20-feet wide.

In the area where the Gen-tie Line is adjacent to the existing 230-kV electric lines and associated access roads, short "spur" access roads will be constructed from the existing access roads to each Gen-tie tower location in order to minimize disturbance. The spur roads will be new unpaved access roads constructed in accordance with the specifications above. The portion of the Gen-tie Line near the Imperial Valley Substation is expected to be accessed via the existing unpaved substation access road that intersects SR 98 approximately 4 miles southwest of Imperial Valley Substation. Gen-tie Line structures closer to SR 98 will be accessed via the existing unpaved transmission line access road that intersects SR 98 approximately 2.5 miles south of the Imperial Valley substation.

Where the Gen-tie Line diverts from the existing 230-kV lines and associated access roads and aligns east toward private land, a new bladed access road will be constructed within the right-of-way and intersect Mount Signal Road to provide access to the Gen-tie Towers. The new bladed road will be a 16-foot wide unpaved access road with 2-foot high berms on either side. The towers in this segment could be accessed either from Mount Signal Road or via the existing 230-kV transmission line access road from SR 98.

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal will be accessed via Mount Signal Road or from the existing farm roads aligning north to south and intersecting SR 98. From these roads, individual Gen-tie Line structure site locations will be accessed by traveling across the existing farm fields. While construction traffic could result in some conflicts with agricultural equipment, any impacts would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after construction.

No hazards due to a design feature are anticipated in association with roads constructed to accommodate construction activities. In addition, speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during construction (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land). Therefore, no direct or indirect impacts associated with hazards due to a design feature would occur in association with construction of Alternative 1.

Operations and Maintenance

To accommodate operations and maintenance, access to the project site will be provided via US Interstate 8 (I-8), SR 98 and local roads. From I-8 the site will be accessed via Drew Road or Brockman Road. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. All-weather, 24-foot wide, gravel roads are proposed inside the perimeter of each fenced solar field area. Interior gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields (Note: Interior roads are depicted east to west in the conceptual site plan (refer to Figure 2.0-8 and Figure 2.0-9 in Chapter 2.0). A minimum of 20-foot wide spacing will be left in the perpendicular direction to the interior roads at a spacing of no more than 500 feet. These 20-foot wide breaks would be native soil unless otherwise shown on the site plan. Graveled areas to support a minimum turning diameter of 60 feet will be at each inverter equipment enclosure/pad area and inside each access gate. Where inverter equipment enclosure/pad areas are adjacent, a single turnaround will be provided. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will be bladed where sufficient access does not exist. In addition, speed limits along all Gen-tie Line access roads would be

required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0).

With the incorporation of adequate site circulation for emergency vehicles, provision of access for fire protection, use of existing roads, and reduced vehicles speeds, no direct or indirect impacts to circulation design hazards would result in association with operations and maintenance of Alternative 1.

Decommissioning

During decommissioning gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. No direct or indirect impacts associated with hazards due to a design feature are anticipated in association with decommissioning Alternative 1.

CEQA Significance Determination

Hazards due to a Design Feature

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

Construction

The project would not change the surrounding circulation network. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to Figure 2.0-4 and Figure 2.0-16 in Chapter 2.0) having direct access off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). As such, the project will not substantially increase hazards due to a design feature. Therefore, roadway design hazards associated with Alternative 1 are considered to result in a less than significant impact under CEQA.

Use of existing farm roads aligning north to south and intersecting SR 98 to access the Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal could result in incompatibilities with farm equipment using these roads. Likewise, using existing farm fields to access individual Gen-tie Line structure site locations could also cause conflicts with farm equipment. However, any conflicts with construction equipment and farm equipment would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction. Therefore, increases in hazards due to incompatible uses associated with Alternative 1 are considered a less than significant impact under CEQA.

Operations and Maintenance

Design features of Alternative 1's circulation system are identical to the Proposed Action and include access points and an extensive system of interior roads within each solar field area. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be

addressed during construction by obtaining a Caltrans encroachment permit to protect public safety (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line).

A grid network of gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields and be surrounded by an all-weather, 24-foot wide gravel perimeter road. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will provide sufficient access for maintenance activities. Speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0).

Based on design features (adequate access), compliance with local (Fire Department) and federal (BLM) requirements, and incorporation of mitigation (refer to Table 2.0-5 and Table 2.0-6 in Chapter 2.0), the Proposed Action would not substantially increase hazards due to a design feature or incompatible uses. Therefore, less than significant impacts under CEQA would occur in association with hazards due to a design feature during operations and maintenance of Alternative 1.

Decommissioning

During decommissioning of Alternative 1, gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. Any incompatibilities with farm equipment on local roadways or in surrounding agricultural fields would be temporary. No design hazards would occur in association with decommissioning Alternative 1. Therefore, less than significant impacts under CEQA would occur in association with hazards due to a design feature during decommissioning of Alternative 1.

E. Emergency Access

Indirect and Direct Impacts

Construction

Emergency access to the project site during construction would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction.

Operations and Maintenance

Access roads are proposed throughout the solar field which would provide emergency access during operations and maintenance. Any gates onsite will have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Through incorporation of adequate design features to accommodate emergency access, no direct or indirect impacts to emergency access would occur during operations and maintenance of Alternative 1.

Decommissioning

Activities associated with decommissioning Alternative 1 would remove gravel roads and restore these areas to an appropriate contour. Removal of roads would eliminate gravel areas to drive on. However, fencing surrounding the project site would also be removed which would open up emergency access from more areas rather than just access gates. Therefore, no direct or indirect impacts are anticipated in association with emergency access during decommissioning of the Alternative 1.

CEQA Significance Determinations

Emergency Access

5) Result in inadequate emergency access.

Construction

During construction, emergency access to the project site would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. Therefore, construction of Alternative 1 would result in less than significant impacts to emergency access under CEQA.

Operations and Maintenance

The project site includes access roads throughout the solar field which would provide emergency access during operations and maintenance. To facilitate access, any gates onsite will have a knox box or equivalent access mechanism in order to be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Emergency vehicles will be accommodated through the incorporation of turning circles with a minimum outside radius of 60 feet at regular intervals on interior roads. Spacing between interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices CSE Facility and Gen-tie Line). Emergency access availability for fire protection

and emergency vehicle movement are proposed by design. Therefore, operation and maintenance of Alternative 1 would result in less than significant impacts to emergency access under CEQA.

Decommissioning

Activities associated with decommissioning Alternative 1 would result in dismantling all infrastructure associated with the Alternative 1, including removal of gravel roads and fencing surrounding the project site. As a result, emergency access would be available from multiple entry points off of surrounding roadways rather than just a few access gates. Therefore, decommissioning of Alternative 1 would result in less than significant impacts to emergency access under CEQA.

F. Parking Capacity

Indirect and Direct Impacts

Construction

Construction workers will be directed to park in one of the two dedicated multi-use areas. One area is in the northeast corner of the intersection of Pulliam Road and Kubler Road. The other is south of SR 98 west of Brockman Road (refer to **Figure 2.0-16** in Chapter 2.0). From these locations workers will be transported by construction vehicles (such as SUVs, shuttle bus), to active construction areas. Alternatively, workers may walk to the active construction area when the construction area is near the parking area. No direct or indirect impacts would occur with regard to parking capacity during construction of Alternative 1.

Operations and Maintenance

Employees and visitors will use on-site parking provided at the common services area. Paved parking would include two handicap accessible spaces. The paved parking area will contain a total of approximately 24 parking spaces and approximately half of the spaces will be covered with an overhead canopy. Five to seven full-time employees are anticipated to work on the site. Therefore, no direct or indirect impacts to parking capacity would occur during operations and maintenance of Alternative 1.

Decommissioning

During decommissioning of Alternative 1, all existing on-site infrastructure including the paved parking area would be removed. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Therefore, no direct or indirect impacts to parking capacity would occur during decommissioning of Alternative 1.

CEQA Significance Determinations

Parking Capacity

7) Result in inadequate parking capacity.

Construction

During construction, two dedicated multi-use areas will be used for worker parking the northeast corner of the intersection of Pulliam Road and Kubler Road; and south of SR 98 west of Brockman Road. Should these dedicated parking areas not be sufficient to accommodate construction workers, abundant

parking is also available along roadways surrounding the project site. Therefore, no impacts to parking capacity under CEQA would occur during construction of Alternative 1.

Operations and Maintenance

Alternative 1 includes the same CSE Facility site design as the Proposed Action. A paved parking area including a total of approximately 24 parking spaces to serve visitors and employees is proposed in the common services area. Approximately half of the spaces will be covered with an overhead canopy. Paved parking would include two handicap accessible spaces. Five to seven full-time employees are anticipated to work on the site leaving approximately 19 to 17 spaces available at any given time for visitors. Therefore, because adequate parking is included as part of the Proposed Action and no impact to parking capacity would occur under CEQA during operations and maintenance of Alternative 1.

Decommissioning

Decommissioning activities would remove all on-site infrastructure including roadways, the common services area and its associated paved parking area. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Additional parking would be available along area roadways. Under no circumstances would a shortage of parking capacity occur in association with decommissioning activities. Therefore, no impact to parking capacity under CEQA would occur during decommissioning of Alternative 1.

4.3.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Existing (Year 2011) Plus Project Conditions

<u>Direct and Indirect Impacts</u>

Construction

Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size and accordingly would require less equipment and supplies. As a result, fewer trips would be required to construct Alternative 2 than appear as part of the existing plus total project volumes shown in **Figure 4.3-8A** and **Figure 4.3-8B**. Assuming a proportional reduction in traffic to the amount of acreage reduced (approximately 16 percent of the Proposed Action [335 acres/2,067 acres = 16.2]), Alternative 2 would result in approximately 16 percent less traffic than the Proposed Action.

Intersections

Table 4.3-4 summarizes intersection LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the study intersections were calculated to operate at LOS C or better. Moreover, the increases in traffic resulting from construction of the Proposed Action would not exceed LOS standards.

Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area intersections are anticipated in association with Alternative 2 under existing (Year 2011) Plus Project Conditions.

Roadway Segments

Table 4.3-5 summarizes roadway segment LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the roadway segments were calculated to operate at LOS C or better. Moreover, the increases in traffic resulting from implementation of the proposed project would not exceed V/C ratios or LOS standards. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area roadway segments are anticipated in association with Alternative 2 under existing (Year 2011) Plus Project Conditions.

Freeway Segments

Table 4.3-6 summarizes freeway segment LOS for the Proposed Action. Under existing (Year 2011) Plus Project Conditions, the freeway segments were calculated to operate above LOS C (at LOS A and LOS B). No direct project impacts would occur due to the addition of construction traffic to existing traffic. Moreover, the increases in traffic resulting from project construction would not exceed V/C ratios or LOS standards. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area freeway segments are anticipated in association with Alternative 2 under existing (Year 2011) Plus Project Conditions.

Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2011 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2011 Plus Project Conditions.

CEQA Significance Determination

Conflict with Applicable Circulation Plan, Ordinance or Policy

2) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Conflict with Applicable Congestion Management Plan

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Construction

As shown in **Table 4.3-4, Table 4.3-5** and **Table 4.3-6,** the Proposed Action would not substantially increase traffic volumes at study intersections, roadway segments of freeway segments under Year 2011 Plus Project Conditions. All study area intersections, roadway segments and freeway segments would continue to operate at LOS C or better. Likewise construction traffic on roadway and freeway segments would not exceed V/C ratios. No LOS standard would be exceeded individually or cumulatively under Year 2011 Plus Project Conditions. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, construction traffic under Year 2011 Plus Project Conditions would result in less than significant impacts under CEQA for Alternative 2.

Operations and Maintenance

Operations and maintenance would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 2.

Decommissioning

Decommissioning would not occur during Year 2011 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 2.

B. Year 2012 Conditions (Without Project)

Year 2012 Conditions Without Project reflect traffic conditions at the time the project is anticipated to be at the peak month of construction activities (mid-2012). Year 2012 Conditions Without Project provide a baseline for assessing impacts resulting from the addition of project traffic and reflect traffic conditions as they exist without the proposed project. The construction peak background year 2012 volumes are shown in **Figure 4.3-9A** and **Figure 4.3-9B**. Year 2012 Conditions would be identical without Alternative 2.

Direct and Indirect Impacts

Construction

Intersection

Intersection LOS is shown in **Table 4.3-7** for the Proposed Action. Under Year 2012 Conditions Without Project, all study intersections were calculated to operate at LOS C or better. The same Year 2012 Conditions would apply without Alternative 2.

Roadway Segments

Roadway segment LOS is shown in **Table 4.3-8** for the Proposed Action. Under Year 2012 Conditions Without Project, all study area roadway segments were calculated to operate at LOS C or better. The same Year 2012 Conditions would occur without Alternative 2.

Freeway Segments

Freeway segment LOS is summarized in **Table 4.3-9** for the Proposed Action. Under Year 2012 Conditions Without Project, the freeway segments were calculated to operate at above LOS C at LOS A and LOS B. The same Year 2012 Conditions occur without Alternative 2.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2012 Conditions Without Project.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2012 Conditions Without Project.

CEQA Significance Determination

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways (refer to Table 4.3-3).

Construction

Year 2012 Conditions Without Project provide a baseline of traffic projected to occur in the project study area without construction of the Proposed Action. As shown in **Table 4.3-7, Table 4.3-8** and **Table 4.3-9,** the study intersections, roadway segments, and freeway segments were calculated to operate at LOS C or better under Year 2012 without the Proposed Action. The same conditions would exist without construction of Alternative 2.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2.

Decommissioning

Decommissioning would not occur during Year 2012 Conditions Without Project. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2.

C. Year 2012 Plus Project Conditions

Year 2012 Plus Project Conditions examines the addition of construction traffic from the Proposed Action onto Year 2012 Conditions Without Project. The Year 2012 Plus Project Conditions are modeled for the anticipated construction peak (month six). Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Assuming a proportional reduction in traffic to the amount of acreage reduced (approximately 16 percent of the Proposed Action [335 acres/2,067 acres = 16.2]), Alternative 2 would result in approximately 16 percent less traffic than the Proposed Action.

Direct and Indirect Impacts

Construction

Intersections

Table 4.3-10 summarizes intersection LOS for Year 2012 Plus Project Conditions. As shown in **Table 4.3-10**, under Year 2012 Plus Project Conditions with the Drew Road interchange open, all study intersections were calculated to operate at LOS C or better for the Proposed Action. No direct project impacts to study area intersections were calculated due to the addition of project traffic to existing traffic. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area intersections are anticipated for Alternative 2 under Year 2012 Plus Project Conditions.

Roadway Segments

Table 4.3-11 summarizes roadway segment LOS for Year 2012 Plus Project Conditions. As shown, all roadway segments were calculated to operate at LOS C or better with no change in LOS from Year 2012 Conditions Without Project. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area roadway segments are anticipated for Alternative 2 under Year 2012 Plus Project Conditions.

Freeway Segments

Table 4.3-12 summarizes freeway segment LOS. Under year 2012 Plus Project Conditions, the freeway segments were calculated to operate above LOS C at LOS A and LOS B for the Proposed Action. No change in LOS would occur in Year 2012 with the addition of project traffic. Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Therefore, no direct or indirect impacts to study area freeway segments are anticipated for Alternative 2 under Year 2012 Plus Project Conditions.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2012 Plus Project Conditions.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, this aspect of Alternative 2 is not discussed with regard to Year 2012 Plus Project Conditions.

CEQA Significance Determination

Imperial County Threshold – Increase in Traffic

- 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) (refer to Table 4.3-3).

Imperial County Threshold – Exceed LOS

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roadways or highways(refer to Table 4.3-3).

Construction

As shown in **Table 4.3-10, Table 4.3-11** and **Table 4.3-12,** the study intersections, roadway segments, and freeway segments were calculated to operate at LOS C or better during peak construction of the Proposed Action (Year 2012 Plus Project Conditions). Alternative 2 is anticipated to result in lower traffic volumes than the Proposed Action because it is 335 acres smaller in size. Construction traffic impacts to study area intersections, roadway segments and freeway segments under Year 2012 Plus Project Conditions are considered less than significant under CEQA for the Proposed Action. Likewise, construction traffic impacts under Year 2012 Plus Project Conditions for Alternative 2 are considered less than significant under CEQA.

Operations and Maintenance

Operations and maintenance would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to criteria 1 and 2 for Alternative 2.

Decommissioning

Decommissioning would not occur during Year 2012 Plus Project Conditions. Therefore, no CEQA significance determinations can be made with regard to Indicators 1 and 2 for Alternative 2.

D. Hazards Due to a Design Feature

<u>Direct and Indirect Impacts</u>

Construction

Construction does not involve any roadway design elements with the exception of access road turnouts to the project site. During construction, access to the project will be provided from US Interstate 8 (I-8) via Drew Road and Brockman Road, SR 98 and local roads. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to **Figure 2.0-4** and **Figure 2.0-16** in Chapter 2.0) having direct access off of SR 98. Brockman Road south of SR 98 will be used to access the CSE Facility substation and the common services areas.

Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Applicant Proposed Mitigation Measures for CSE Facility and Gen-tie Line). Therefore, compliance with Caltrans requirements would reduce direct impacts associated with design features.

Several new unpaved access roads will be constructed to accommodate construction activities. These roads will be generally up to 16-feet wide with 2-foot high berms on either side. New access road construction may involve mowing, blading, tree removal, and bridge/culvert construction. New roads that are not necessary for operation and maintenance of the electric line will be restored following

construction in accordance with a reclamation plan approved by the BLM. Approved new access roads will be staked to a standard width of up to 20-feet wide.

Where the Gen-tie Line is adjacent to the existing 230-kV electric lines and associated access roads, short "spur" access roads will be constructed from the existing access roads to each Gen-tie tower location in order to minimize disturbance. The spur roads will be new unpaved access roads constructed in accordance with the specifications above. The portion of the Gen-tie Line near the Imperial Valley Substation is expected to be accessed via the existing unpaved substation access road that intersects SR 98 approximately 4 miles southwest of Imperial Valley Substation. Gen-tie Line structures closer to SR 98 will be accessed via the existing unpaved transmission line access road that intersects SR 98 approximately 2.5 miles south of the Imperial Valley substation.

Where the Gen-tie Line diverts from the existing 230-kV lines and associated access roads and aligns east toward private land, a new bladed access road will be constructed within the right-of-way and intersect Mount Signal Road to provide access to the Gen-tie Towers. The new bladed road will be a 16-foot wide unpaved access road with 2-foot high berms on either side. The towers in this segment could be accessed either from Mount Signal Road or via the existing 230-kV transmission line access road from SR 98.

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal will be accessed via Mount Signal Road or from the existing farm roads aligning north to south and intersecting SR 98. From these roads, individual Gen-tie Line structure site locations will be accessed by traveling across the existing farm fields. While construction traffic could result in some conflicts with agricultural equipment, any impacts would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after construction.

No hazards due to a design feature are anticipated in association with roads constructed to accommodate construction activities. In addition, speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during construction (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0). Therefore, no direct impacts associated with hazards due to a design feature would occur.

Operations and Maintenance

To accommodate operations and maintenance, access to the project site will be provided via US Interstate 8 (I-8), SR 98 and local roads. From I-8 the site will be accessed via Drew Road or Brockman Road. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. All weather, 24-foot wide, gravel roads are proposed inside the perimeter of each fenced solar field area. Interior gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields (Note: Interior roads are depicted east to west in

the conceptual site plan (refer to **Figure 2.0-8** and **Figure 2.0-9** in Chapter 2.0). A minimum of 20-foot wide spacing will be left in the perpendicular direction to the interior roads at a spacing of no more than 500 feet. These 20-foot wide breaks would be native soil unless otherwise shown on the site plan. Graveled areas to support a minimum turning diameter of 60 feet will be at each inverter equipment enclosure/pad area and inside each access gate. Where inverter equipment enclosure/pad areas are adjacent, a single turnaround will be provided. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices for the CSE Facility and Gen-tie Line).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

Gen-tie structures east of the IID Westside Main Canal (i.e., structures on CSE Facility parcels) will be accessed from CSE Facility access gates on SR 98, Pulliam Road, and Brockman Road. The Applicant's access from SR 98 will include a paved apron (i.e., driveway) that will be subject to the terms and conditions of a Caltrans encroachment permit. No permanent roads will be constructed for access to the Gen-tie Line on the CSE Facility parcels as the structures at these locations will be accessible overland, and disturbance associated with the Gen-tie Line within the CSE Facility parcels will be repaired after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will be bladed where sufficient access does not exist. In addition, speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land in Chapter 2.0).

With the incorporation of adequate site circulation for emergency vehicles, provision of access for fire protection, use of existing roads, and reduced vehicles speeds, no direct or indirect impacts associated with circulation design hazards would occur during operations and maintenance of Alternative 2.

Decommissioning

During decommissioning gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. No direct or indirect impacts associated with hazards due to a design feature are anticipated in association with decommissioning Alternative 2.

CEQA Significance Determination

Hazards due to a Design Feature

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

Construction

The project would not change the surrounding circulation network. All entrances to the CSE Facility site parcels are proposed to use local roads, with one parcel (APN 052-190-007, refer to **Figure 2.0-4** and **Figure 2.0-16** in Chapter 2.0) having direct access off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed by obtaining a Caltrans encroachment permit to protect public safety. In addition, any work requiring traffic control on SR 98 will be conducted in accordance with a traffic control plan approved by Caltrans (from Table 2.0-5, Design Features and Best Management Practices - CSE Facility and Gen-tie Line). As such, the project will not substantially increase hazards due to a design feature. Therefore, roadway design hazards would result in a less than significant impact under CEQA for Alternative 2.

Use of existing farm roads aligning north to south and intersecting SR 98 to access the Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal could result in incompatibilities with farm equipment using these roads. Likewise, using existing farm fields to access individual Gen-tie Line structure site locations could also cause conflicts with farm equipment. However, any conflicts with construction equipment and farm equipment would be temporary. No permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after construction. Therefore, increases in hazards due to incompatible uses are considered less than significant under CEQA during construction of Alternative 2.

Operations and Maintenance

Design features of the proposed project's circulation system include access points and an extensive system of interior roads within each solar field area. All entrances to the CSE Facility site parcels are proposed to use local roads with the exception of one parcel south of SR 98 and west of the Mount Signal Drain that will access the site off of SR 98. Potential impacts associated with driveways encroaching on California Department of Transportation (Caltrans) rights-of-by will be addressed during construction by obtaining a Caltrans encroachment permit to protect public safety (from Table 2.0-5, Design Features and Best Management Practices for the CSE Facility and Gen-tie Line).

A grid network of gravel roads 20-feet wide spaced no more than 500-feet apart would align in either a north to south or east to west direction through the solar fields and be surrounded by an all-weather, 24-foot wide gravel perimeter road. The main access road to the common services area will be 24-feet wide asphalt or concrete. Access roads will provide emergency access throughout the solar field. Emergency services will have 24-hour access to enter through gates at each access point.

The Applicant has identified mitigation to ensure access for the fire protection and provision of adequate circulation to accommodate emergency vehicles. Any gates onsite shall have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. To facilitate fire protection, perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide. Turning circles with a minimum outside radius of 60 feet will be provided on the interior

roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices for the CSE Facility and Gen-tie Line).

The Gen-tie Line structures east of Mount Signal Road and west of the IID Westside Main Canal requiring access from farm roads and existing farm fields may result in temporary incompatibilities with farm equipment. However, no permanent access roads will be constructed, and any temporary disturbance to the farm fields will be restored and the field areas returned to agricultural condition after maintenance activities are completed.

On BLM lands, existing access roads will be used to the extent practicable, particularly where there are multiple existing electric lines with associated access roads. New access roads will provide sufficient access for maintenance activities. Speed limits along all Gen-tie Line access roads would be required to not exceed 15 miles per hour during operation and maintenance (O&M) (from Table 2.0-6, Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land).

Based on design features (adequate access), compliance with local (Fire Department) and federal (BLM) requirements, and incorporation of mitigation (refer to Table 2.0-5 and Table 2.0-6 in Chapter 2.0), the Proposed Action would not substantially increase hazards due to a design feature or incompatible uses. Therefore, this impact is considered less than significant under CEQA for Alternative 2.

Decommissioning

During decommissioning gravel roads will be removed and the material will either be used on site for fill or removed. Roads will be backfilled and restored to an appropriate contour. Any incompatibilities with farm equipment on local roadways or in surrounding agricultural fields would be temporary. No design hazards would occur in association with decommissioning the project site. Therefore, this impact is considered less than significant under CEQA for Alternative 2.

E. Emergency Access

Indirect and Direct Impacts

Construction

Emergency access to the project site during construction would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. No direct or indirect impacts are anticipated to occur with regard to emergency access during construction for Alternative 2.

Operations and Maintenance

Access roads are proposed throughout the solar field, which would provide emergency access during operations and maintenance. Any gates onsite will have a knox box or equivalent access mechanism and be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Turning circles with a minimum outside radius of 60 feet will be provided on the interior roads at regular intervals. Spacing between the planned interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices for the CSE Facility and Gen-tie Line). Through incorporation of adequate design features to accommodate emergency access, no direct or indirect impacts would occur for Alternative 2.

Decommissioning

Activities associated with decommissioning would remove gravel roads and restore these areas to an appropriate contour. Removal of roads would eliminate gravel areas to drive on. However, fencing surrounding the project site would also be removed which would open up emergency access from more areas rather than just access gates. Therefore, no direct or indirect impacts are anticipated in association with emergency access during decommissioning for Alternative 2.

CEQA Significance Determinations

Emergency Access

5) Result in inadequate emergency access.

Construction

During construction, emergency access to the project site would be provided from surrounding roadways. In addition, existing farm roads through agricultural fields may be used, if necessary. Therefore, construction of the Proposed Action would result in less than significant impacts to emergency access under CEQA for Alternative 2.

Operations and Maintenance

The project site includes access roads throughout the solar field which would provide emergency access during operations and maintenance. To facilitate access, any gates onsite will have a knox box or equivalent access mechanism in order to be accessible by the Imperial County Fire Department. Perimeter roads will be a minimum of 24-feet wide and interior roads will be a minimum of 20-feet wide to facilitate fire protection. Emergency vehicles will be accommodated through the incorporation of turning circles with a minimum outside radius of 60 feet at regular intervals on interior roads. Spacing between interior roads will not exceed 500 feet (from Table 2.0-5, Design Features and Best Management Practices for the CSE Facility and Gen-tie Line). Emergency access availability for fire protection and emergency vehicle movement are proposed by design. Therefore, operation and maintenance of the Proposed Action would result in less than significant impacts to emergency access under CEQA for Alternative 2.

Decommissioning

Activities associated with decommissioning would result in dismantling all infrastructure associated with the Proposed Action, including removal of gravel roads and fencing surrounding the project site. As a result, emergency access would be available from multiple entry points off of surrounding roadways rather than just a few access gates. Therefore, decommissioning of the Proposed Action would result in less than significant impacts to emergency access under CEQA for Alternative 2.

F. Parking Capacity

Indirect and Direct Impacts

Construction

Construction workers will be directed to park in one of the two dedicated multi-use areas. One area is in the northeast corner of the intersection of Pulliam Road and Kubler Road. The other is south of SR 98 west of Brockman Road (refer to **Figure 2.0-16** in Chapter 2.0). From these locations workers will be transported by construction vehicles (such as SUVs, shuttle bus), to active construction areas.

Alternatively, workers may walk to the active construction area when the construction area is near the parking area. No direct or indirect impacts would occur with regard to parking capacity during construction for Alternative 2.

Operations and Maintenance

Employees and visitors will use on-site parking provided at the common services area. Paved parking would include two handicap accessible spaces. The paved parking area will contain a total of approximately 24 parking spaces and approximately half of the spaces will be covered with an overhead canopy. Five to seven full-time employees are anticipated to work on the site. Therefore, no direct or indirect impacts to parking capacity would occur during operations and maintenance for Alternative 2.

Decommissioning

During decommissioning, all existing on-site infrastructure including the paved parking area would be removed. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Therefore, no direct or indirect impacts to parking capacity would occur during decommissioning for Alternative 2.

CEQA Significance Determinations

Parking Capacity

7) Result in inadequate parking capacity.

Construction

During construction, two dedicated multi-use areas will be used for worker parking the northeast corner of the intersection of Pulliam Road and Kubler Road; and south of SR 98 west of Brockman Road. Should these dedicated parking areas not be sufficient to accommodate construction workers, abundant parking is also available along roadways surrounding the project site. Therefore, no impacts to parking capacity under CEQA would occur during construction of Alternative 2.

Operations and Maintenance

A paved parking area including a total of approximately 24 parking spaces to serve visitors and employees is proposed in the common services area. Approximately half of the spaces will be covered with an overhead canopy. Paved parking would include two handicap accessible spaces. Five to seven full-time employees are anticipated to work on the site leaving approximately 19 to 17 spaces available at any given time for visitors. Therefore, adequate parking capacity is included as part of Alternative 2 and no impact would occur under CEQA.

Decommissioning

Decommissioning activities would remove all on-site infrastructure including roadways, the common services area and its associated paved parking area. Though no formal decommissioning plans are in place, it is anticipated that dedicated multi-use areas would be established to accommodate worker parking during decommissioning. Additional parking would be available along area roadways. Under no circumstances would a shortage of parking capacity occur in association with decommissioning activities. Therefore, no impact to parking capacity under CEQA would occur during decommissioning of Alternative 2.

4.3.2.4 ALTERNATIVE 3 - USE EXISTING ELECTRIC LINE TOWERS AND 230-KV LINE LOOPING AND UNDERCROSSING

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

Alternative 3 is anticipated to generate construction traffic volumes similar to the Proposed Action because the peak number of construction workers is the same as the Proposed Action. This is due to the staggering of construction related traffic for Alternative 3.

4.3.2.5 ALTERNATIVE 4 - NO ACTION/NO PROJECT ALTERNATIVE

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected. No change in existing circulation patterns would occur. No traffic would be generated in association with construction, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no direct or indirect impacts to transportation/circulation would occur under the Alternative 4 - No Action/No Project.

Operation and Maintenance

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected, thus no increase in traffic would occur with regard to operations and maintenance. No change in existing circulation patterns would occur, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no direct or indirect impacts to transportation/circulation would occur under the Alternative 4 - No Action/No Project.

Decommissioning

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected, thus no increase in traffic would occur in association with decommissioning. No change in existing

circulation patterns would occur, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no direct or indirect impacts to transportation/circulation would occur under the Alternative 4 - No Action/No Project.

B. CEQA Significance Determinations

Conflict with Applicable Circulation Plan, Ordinance or Policy

1) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Conflict with Applicable Congestion Management Plan

2) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Hazards due to a Design Feature

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

Emergency Access

5) Result in inadequate emergency access.

Construction

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected. No change in existing circulation patterns would occur, no traffic would be generated in association with construction, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no impacts to transportation/circulation would occur under CEQA for the Alternative 4 - No Action/No Project.

Operation and Maintenance

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected, thus no increase in traffic would occur with regard to operations and maintenance. No change in existing circulation patterns would occur, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no impacts to transportation/circulation would occur under CEQA for the Alternative 4 - No Action/No Project.

Decommissioning

The project would not be constructed if Alternative 4 - No Action/No Project Alternative were selected, thus no increase in traffic would occur in association with decommissioning. No change in existing circulation patterns would occur, nor would any hazards from a design feature be created. Emergency access and parking capacity would also be non-issues. Thus, no impacts to transportation/circulation would occur under CEQA for the Alternative 4 - No Action/No Project.

4.3.4 MITIGATION MEASURES

No significant direct impacts to intersections, roadway segments, freeway segments, hazards from a design feature, emergency access, or parking capacity were identified for the Proposed Action, Alternative 1- Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 - No Action/No Project Alternative. As a result, no mitigation measures are required.

4.3.5 RESIDUAL IMPACTS AFTER MITIGATION

No mitigation measures were required for the Proposed Action or Alternatives 1, 2, 3 and 4. Therefore, there are no residual impacts after mitigation.

SECTION 4.4
AIR QUALITY

4.4 AIR QUALITY

Information contained in this section is summarized from the *Air Quality Assessment* prepared for the Centinela Solar Energy Project by Ldn Consulting, Inc. (Ldn, 2011a). This document is provided on the attached CD of Technical Appendices as **Appendix D** of this EIR/EA.

4.4.1 METHODOLOGY FOR ANALYSIS

4.4.1.1 CONSTRUCTION EMISSIONS CALCULATIONS

Air quality impacts related to construction were calculated using the latest URBEMIS2007 air quality model developed by the California Air Resources Board (CARB). URBEMIS2007 has been approved by Imperial County Air Pollution Control District (ICAPCD) and Imperial County for construction emission calculations. URBEMIS2007 incorporates emission factors from the EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. Default settings were used within the model to perform calculations for the proposed project.

The URBEMIS2007 Model includes seven distinct phases of construction: Demolition, Mass Grading, Fine Grading, Trenching, Building Construction, Architectural Coating and Paving. All tasks identified during month six of Phase I were classified into three construction emission sources (Building Construction, Mass Grading, and Trenching) in the Model. These activities were modeled based on the assumption that they would all simultaneous occur (worst-case scenario). Modeling results are shown in **Table 4.4-1**. Note that demolition activities are not scheduled during month six of Phase I. As a result, demolition is not analyzed as part of the model since these activities are scheduled during less intensive construction stages.

4.4.1.2 CONSTRUCTION ASSUMPTIONS

The construction of Phase I of the project (175-MW) is planned to occur over 22 to 28 months and Phase II (100-MW) would be constructed at a future date. Construction of Phase II is estimated to last between 15 to 18 months and generate substantially less emissions than Phase I. Expansion of the project's electricity generating capacity proposed as part of Phase II would predominantly involve incremental construction of additional PV blocks, electrical wiring, incremental electrical equipment within the CSE Facility substation, and associated roads and fencing. The project's expected worst-case construction schedule is shown **Figure 4.4-1**.

The common area facilities and the Gen-tie Line will be designed and sized to accommodate Phase II, but would be constructed during Phase I. With the exception of additional equipment within the project substation, no substantive changes or additions to other project facilities would be required to accommodate Phase II. Permanent operational staffing would not be expected to increase as a result of future expansion. For these reasons, construction related impacts from future Phase II 100-MW expansion would be less than the Phase I 175-MW component.

Furthermore, to focus on the expected maximum impacts, Ldn used the project engineer's worst-case schedule which assumes that construction activities may occur on the common services area facilities, the project substation, the Gen-tie Line and up to three PV areas simultaneously. This peak (worst-case scenario) construction activity would occur during month six of Phase I of the representative construction schedule (**Figure 4.4-1**). Because Phase I represented the worst-case scenario for construction, Phase II construction was not modeled.

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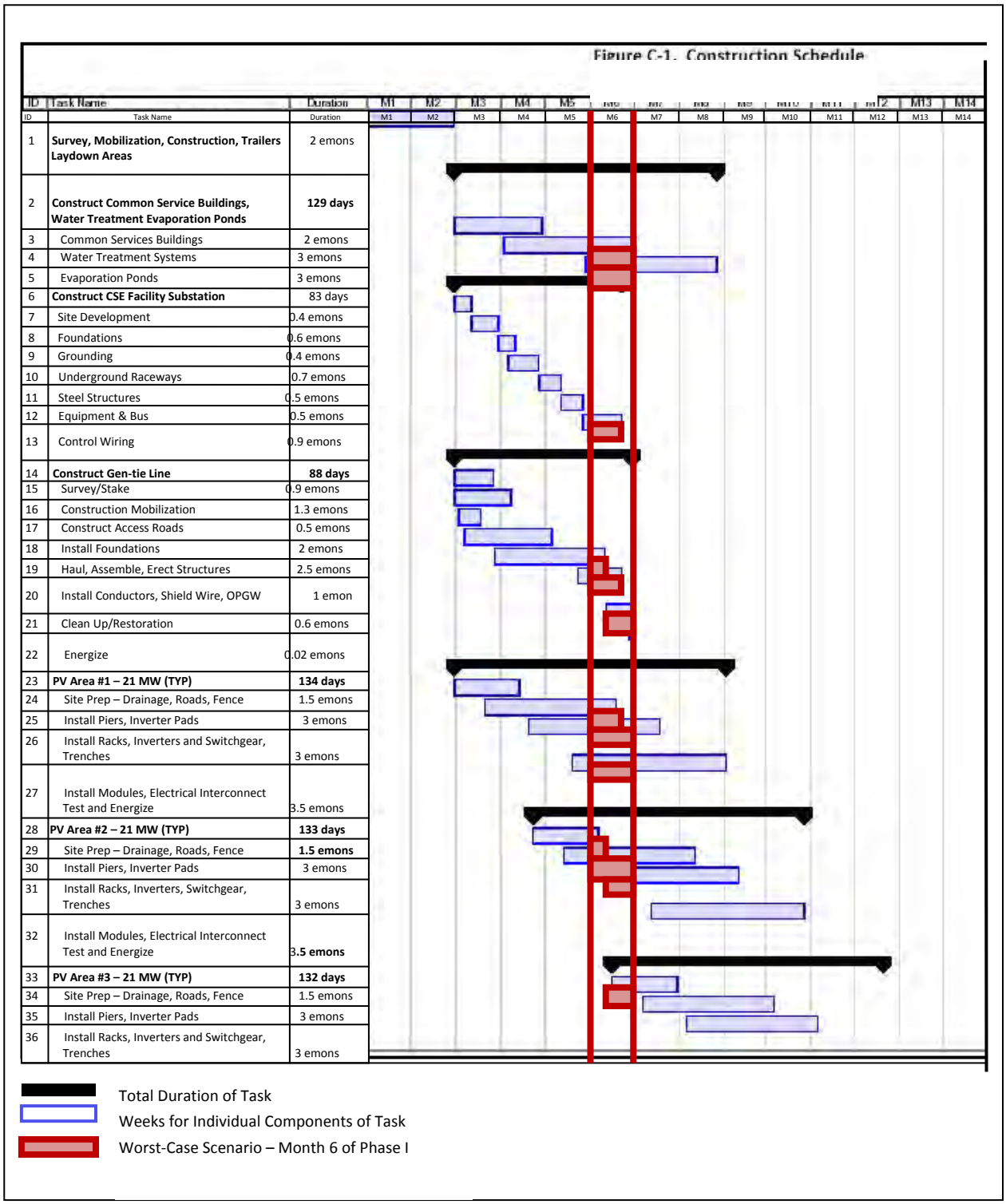

Source: CSE, 2011c.

FIGURE 4.4-1
PHASE I CONSTRUCTION SCHEDULE (175 MW)

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The equipment lists for the peak construction activities scheduled to occurring during month six are also shown in **Table 4.4-1**. All equipment would be operating simultaneously. The order in which the equipment is listed takes no precedence.

TABLE 4.4-1
PHASE I CONSTRUCTION EQUIPMENT AND DURATIONS AS MODELED

Equipment Identification	Proposed Dates	Quantity	Hours per day
Building Construction	6/01/2012 – 6/30/2012		
Rough Terrain Forklifts		8	1.7
Other Equipment		6	4
Cranes		4	7
Other General Industrial Equipment		3	4
Water Trucks		3	6
Air Compressors		2	2
Forklifts		2	3.8
Aerial Lifts		1	1
Generator Sets		1	8
Tractors/Loaders/Backhoes		1	5
Mass Grading	6/30/2012 – 6/30/2012		
Graders		4	6.8
Rubber Tired Dozers		3	6.8
Water Trucks		3	6.8
Other Equipment		2	8
Rollers		2	6.8
Tractors/Loaders/Backhoes		2	6.8
Rough Terrain Forklifts		1	1.7
Trenching	6/30/2012 – 6/30/2012		
Other General Industrial Equipment		2	8
Tractors/Loaders/Backhoes		2	6.8
Trenchers		2	4.1
Excavators		1	4.5
Generator Sets		1	0.5
Graders		1	6.8

Source: Ldn, 2011a.
This equipment list is based upon equipment inventory in URBEMIS2007 Model. The quantity and types are based upon assumptions from projects of similar size and scope.

4.4.1.3 HEALTH RISK ASSESSMENT ASSUMPTIONS

A screening-level health risk assessment (HRA) was conducted to determine the potential for the project to result in a significant impact as defined by the California Air Resource Board (CARB). CARB requires PM_{10} emitted from operation of heavy diesel powered construction equipment (diesel particulate matter, or DPM) to be analyzed. DPM can potentially increase the cancer risk for nearby residential receptors, if present. For purposes of this analysis, DPM was considered the primary pollutant of concern.

Cancer Risk was determined for DPM at the point of maximum exposure which was deduced through dispersion modeling. SCREEN3, a dispersion model, was used to determine the maximum concentration for air pollutants at a calculated maximum radius from the project centriod (i.e., the center of the project site). Ldn used the worst-case exhaust emissions generated from project construction equipment as calculated by the URBEMIS2007 Model. The worst-case cancer risk was based on the assumption of exposure to DPM for 70 years. A cancer risk concentration of less than one person per a million exposed (1:1,000,000) over a continuous 70-year exposure is considered to be less than significant by CARB. A cancer risk figure between one person and ten persons over a 70-year exposure period is acceptable but must use toxics Best Available Control Technology (T-BACT) for construction equipment. A cancer risk greater than ten persons exposed per million would be considered significant.

4.4.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to air quality emissions (e.g. pollutant generated during operation of construction equipment and vehicle trips) generated during construction, operation and maintenance, and decommissioning. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.4.2.1 CEQA SIGNIFICANCE CRITERIA

The criteria listed below were used to determine if the proposed project/Proposed Action would result in impacts to air quality. These criteria are the same as the significance criteria for Air Quality listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would have a significant impact on air quality if it would:

1) Conflict with or obstruct implementation of the applicable air quality plan
2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3) 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).

4) Expose sensitive receptors to substantial pollutant concentrations.

5) Create objectionable odors affecting a substantial number of people.

4.4.2.2 Issues Scoped Out as Part of the Initial Study

Note that Criterion 5 was scoped out as part of the Initial Study. Criterion 5 was eliminated because the proposed project, as a solar electricity generating facility, is not anticipated to generate objectionable odors. Construction equipment may create mildly objectionable odors associated with vehicle exhausts. However, this would occur on a temporary basis with no sensitive receptors being affected. Thus no odor impact would occur and this issue is not discussed further in this EIR/EA.

Criterion 3 is discussed in Chapter 5.0.

4.4.2.3 ICAPCD Air Quality Impact Assessment Screening Thresholds

The ICAPCD has established significance thresholds in the *2007 Imperial County Air Pollution Control District CEQA Handbook*, as amended, (ICAPCD CEQA Handbook) for the preparation of Air Quality Impact Assessments (AQIA). The screening criteria in this handbook can be used to demonstrate that a project's total emissions would not result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. **Table 4.4-2** shows the screening thresholds for construction and daily operations.

Table 4.4-2

ICAPCD Screening Thresholds for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)	
Construction Emissions		
Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)	150	
Nitrogen Oxide (NO_x)	100	
Carbon Monoxide (CO)	550	
Reactive Organic Gases (ROG)	75	
Operational Emissions		
Pollutant	Tier I (Pounds per Day)	Tier II (Pounds per Day)
PM_{10} and Sulfur Oxide (SO_x)	< 150	150 or greater
NO_x and ROG	< 55	55 or greater
CO	< 550	550 or greater
Level of Significance:	Less Than Significant	Significant Impact
Level of Analysis:	Initial Study	Comprehensive Air Quality Analysis Report
Environmental Document:	Negative Declaration (ND)	Mitigated ND or EIR

Source: ICAPCD, 2007 in Ldn, 2011a.

The ICAPCD CEQA Handbook further states that any proposed project's operational development with a potential to emit less than the Tier I thresholds may still potentially have adverse impacts on the local air quality and would be required to prepare an Initial Study to help the Lead Agency determine whether the project would have a less than significant impact. If the proposed project's operational development fits within the Tier II classification, it is considered to have a significant impact on regional and local air quality. Therefore, Tier II projects are required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures. Discretionary measures are used when standard or required measures do not fully mitigate the impact.

Standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, as listed in the ICAPCD CEQA Handbook, apply to those construction sites which are 5 acres or more for non-residential developments (such as the proposed project) or 10 acres or more in size for residential developments. Additionally, in an effort to reduce PM_{10} or fugitive dust from ambient air, the project would be required to develop a dust management plan consistent with Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules.

If the project be large enough that operational mitigation measures simply cannot bring down pollutant levels, the ICAPCD has adopted the Operation Development Fee under Rule 310. This Rule provides the ICAPCD with a sound method for mitigating emissions produced from the operation of new commercial and residential development projects. Projects immitigable through standard procedures are assessed a one-time fee for either Ozone Precursors or PM_{10} impacts which is based upon either the square footage of the commercial development or the number of residential units. Operational impacts are not anticipated given that the proposed project creates renewable energy and is expected to add a peak of 50 average daily traffic trips (ADTs) or less.

Furthermore, to be consistent with the California Air Resource Board, ICAPCD requires PM_{10} developed from diesel powered construction equipment (also known as diesel particulate matter, or DPM) to be analyzed.

4.4.2.4 NEPA REQUIREMENTS

Under 40 Code of Federal Regulations (CFR) Part 93 and the provisions of Part 51, Subchapter C, Chapter I, Title 40, Appendix W of the CFR, of the CAA as amended, federal agencies are required to demonstrate that federal actions conform with the applicable SIP. In order to ensure that federal activities do not hamper local efforts to control air pollution, Section 176(c) of the CAA, 42 United States Code (USC) 7506(c) prohibits federal agencies, departments, or instrumentalities from engaging in, supporting, providing financial assistance for, licensing, permitting or approving any action which does not conform to an approved SIP or federal implementation plan. The provisions of Part 51, Subchapter C, Chapter I, Title 40, of the CFR, in effect December 27, 1993, applicable to the subparts listed in this regulation were adopted by the ICAPCD.

The United States Environmental Protection Agency (EPA) general conformity rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emission thresholds that trigger requirements of the conformity rule are called *de minimis* levels. **Table 4.4-3** below identifies the federal nonattainment pollutants and the relevant *de minimis* emission thresholds for non-attainment areas.

TABLE 4.4-3
***DE MINIMIS* EMISSIONS THRESHOLDS**

De Minimis Levels, (tons/year)							
Air Basin	**Carbon Dioxide (CO)**	**Nitrogen Oxides (NO_x)**	**Volatile Organic Compound (VOC)**	**Nitrogen Dioxide (NO_2)**	**Particulate Matter less than 10 Microns (PM_{10})**	**Particulate Matter less than 2.5 Microns ($PM_{2.5}$)**	**Sulfur Dioxide (SO_2)**
Salton Sea Air Basin	100	50	50	100	70	100	100

Source: 58 FR 63253 – §93.153

4.4.3 ENVIRONMENTAL CONSEQUENCES

4.4.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in Section 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Construction of the project 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 22 to 28 months for Phase I and are estimated to start in late 2011 or early 2012. Phase II is planned to start later after the completion of Phase I and has a construction schedule estimated at 15 to 18 months. According to the Applicant, the construction workforce is expected to reach a peak during month six of Phase I with approximately 360 workers. The *Draft Traffic Impact Study* (LOS, 2011) prepared for the project predicts that the construction would produce approximately 1,260 average daily trips (ADT) during the most intense stages of Phase I construction.

Based on the amount of construction activity and associated traffic, the sixth month of Phase I is considered a worst-case scenario for construction emissions. A summary of the emissions generated during construction including reactive organic compounds (ROG), NO_x, CO, PM_{10}, $PM_{2.5}$, and sulfur oxides (Sox) (including construction worker trips) is shown in **Table 4.4-4** (2007URBEMIS Model outputs which show detailed emission breakdowns for Off Road Diesel, Vendor and Worker trips to and from the construction site are provided as part of the *Air Quality Assessment* included in **Appendix D** of this EIR/EA). Ozone or O_3 is not included in the calculations because it is not directly produced by construction equipment. Instead construction emissions such as NO_x and ROG, which are ozone precursors, are calculated by the 2007URBEMIS Model. NO_x and ROG react with other chemicals in the atmosphere to produce ozone. Thus, reducing NO_x and ROG results also reduces formation of ozone.

TABLE 4.4-4
EXPECTED CONSTRUCTION EMISSIONS SUMMARY

Year	ROG	NO_x	CO	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2012 (lb/day) Unmitigated	21.02	153.09	103.32	178.20	8.91	187.11	37.24	8.19	45.43
ICAPCD Significance Threshold (lb/day)	75	100	550	-	-	150	-	-	150
ICAPCD Impact?	No	**YES**	No	-	-	**YES**	-	-	No
2012 (lb/day) Mitigated	21.02	95.35	103.32	12.76	5.32	18.08	2.69	4.89	7.58
ICAPCD Impact?	No	**NO**	No	-	-	**NO**	-	-	No

Source: Ldn, 2011a.

Based on the modeling, NO_x would exceed the ICAPCD significance threshold of 100 pounds per day. Likewise, PM_{10} would exceed the ICAPCD significance threshold of 150 pounds per day. Currently, the Salton Sea Air Basin (SSAB), which includes Imperial County, is in "non-attainment" for the federal and state status for ozone and PM_{10}. Therefore, exceedance of ICAPCD thresholds is considered a direct impact to air quality.

Mitigation measures are available to address these emissions. These include mitigation measures AQ-1 (watering to keep fugitive dust down), AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust), AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts).

Mitigation measure AQ-1 is a discretionary measure which is recommended by the ICAPCD and would adequately reduce PM_{10} below the significance threshold (150 pounds per day **Table 4.4-4**). AQ-1 is based on control efficiencies established by *South Coast Air Quality Management District CEQA Air Quality Handbook* and recommended in the 2007URBEMIS Model. The *South Coast Air Quality Management District CEQA Air Quality Handbook* states that watering twice daily can reduce PM_{10} from 34 to 68 percent. An average PM_{10} reduction of 55 percent (as recommended by the 2007URBEMIS Model) was used to reduce PM_{10} emissions to only 18.08 pounds per day.

Mitigation measure AQ-2 includes standard mitigation measures for fugitive PM_{10} control on disturbed areas and unpaved roads. The focus of these measures is soil stabilization using a variety of means including chemicals, vegetation, and water. In addition to mitigation measures AQ-1 and AQ-2, the project would be required to follow Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules. A dust control plan would be developed for approval by the County and should be kept on the construction site. The plan should indicate how mitigation measures will be implemented (with start and completion dates) and include specific treatments and control measures (i.e. AQ-1 and AQ-2). The dust control plan should be updated daily as ICAPCD will perform random checks to verify compliance with the plan. Thus, direct impacts of PM_{10} would be reduced through use of mitigation measures.

Mitigation Measure AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) is standard mitigation for construction combustion equipment identified in the *ICAPCD 2007 CEQA Air Quality Handbook*. Mitigation measures AQ-3 and AQ-4 would reduce NO_x emissions during construction to the maximum extent feasible. In addition, mitigation

measure AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts) would reduce construction-related NO_x impacts by up to 38 percent to 95.35 lbs/day. Because mitigation measures are available to reduce NO_x and ROG emissions, the Proposed Action would not result in direct impact with regard to ozone and would not adversely contribute to an existing air quality violation.

Emissions of hazardous air pollutants, or air toxics, are very limited for a project of this nature (that is, a solar energy project) and would occur only during construction. From a health risk perspective, the primary pollutant of concern is diesel particulate matter (DPM). Heavy equipment and diesel fueled vehicles would emit DPM during construction. This is considered a direct impact to air quality. However, mitigation measures AQ-3 and AQ-4 would reduce DPM emissions by requiring the use of alternative powered equipment (e.g. electric) and cleaner fuel (aqueous diesel). No adverse direct impact would occur as a result of DPM.

Table 4.4-5 identifies expected project construction emissions generated on an annual basis. These construction emissions were modeled using the same URBEMIS inputs as described under sub-section 4.4.1.1 projecting the calculations for an entire year. This was done to calculate a yearly not to exceed emission quantity to compare with *de minimis* emissions thresholds.

TABLE 4.4-5
EXPECTED CONSTRUCTION EMISSIONS SUMMARY (TONS PER YEAR)

Year	ROG	NO_x	CO	PM_{10} (Dust)	PM_{10} (Exhaust)	PM_{10} (Total)	$PM_{2.5}$ (Dust)	$PM_{2.5}$ (Exhaust)	$PM_{2.5}$ (Total)
2012 (tons/year) Unmitigated	3.28	23.88	16.12	27.8	1.39	29.19	5.81	1.28	7.09
de minimis level (tons/year)	100	100	100	-	-	70	-	-	150
Exceeds threshold?	No	No	No	-	-	No	-	-	No
2012 (tons/year) Mitigated	3.28	14.87	16.12	1.99	0.83	2.82	0.42	0.76	1.18
Exceeds threshold	No	No	No	-	-	No	-	-	No

Source: Ldn, 2011a.

Based on the emissions shown in **Table 4.4-5**, construction emissions are expected to be far below established *de minimis* levels. However, mitigated emissions are identified as they are required under CEQA. No additional mitigations would be required under NEPA guidelines.

Operation and Maintenance

Operation and maintenance of the proposed project would result in drastically lower emissions than project construction. As a solar energy facility, the project would not have any stationary emission sources. Operations and maintenance of the project would involve daily worker trips and occasional maintenance worker trips for panel washing. Thus exhaust from vehicle trips would be the primary source of emissions during operations and maintenance. Operational emissions were estimated based on the maintenance activities and equipment provided by the Applicant. This same information was used to determine operational traffic trips as part of the *Draft Traffic Impact Analysis* (LOS, 2011). On average, the operations and maintenance trip generation is estimated at 15 to 21 ADT with five to seven AM and PM peak hour trips. During a typical year, the project is estimated to require up to ten daily water trucks for panel washing over approximately 15 business days. Panel washing is estimated to take place one to four times a year. During the washing period, the total project daily traffic may increase to 40 or 50 ADT over a 15 business day period.

Worst-case emissions generated from operation and maintenance traffic (assuming 50 ADT) were modeled for proposed project. The 2007URBEMIS Model output for all potential pollutant emissions was essentially zero, with the exception of ROG which would be only 0.02 pounds per day. The 2007URBEMIS Model calculates tons/year (Note: 2007URBEMIS Model outputs are provided as part of the *Air Quality Assessment* included in **Appendix D** of this EIR/EA**)**. Thus, ROG calculations would be 0.00365 tons per year. However, because of the small fraction of a ton calculated for ROG, it would not register on the 2007URBEMIS Model. Converting to pounds per day equates to 0.02 pounds per day (0.00365 tons per year x 2,000 pounds/ton = 7.3 pounds/365 days = 0.02 pounds per day). This is far below than the allowable Tier 1 Standards of 55 pounds per day identified by the ICAPCD (**Table 4.4-2**). Therefore, no direct or indirect impacts of criteria pollutants would occur in association with operations of the Proposed Action. Likewise, the requirements set forth in Rule 310 - Operational Development Fee of ICAPCD Rules and Regulations would not apply to this project.

The project would likely displace the need for a portion of electricity generated by fossil-fueled power plants. Although the exact nature and location of where such emissions reductions would occur is not known, it is reasonable to assume the reductions would occur outside of Imperial County. Therefore, the Proposed Action would also result in an indirect beneficial impact in the form of reduced fossil-fuel fired power plant emissions.

Emissions resulting from operations and maintenance of the project for all criteria pollutants would be near zero, and therefore, well under the ICAPCD thresholds of significance (shown in **Table 4.4-2**) with only 0.02 pounds per day of ROG. Therefore, no direct impact with regard to an air quality violation is anticipated during operations and maintenance of the Proposed Action.

Once operational, the Proposed Action would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no direct impacts resulting from toxic emissions would occur.

Decommissioning

At the end of the Proposed Action's operational life approximately 30 or more years in the future, all equipment and components would be decommissioned and deconstructed. Equipment used for decommissioning would generally be similar to that used for construction. Excavation areas (e.g. road and foundation removal) would be backfilled and restored to an appropriate contour. Electrical and communications wiring will be removed from underground trenches, conduits and aboveground runs. Poles and towers used to support aboveground wires will be removed. Concrete foundations, if used for poles and towers, would be removed to a depth of at least 4 feet below ground level and demolished. Other concrete foundations, such as those for buildings and inverter pads, would be demolished and removed or used onsite for fill as needed.

While a considerable amount of activity would occur in association with decommissioning the project, the activity level could occur over a longer period of time with fewer pieces of equipment operating simultaneously as occurred under worst-case Phase I. Thus, the level of fugitive dust and other criteria pollutant emissions are anticipated to be far less than emissions created during construction. In addition, the site is anticipated to be reclaimed for agricultural production at the end of the useful life of the project or the expiration of the Conditional Use Permit. Cultivating the site with crops would further reduce potential for fugitive dust emissions once the site is decommissioned and reclaimed. Because decommissioning would occur after serving at least 30 years, it is likely that equipment engine technology would be more advanced and fuel would be cleaner than what is currently used today. Therefore, criteria pollutant emissions and DPM generated during decommissioning would be substantially less than the emissions estimated for project construction. Therefore, direct impacts

(resulting from decommissioning) and indirect impacts (returning the project site to agricultural practices) to criteria pollutant emissions, toxic emissions, or air quality standards associated with decommissioning of the Proposed Action would be expected to be minimal.

B. CEQA Significance Determinations

Conflict with Applicable Air Quality Plan

1) Conflict with or obstruct implementation of the applicable air quality plan

Construction

The 2009 8-Hour Ozone Modified Air Quality Management Plan (2009 Modified AQMP) (ICAPCD, 2010) includes recommendations to control ROG and NO_x emissions generated from stationary and mobile sources. The proposed project would generate ROG and NO_x primarily during construction in association with heavy equipment operation and earthmoving activities. Thus, the project would be considered within a category of actions that produced emissions from on-road and off-road mobile sources. Emissions were determined to be significant for NO_x before mitigation as shown in **Table 4.4-4**. However, implementation of mitigation measures AQ-3 and AQ-4 would reduce NO_x emissions by requiring use of alternative fuel or equipment capable of running on electricity. Likewise, mitigation measures AQ-3 and AQ-4 would reduce ozone by reducing the generation of ozone precursors, ROG and NO_x. These mitigations are consistent with the 2009 Modified AQMP for addressing off-road emissions through transportation control measures, including incentive programs. The Carl Moyer program provides funds to help purchase new vehicles or new engines (repowers) and for the installation of retrofit units on older engines. The Program covers a variety of vehicle classes and types. In particular, this funding provides the technologies that reduce NO_x and particulate matter emissions caused by the combustion of diesel powered engines (ICAPCD, 2010, p. 40).

The *2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter* (SIP) (ICAPCD, 2009) focuses on the reduction of fugitive dust emissions and recommends mitigation measures for project construction and operation. The proposed project would generate potentially significant PM_{10} emissions as shown in **Table 4.4-4**. Implement mitigation measures AQ-1 and AQ-2 which would reduce PM_{10} through application of water or soil stabilizers. These measures, as well as compliance with Regulation VIII, Fugitive Dust Rules, would ensure that the project upholds the requirements of the SIP. Thus, the Proposed Action would result in less than significant impacts to applicable air quality plans under CEQA following implementation of mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4.

Operation and Maintenance

The proposed project, as a solar energy facility, does not include any major stationary emission sources. Likewise, it requires minimal operation and maintenance activities. As previously discussed, emissions associated with operation and maintenance for all criteria pollutants would remain well under the ICAPCD thresholds of significance (only 0.02 pounds per day of ROG). Such levels of emissions would not cause localized exceedances, or contribute substantially to existing exceedances, of the State or federal air quality standards. Therefore, the Proposed Action would result in less than significant impacts under CEQA with regard to air quality standard attainment during operation and maintenance. Likewise, the operation and maintenance of the Proposed Action would not conflict with or obstruct implementation of the ICAPCD air quality plans under CEQA.

Decommissioning

The magnitude of decommissioning emissions is expected to be substantially less than those estimated for project construction as previously described. Decommissioning activities are also assumed to be approved in a manner that would conform to the requirements of applicable air quality plans, if any exist, at the time of project decommissioning. Although the ambient air quality attainment status for the project area at the time of project decommissioning is unknown, emissions resulting from decommissioning the Proposed Action are not expected to cause or substantially contribute to any air quality violations. Therefore, the Proposed Action would result in less than significant impacts under CEQA with regard to conflicting or obstructing an applicable air quality attainment plan.

Violate Air Quality Standard/Cause Air Quality Violation

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction

As shown in **Table 4.4-4**, construction emissions of NO_x and PM_{10} would exceed the ICAPCD significance thresholds. The SSAB encompasses all of Imperial County and part of Riverside County. Currently, the SSAB is in "non-attainment" for the federal and state status for ozone and PM_{10}. The project area is designated as attainment or unclassified for the state and federal CO, NO_x, SOx, and $PM_{2.5}$ standards. Historical data of ozone and PM_{10} presented in **Table 3.4-3** in Section 3.4 shows continuous exceedances over the past three years of available air quality data (2007-2009). Mitigation measures AQ-1 (watering to keep fugitive dust down), AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust), AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts) would reduce PM_{10} and NO_x emissions during construction to the maximum extent feasible. Mitigation measures AQ-3 and AQ-4 would also reduce NO_x emissions in a reasonable manner for this ozone non-attainment area. Thus, the Proposed Action would result in less than significant impacts under CEQA with regard to violation of an air quality standard or contribution to an existing air quality violation.

Operations and Maintenance

Emissions resulting from operations and maintenance of the project for all criteria pollutants would be near zero, and therefore, well under the ICAPCD thresholds of significance with only 0.02 pounds per day of ROG. Such levels of emissions should not cause localized exceedances, or contribute significantly to existing exceedances of ozone and PM_{10} of the State or federal air quality standards. Therefore, the Proposed Action would result in less than significant impacts to air quality standards during operations and maintenance under CEQA. Furthermore, the Proposed Action is anticipated to have no impact to with regard to causing an air quality violation during operations and maintenance.

Decommissioning

As previously described, emissions associated with decommissioning are expected to be significantly less than those estimated for project construction. Improvements in engine technology and less equipment operating simultaneously would all factor in to lower emissions. Although the ambient air quality attainment status for the project area at the time of decommissioning is unknown, emissions resulting from decommissioning the Proposed Action are not expected to cause or substantially contribute to any air quality violations. Therefore, the Proposed Action would result in less than significant impacts to air

quality standards during decommissioning under CEQA. Furthermore, the Proposed Action is not anticipated to cause an air quality violation during decommissioning activities.

Diesel-Related Toxic Emissions

4) Expose sensitive receptors to substantial pollutant concentrations

Construction

The project would generate high levels of emissions during month six of Phase I construction. Worst-case mitigated PM_{10} from exhaust was modeled to be as high 5.32 pounds per construction day (10-hours) or 0.0669 grams per second of diesel particulate matter (DPM) during the construction day. Averaging this emission rate over the project site provides the average emission rate for the project area. Pounds per day were then converted to grams per second which resulted in an average emission rate over the grading area.

Using the SCREEN3 dispersion model, the peak maximum 1-hr concentration was calculated to be 1.636 micrograms per cubic meter (µg/m3) during grading at a distance of approximately 2,000 meters (approximately 6,562 feet) from the centroid of the project site (The SCREEN3 dispersion model outputs are provided as Attachment C to the Air Quality Assessment included as **Appendix D** of this EIR/EA). This concentration would be lower at any other distance from the project site. The cancer risk over a 70-year continuous dose ($CRD_{PM\text{-}70yr\ dose}$) was calculated to be .211 individuals per million.

Furthermore, should the worst-case diesel emissions over Month six be generated out over the entire length of the project (Phase 1 – 28 months and Phase 2 – 18 months) and the same intensity was applied (Highly Unlikely), the proposed project could increase the risk 46 times higher than 0.211 which would bring the risk to 9.7. Generally, sites increasing the cancer risk between one and ten in one million need to implement T-BACT or impose effective emission limitations, emission control devices or control techniques to reduce the cancer risk. With the incorporation of T-BACT, the Proposed Action would result in less than significant impacts under CEQA with regard to exposure of sensitive receptors to substantial pollutant concentrations.

Operations and Maintenance

Once operational, the Proposed Action would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no CEQA significance determinations can be made with regard to Criterion 4 for the Proposed Action during operations and maintenance.

Decommissioning

Decommissioning activities would involve equipment similar to that used during construction. As such, DPM would be generated during decommissioning. However, decommissioning activities are assumed to be less intensive in nature than construction. Thus, emissions would be substantially less than the amount generated during Phase I construction (worst-case scenario). Construction-generated DPM was determined to be less than one in one million per CARB (refer to subsection 4.4.1.3). Therefore, the Proposed Action is not expected to result in a significant health risk impact during decommissioning. The Proposed Action is anticipated to result in less than significant impacts under CEQA with regard to exposure of sensitive receptors to substantial pollutant concentrations during decommissioning.

4.5.3.2 ALTERNATIVE 1- DOUBLE CIRCUIT GEN-TIE LINE STRUCTURES

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Construction of Alternative 1 is essentially identical to the Proposed Action. The types and number of equipment necessary is assumed to be the same since the only difference between the two is that Alternative 1 proposes double-circuit gen-tie structures capable to accommodating an additional 230-kV line. Only the proposed Gen-tie Line would be strung as part of project construction of Alternative 1. Therefore, the same emissions would occur as shown in **Table 4.4-4**. Both PM_{10} and NO_x would exceed ICAPCD thresholds resulting in direct impacts to air quality. PM_{10} would be reduced through compliance with Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules and implementation of mitigation measures AQ-1 (watering to keep fugitive dust down) and AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust). NO_x could be reduced, with mitigation measures AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts), but not below ICAPCD thresholds. Thus, Alternative 1 would result in direct impacts to air quality from NO_x emissions even after mitigation.

Imperial County is in "non-attainment" for the federal and state status for ozone and PM_{10}. Mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4 would reduce PM_{10} and NO_x emissions during construction to the maximum extent feasible. Because mitigation measures are available to reduce NO_x and ROG emissions, Alternative 1 would result in no direct impacts with regard to ozone and would not adversely contribute to an existing air quality violation.

From a health risk perspective, the primary pollutant of concern is diesel particulate matter (DPM) emitted from heavy equipment and diesel fueled vehicles during construction. These emissions are considered a direct impact to air quality. However, mitigation measures AQ-3 and AQ-4 would reduce DPM emissions by requiring the use of alternative powered equipment (e.g. electric) and cleaner fuel (aqueous diesel).

As shown in **Table 4.4-5**, construction emissions are expected to be far below established *de minimis* levels for the Proposed Action. Likewise, construction emissions are expected to be far below established *de minimis* levels for Alternative 1.

Operation and Maintenance

Similar to the Proposed Action, operation and maintenance of Alternative 1 would result in drastically lower emissions than project construction. The same number of daily operational trips and occasional maintenance trips for panel washing are assumed for Alternative 1 since the project is identical to the Proposed Action aside from double circuit gen-tie towers. All criteria pollutants modeled for the

Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance (shown in **Table 4.4-2**) with only 0.02 pounds per day of ROG. Once operational, Alternative 1 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no direct impact to air quality would occur during operation and maintenance of Alternative 1. Likewise, no direct impacts resulting from toxic emissions would occur.

As with the Proposed Action, Alternative 1 would displace the need for a portion of electricity generated by fossil-fueled power plants. This would result in a reduction of fossil-fuel fired power plant emissions which is considered an indirect beneficial impact.

Decommissioning

As with the Proposed Action, Alternative 1 would be decommissioned at the end of its operational life approximately 30 or more years in the future. Likewise, the level of decommissioning activities required for Alternative 1 would be identical to the Proposed Action. Emissions associated with decommissioning are expected to be substantially less than those estimated during project construction based on improved engine technology and less equipment operating simultaneously compared to during construction. As such, DPM-levels would also be substantially reduced. Therefore, no air quality violation is anticipated during decommissioning of Alternative 1.

B. CEQA Significance Determinations

Conflict with Applicable Air Quality Plan

1) Conflict with or obstruct implementation of the applicable air quality plan

Construction

As with the Proposed Action, Alternative 1 would result in generation of the ozone precursor NO_x in excess of ICAPCD thresholds (**Table 4.4-4**). Generation of these criteria pollutants have the potential to conflict with the *2009 8-Hour Ozone Modified Air Quality Management Plan* (2009 Modified AQMP) (ICAPCD, 2010). However, implementation of mitigation measures AQ-3 and AQ-4 would reduce NO_x emissions by requiring use of alternative fuel or employing equipment capable of operating on electricity. Likewise, mitigation measures AQ-3 and AQ-4 would reduce ozone by reducing the generation of ozone precursors, ROG and NO_x. These mitigations are consistent with the 2009 Modified AQMP for addressing off-road emissions through transportation control measures, including incentive programs.

Similar to the Proposed Action, Alternative 1 would generate potentially significant PM_{10} emissions as shown in **Table 4.4-4**. Implementation of mitigation measures AQ-1 and AQ-2 would reduce PM_{10} through application of water or soil stabilizers. These measures, as well as compliance with Regulation VIII, Fugitive Dust Rules, would ensure that the project upholds the requirements of the *2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter* (SIP) (ICAPCD, 2009). Thus, Alternative 1 would result in less than significant impacts to applicable air quality plans under CEQA following implementation of mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4.

Operation and Maintenance

As previously discussed, emissions associated with operation and maintenance for all criteria pollutants would remain well under the ICAPCD thresholds of significance (only 0.02 pounds per day of ROG). Such low levels of ROG would not cause localized exceedances, or contribute substantially to existing exceedances, of the State or federal air quality standards. Therefore, Alternative 1 would result in less

than significant impacts on air quality standard attainment during operation and maintenance and would not conflict with or obstruct implementation of the ICAPCD air quality plans under CEQA.

Decommissioning

Decommissioning activities for Alternative 1 are anticipated to be identical to the Proposed Action and involve equipment similar to that used for construction. Gravel roads, foundations, poles and towers used to support aboveground wires, and underground wiring will all be removed. Assuming, among other factors, improved engine technologies at the time the project is decommissioned along and fewer pieces of equipment operating simultaneously, Alternative 1 is anticipated to result in less than significant impacts under CEQA with regard to conflicting or obstructing an applicable air quality attainment plan during decommissioning.

Violate Air Quality Standard/Cause Air Quality Violation

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction

As shown in **Table 4.4-4** for the Proposed Action, construction emissions of NO_x and PM_{10} would exceed the ICAPCD significance thresholds. The same construction emissions would occur for Alternative 1. Currently, the SSAB is in "non-attainment" for the federal and state status for ozone and PM_{10}. Mitigation measures identified for the Proposed Action would also apply to Alternative 1. These include mitigation measures AQ-1 (watering to keep fugitive dust down), AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust), AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts). All of these measures would reduce PM_{10} and NO_x emissions during construction to the maximum extent feasible. Mitigation measures AQ-3 and AQ-4 would also reduce NO_x emissions in a reasonable manner for this ozone non-attainment area. Thus, Alternative 1 would result in less than significant impacts under CEQA with regard to violation of an air quality standard or contributing substantially to an existing air quality violation.

Operations and Maintenance

Emissions resulting from operations and maintenance of Alternative 1 would be identical to the Proposed Action. All criteria pollutants modeled for operation and maintenance of the Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance with only 0.02 pounds per day of ROG. Such levels of emissions should not cause localized exceedances, or contribute substantially to existing exceedances of ozone and PM_{10}, of the State or federal air quality standards. Therefore, Alternative 1 would result in less than significant impacts to air quality standards during operations and maintenance under CEQA. Furthermore, Alternative 1 is not anticipated to cause an air quality violation during operations and maintenance.

Decommissioning

As previously described, emissions associated with decommissioning of Alternative 1 would be identical to the Proposed Action. Emissions from decommissioning activities are expected to be substantially less than those estimated for project construction based on the assumptions of improvements in engine technology in the future and less equipment operating simultaneously. Although the ambient air quality

attainment status for the project area at the time of decommissioning is unknown, emissions resulting from decommissioning Alternative 1 are not expected to cause or substantially contribute to any air quality violations. Therefore, Alternative 1 would result in less than significant impacts to air quality standards during decommissioning under CEQA. Furthermore, Alternative 1 is not anticipated to cause an air quality violation during decommissioning activities.

Diesel-Related Toxic Emissions

4) Expose sensitive receptors to substantial pollutant concentrations

Construction

As with the Proposed Action, Alternative 1 (similar to the propose alternative) would generate high levels of emissions during month six of Phase I construction. Worst-case mitigated PM_{10} from exhaust was modeled for the Proposed Action to be as high 5.32 pounds per construction day (10-hours) or 0.0669 grams per second DPM during the construction day. If the worst-case diesel emissions generated during month six were extended over the entire 46 month construction period (Phase 1 – 28 months and Phase 2 – 18 months for a total of 46 months), and the same intensity (.211 individuals) was applied, the proposed project could increase the risk 46 times higher to 9.7 (.211 individuals x 46 months) individuals per million. In general, sites increasing the cancer risk between one and ten in one million need to implement T-BACT or impose effective emission limitations, emission control devices or control techniques to reduce the cancer risk. With the incorporation of T-BACT, Alternative 1 would create less emissions than the proposed alternative and would be less that 9.7 but would still be greater than 1 in one million and would require T-BACT equipment to create a less than significant impacts scenario under CEQA.

Operations and Maintenance

Once operational, Alternative 1 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no CEQA significance determinations can be made with regard to Criterion 4 for Alternative 1 during operations and maintenance.

Decommissioning

Decommissioning activities for Alternative 1 would be identical to the Proposed Action and involve equipment similar to that used during construction. As such, DPM would be generated during decommissioning. However, decommissioning activities are assumed to be less intensive in nature than construction. Thus, emissions would be substantially less than the amount generated during Phase I construction (worst-case scenario). Construction-generated DPM was determined to be less than one in one million as defined by CARB for the Proposed Action. Therefore, Alternative 1 is not expected to result in a significant health risk impact during decommissioning. Alternative 1 is anticipated to result in less than significant impacts under CEQA with regard to exposure of sensitive receptors to substantial pollutant concentrations during decommissioning.

4.5.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections

2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Construction of Alternative 2 would involve disturbance of approximately 335 fewer acres than the Proposed Action. Therefore, similar but lower construction emissions would occur for Alternative 2 compared to the Proposed Action. As with the Proposed Action, emissions of NO_x and PM_{10} are anticipated to exceed the ICAPCD significance thresholds (**Table 4.4-4**) during construction of Alternative 2 resulting in direct impacts to air quality. Generation of these pollutants would worsen existing conditions relative to Imperial County's "non-attainment status" for ozone and PM_{10}. DPM emitted from heavy equipment and diesel fueled vehicles during construction is considered a direct impact to air quality.

Impacts resulting from PM_{10} would be reduced through compliance with Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules and implementation of mitigation measures AQ-1 (watering to keep fugitive dust down) and AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust). NO_x could be reduced with mitigation measures AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts), but not below ICAPCD thresholds. Thus, Alternative 2 would result in direct impacts to air quality from NO_x emissions even after mitigation. However, because mitigation measures (AQ-1, AQ-2, AQ-3 and AQ-4) are available to reduce NO_x emissions, no direct impacts with regard to ozone or an air quality violation would occur in association with construction of Alternative 2. Likewise, mitigation measures AQ-3 and AQ-4 would reduce DPM emissions by requiring the use of alternative powered equipment (e.g. electric) and cleaner fuel (aqueous diesel).

As shown in **Table 4.4-5**, construction emissions are expected to be far below established *de minimis* levels for the Proposed Action. Likewise, construction emissions are expected to be far below established *de minimis* levels for Alternative 2.

Operation and Maintenance

Emissions resulting from operations and maintenance of Alternative 2 are anticipated to be similar to the Proposed Action even though Alternative 2 is 335 acres smaller with 45 fewer 1-MW PV Array Blocks. Similar to the Proposed Action, operation and maintenance of Alternative 2 would result in drastically lower emissions than project construction. All criteria pollutants modeled for the Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance (shown in **Table 4.4-2**) with only 0.02 pounds per day of ROG. Therefore, no direct impact to air quality would occur during operation and maintenance of Alternative 2. As with the Proposed Action, Alternative 2 would displace the need for a portion of electricity generated by fossil-fueled power plants and an indirect beneficial impact of reduced fossil-fuel fired power plant emissions would result. Once operational, Alternative 2 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no direct impacts resulting from toxic emissions would occur.

Decommissioning

The level of decommissioning activities required for Alternative 2 would be of smaller magnitude than the Proposed Action as 335 fewer acres would be developed with solar facilities. As with the Proposed Action, Alternative 2 would be decommissioned at the end of its operational life approximately 30 or more years in the future. Emissions associated with decommissioning are expected to be substantially less than those estimated during project construction. Improvements in engine technology and less equipment operating simultaneously would all factor in to lower emissions, including DPM, during decommissioning. Cultivating the site with crops would further reduce potential for fugitive dust emissions once the site is decommissioned and reclaimed. Therefore, direct impacts (resulting from decommissioning) and indirect impacts (returning the project site to agricultural practices) to criteria pollutant emissions, toxic emissions, or air quality standards associated with decommissioning of Alternative 2 would be expected to be minimal.

B. CEQA Significance Determinations

Conflict with Applicable Air Quality Plan

1) Conflict with or obstruct implementation of the applicable air quality plan

Construction

As with the Proposed Action, Alternative 2 would result in the generation of ozone precursors (ROG and NO_x) (**Table 4.4-4**), but to a lesser degree because 335 fewer acres would be disturbed for Alternative 2 compared to the Proposed Action. Generation of criteria pollutants have the potential to conflict with the *2009 8-Hour Ozone Modified Air Quality Management Plan* (2009 Modified AQMP) (ICAPCD, 2010). However, implementation of mitigation measures AQ-3 and AQ-4 would reduce NO_x emissions by requiring use of alternative fuel or employing equipment capable of operating on electricity. Likewise, mitigation measures AQ-3 and AQ-4 would reduce ozone by reducing the generation of ozone precursors, ROG and NO_x. These mitigations are consistent with the 2009 Modified AQMP for addressing off-road emissions through transportation control measures, including incentive programs.

Similar to the Proposed Action, Alternative 2 would generate potentially significant PM_{10} emissions, though likely slightly less than shown in **Table 4.4-4** based on Alternative 2's reduced size. Mitigation measures AQ-1 and AQ-2 would reduce PM_{10} through application of water or soil stabilizers. These measures, as well as compliance with Regulation VIII, Fugitive Dust Rules, would ensure that the project upholds the requirements of the *2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter* (SIP) (ICAPCD, 2009). Thus, Alternative 2 would result in less than significant impacts to applicable air quality plans under CEQA following implementation of mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4.

Operation and Maintenance

Alternative 2, as a solar energy facility, does not include any major stationary emission sources once operational. As previously discussed, emissions associated with operation and maintenance for all criteria pollutants would remain well under the ICAPCD thresholds of significance. The 2007URBEMIS Model output for all potential pollutant emissions resulting from operation and maintenance of the Proposed Action was essentially zero, with the exception of ROG which would be only 0.02 pounds per day. The same virtually non-detectible emissions would be expected for Alternative 2. Such low levels of ROG would not cause localized exceedances, or contribute significantly to existing exceedances, of the State or federal air quality standards. Therefore, Alternative 2 would result in less than significant

impacts on air quality standard attainment during operation and maintenance and would not conflict with or obstruct implementation of the ICAPCD air quality plans under CEQA.

Decommissioning

Decommissioning activities for Alternative 2 are anticipated to slightly less than for the Proposed Action because 335 fewer acres would be involved. Gravel roads, foundations, poles and towers used to support aboveground wires and underground wiring will all be removed using equipment similar to that used for construction. Assuming, among other factors, improved engine technologies at the time the project is decommissioned along and fewer pieces of equipment operating simultaneously, Alternative 2 is anticipated to result in less than significant impacts under CEQA with regard to conflicting with or obstructing an applicable air quality attainment plan during decommissioning.

Violate Air Quality Standard/Cause Air Quality Violation

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction

As shown in **Table 4.4-4** for the Proposed Action, construction emissions of NO_x and PM_{10} would exceed the ICAPCD significance thresholds. Slightly lower construction emissions are anticipated to occur for Alternative 2 based on disturbance of 335 fewer acres. Currently, the SSAB is in "non-attainment" for the federal and state status for ozone and PM_{10}. Mitigation measures identified for the Proposed Action would also apply to Alternative 2. These include mitigation measures AQ-1 (watering to keep fugitive dust down), AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust), AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts). All of these measures would reduce PM_{10} and NO_x emissions during construction to the maximum extent feasible. Mitigation measures AQ-3 and AQ-4 would also reduce NO_x emissions in a reasonable manner for this ozone non-attainment area. Thus, Alternative 2 would result in less than significant impacts under CEQA with regard to violation of an air quality or contribute significantly to an existing air quality violation.

Operations and Maintenance

Although the project is 335 acres smaller (with 45 fewer 1-MW PV Array Blocks), emissions resulting from operations and maintenance of Alternative 2 are anticipated to be similar to the Proposed Action. All criteria pollutants modeled for operation and maintenance of the Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance with only 0.02 pounds per day of ROG. Such levels of emissions should not cause localized exceedances, or contribute significantly to existing exceedances of ozone and PM_{10}, of the State or federal air quality standards. Therefore, Alternative 2 would result in less than significant impacts to air quality standards during operations and maintenance under CEQA. Furthermore, Alternative 2 is not anticipated to cause an air quality violation during operations and maintenance.

Decommissioning

As previously described, emissions associated with decommissioning of Alternative 2 would be slightly less than for the Proposed Action based on the reduced size of Alternative 2. Emissions from decommissioning activities are expected to be significantly less than those estimated for project

construction based on the assumptions of improvements in engine technology in the future and less equipment operating simultaneously. Although the ambient air quality attainment status for the project area at the time of decommissioning is unknown, emissions resulting from decommissioning Alternative 2 are not expected to cause or substantially contribute to any air quality violations. Therefore, Alternative 2 would result in less than significant impacts to air quality standards during decommissioning under CEQA. Furthermore, Alternative 2 is not anticipated to cause an air quality violation during decommissioning activities.

Diesel-Related Toxic Emissions

4) Expose sensitive receptors to substantial pollutant concentrations

Construction

Similar to the Proposed Action, Alternative 2 would generate high levels of emissions during month six of Phase I construction. Worst-case mitigated PM_{10} from exhaust was modeled for the Proposed Action to be as high 5.32 pounds per construction day (10-hours) or 0.0669 grams per second DPM during the construction day. If the worst-case diesel emissions generated during month six were extended over the entire 46 month construction period (Phase 1 – 28 months and Phase 2 – 18 months for a total of 46 months), and the same intensity (.211 individuals) was applied, the proposed project could increase the risk 46 times higher to 9.7 (.211 individuals x 46 months) individuals per million. In general, sites increasing the cancer risk between one and ten in one million need to implement T-BACT or impose effective emission limitations, emission control devices or control techniques to reduce the cancer risk. With the incorporation of T-BACT, Alternative 2 would create less emissions than the proposed alternative and would be less that 9.7 but would still be greater than 1 in one million and would require T-BACT equipment to create a less than significant impacts scenario under CEQA.

Operations and Maintenance

Once operational, Alternative 2 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no CEQA significance determinations can be made with regard to Criterion 4 for Alternative 2 during operations and maintenance.

Decommissioning

Decommissioning activities for Alternative 2 would be slightly less than the Proposed Action because 335 fewer acres would be developed as part of this alternative. However, equipment used during decommissioning would be similar to what was used during construction and would generate DPM. However, decommissioning activities are assumed to be less intensive in nature than construction. Thus, emissions for Alternative 2 would be substantially less than the amount generated during Phase I construction (worst-case scenario). Construction-generated DPM was determined to be less than one in one million as defined by CARB for the Proposed Action. Therefore, Alternative 2 is not expected to result in a significant health risk impact during decommissioning. Alternative 2 is anticipated to result in less than significant impacts under CEQA with regard to exposure of sensitive receptors to substantial pollutant concentrations during decommissioning.

4.5.3.4 ALTERNATIVE 3 - USE EXISTING ELECTRIC LINE TOWERS AND 230-KV LINE LOOPING AND UNDERCROSSING

Alternative 3 includes construction of a “loop-in” to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the

Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Construction of Alternative 3 would involve construction of a 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. It would also include an undercrossing constructed of five H-frame undercrossing structures and three 3-pole tubular structures on BLM land. Alternative 3 would require 11 fewer towers (or approximately 3 miles less of Gen-tie Line) on BLM land compared to the Proposed Action. Therefore, construction emissions similar to the Proposed Action would occur for Alternative 3. As with the Proposed Action, emissions of NO_x and PM_{10} are anticipated to exceed the ICAPCD significance thresholds (**Table 4.4-4**) during construction of Alternative 3 resulting in direct impacts to air quality. Generation of these pollutants would worsen existing conditions relative to Imperial County's "non-attainment status" for ozone and PM_{10}. DPM emitted from heavy equipment and diesel fueled vehicles are considered a direct impact to air quality.

Impacts resulting from PM_{10} would be reduced through compliance with Rule 801-Construction and Earthmoving Activities of Imperial County's Regulation VIII, Fugitive Dust Rules and implementation of mitigation measures AQ-1 (watering to keep fugitive dust down) and AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust). NO_x could be reduced, with mitigation measures AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts), but not below ICAPCD thresholds. Thus, Alternative 3 would result in direct impacts to air quality from NO_x emissions even after mitigation. However, because mitigation measures (AQ-1, AQ-2, AQ-3 and AQ-4) are available to reduce NO_x and ROG emissions, no direct impacts with regard to ozone or an air quality violation would occur in association with construction of Alternative 3. Likewise, mitigation measures AQ-3 and AQ-4 would reduce DPM emissions by requiring the use of alternative powered equipment (e.g. electric) and cleaner fuel (aqueous diesel).

As shown in **Table 4.4-5**, construction emissions are expected to be far below established *de minimis* levels for the Proposed Action. Likewise, construction emissions are expected to be far below established *de minimis* levels for Alternative 3.

Operation and Maintenance

Emissions resulting from operations and maintenance of Alternative 3 are anticipated to be similar to the Proposed Action. Operation and maintenance of Alternative 3 would result in drastically lower

emissions than project construction. All criteria pollutants modeled for the Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance (shown in **Table 4.4-2**) with only 0.02 pounds per day of ROG. Therefore, no direct impact to air quality would occur during operation and maintenance of Alternative 3. As with the Proposed Action, Alternative 3 would displace the need for a portion of electricity generated by fossil-fueled power plants. This would result in an indirect beneficial impact of reduced fossil-fuel fired power plant emissions. Once operational, Alternative 3 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no direct impacts resulting from toxic emissions would occur.

Decommissioning

The level of decommissioning activities required for Alternative 3 would be slightly greater in magnitude than the Proposed Action because of the amount of dismantling associated with the a 450-foot by 350-foot electric switch yard and associated Ring Bus on the western edge of the CSE Facility site. Alternative 3 would also require dismantling of the five H-frame undercrossing structures and three 3-pole tubular structures on BLM land. However, 11 fewer towers on BLM lands would require deconstruction as part of Alternative 3 compared to the Proposed Action.

Like the Proposed Action, Alternative 3 would be decommissioned at the end of its operational life approximately 30 or more years in the future. Emissions associated with decommissioning are expected to be substantially less than those estimated during project construction. Improvements in engine technology and less equipment operating simultaneously would all factor in to lower emissions, including DPM, during decommissioning. Cultivating the site with crops would further reduce potential for fugitive dust emissions once the site is decommissioned and reclaimed. Therefore, direct impacts (resulting from decommissioning) and indirect impacts (returning the project site to agricultural practices) to criteria pollutant emissions, toxic emissions or air quality standards associated with decommissioning of Alternative 3 would be expected to be minimal.

B. CEQA Significance Determinations

Conflict with Applicable Air Quality Plan

1) Conflict with or obstruct implementation of the applicable air quality plan

Construction

As with the Proposed Action, Alternative 3 would result in the generation of ozone precursors ROG and NO_x (**Table 4.4-4**). These emissions are anticipated to be similar but slightly higher than the Proposed Action because Alternative 3 involves construction of a 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus, five H-frame undercrossing structures, and three 3-pole tubular structures. The emissions associated with construction of the undercrossing would likely be offset by the 11 fewer towers located on BLM land. Generation of these criteria pollutants have the potential to conflict with the *2009 8-Hour Ozone Modified Air Quality Management Plan* (2009 Modified AQMP) (ICAPCD, 2010). However, implementation of mitigation measures AQ-3 and AQ-4 would reduce NO_x emissions by requiring use of alternative fuel or employing equipment capable of operating on electricity. Likewise, mitigation measures AQ-3 and AQ-4 would reduce ozone by reducing the generation of ozone precursors, ROG and NO_x. These mitigations are consistent with the 2009 Modified AQMP for addressing off-road emissions through transportation control measures, including incentive programs.

Similar to the Proposed Action, Alternative 3 would generate potentially significant PM_{10} emissions, though likely slightly more than shown in **Table 4.4-4** based on construction of Alternative 3's additional

a 450-foot by 350-foot electric switch yard. Air quality emissions on BLM land would be anticipated to be similar for both the Proposed Action and Alternative 3. While Alternative 3 includes five H-frame undercrossing structures and three 3-pole tubular structures (not proposed as part of the Proposed Action) it also includes 11 fewer towers than the Proposed Action. Mitigation measures AQ-1 and AQ-2 would reduce PM_{10} through application of water or soil stabilizers. These measures, as well as compliance with Regulation VIII, Fugitive Dust Rules, would ensure that the project upholds the requirements of the *2009 Imperial County State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter* (SIP) (ICAPCD, 2009). Thus, Alternative 3 would result in less than significant impacts to applicable air quality plans under CEQA following implementation of mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4.

Operation and Maintenance

Alternative 3, as a solar energy facility, does not include any major stationary emission sources once operational. As previously discussed, emissions associated with operation and maintenance for all criteria pollutants would remain well under the ICAPCD thresholds of significance. The 2007URBEMIS Model output for all potential pollutant emissions resulting from operation and maintenance of the Proposed Action was essentially zero, with the exception of ROG which would be only 0.02 pounds per day. The same virtually non-detectible emissions would be expected for Alternative 3. Such low levels of ROG would not cause localized exceedances, or contribute significantly to existing exceedances, of the State or federal air quality standards. Therefore, Alternative 3 would result in less than significant impacts on air quality standard attainment during operation and maintenance and would not conflict with or obstruct implementation of the ICAPCD air quality plans under CEQA.

Decommissioning

Decommissioning activities for Alternative 3 are anticipated to similar or slightly higher than for the Proposed Action due to the dismantling of additional a 450-foot by 350-foot electric switch yard and Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house). Air quality emissions on BLM land would be anticipated to be similar for both the Proposed Action and Alternative 3. While Alternative 3 includes five H-frame undercrossing structures and three 3-pole tubular structures it also requires 11 fewer towers which would presumable off-set decommissioning emissions. Gravel roads, foundations, poles and towers used to support aboveground wires and underground wiring will all be removed using equipment similar to that used for construction. Assuming, among other factors, improved engine technologies at the time the project is decommissioned and fewer pieces of equipment operating simultaneously, Alternative 3 is anticipated to result in less than significant impacts under CEQA with regard to conflicting or obstructing an applicable air quality attainment plan during decommissioning.

Violate Air Quality Standard/Cause Air Quality Violation

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Construction

As shown in **Table 4.4-4** for the Proposed Action, construction emissions of NO_x and PM_{10} would exceed the ICAPCD significance thresholds. Similar construction emissions are anticipated to occur for Alternative 3 because it includes construction of an additional a 450-foot by 350-foot electric switch yard. Air quality emissions on BLM land would be anticipated to be similar for both the Proposed Action

and Alternative 3. While Alternative 3 includes five H-frame undercrossing structures and three 3-pole tubular structures (not proposed as part of the Proposed Action) it also includes 11 fewer towers than the Proposed Action.

Currently, the SSAB is in "non-attainment" for the federal and State ozone and PM_{10}. Mitigation measures identified for the Proposed Action would also apply to Alternative 3. These include mitigation measures AQ-1 (watering to keep fugitive dust down), AQ-2 (standard mitigation measures identified in the *ICAPCD 2007 CEQA Air Quality Handbook* including use of soil stabilizers to control fugitive dust), AQ-3 (use of alternative fueled or electric equipment, reduced idling time and hours of operation of heavy equipment) and AQ-4 (use of aqueous diesel fuel and diesel oxidation catalysts). All of these measures would reduce PM_{10} and NO_x emissions during construction to the maximum extent feasible. Mitigation measures AQ-3 and AQ-4 would also reduce NO_x emissions in a reasonable manner for this ozone non-attainment area. Thus, Alternative 3 would result in less than significant impacts under CEQA with regard to violation of an air quality or contribute significantly to an existing air quality violation.

Operations and Maintenance

Emissions resulting from operations and maintenance of Alternative 3 are anticipated to be similar to the Proposed Action. All criteria pollutants modeled for operation and maintenance of the Proposed Action would be near zero, and therefore, well under the ICAPCD thresholds of significance with only 0.02 pounds per day of ROG. Such levels of emissions should not cause localized exceedances, or contribute significantly to existing exceedances of ozone and PM_{10}, of the State or federal air quality standards. Therefore, Alternative 3 would result in less than significant impacts to air quality standards during operations and maintenance under CEQA. Furthermore, Alternative 3 is not anticipated to cause an air quality violation during operations and maintenance.

Decommissioning

As previously described, emissions associated with decommissioning of Alternative 3 would similar to for the Proposed Action as it involves the dismantling of the additional a 450-foot by 350-foot electric switch yard and Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house). Air quality emissions on BLM land would be anticipated to be similar for both the Proposed Action and Alternative 3. While Alternative 3 includes five H-frame undercrossing structures and three 3-pole tubular structures (not proposed as part of the Proposed Action) it also includes 11 fewer towers (approximately 3 miles less of Gen-tie Line on BLM land) than the Proposed Action.

Emissions from decommissioning activities are expected to be significantly less than those estimated for project construction based on the assumptions of improvements in engine technology in the future and less equipment operating simultaneously. Although the ambient air quality attainment status for the project area at the time of decommissioning is unknown, emissions resulting from decommissioning Alternative 3 are not expected to cause or substantially contribute to any air quality violations. Therefore, Alternative 3 would result in less than significant impacts to air quality standards during decommissioning under CEQA. Furthermore, Alternative 3 is not anticipated to cause an air quality violation during decommissioning activities.

Diesel-Related Toxic Emissions

4) Expose sensitive receptors to substantial pollutant concentrations

Construction

As with the Proposed Action, Alternative 3 (similar to the propose alternative) would generate high levels of emissions during month six of Phase I construction. Worst-case mitigated PM_{10} from exhaust was modeled for the Proposed Action to be as high 5.32 pounds per construction day (10-hours) or 0.0669 grams per second DPM during the construction day. If the worst-case diesel emissions generated during month six were extended over the entire 46 month construction period (Phase 1 – 28 months and Phase 2 – 18 months for a total of 46 months), and the same intensity (.211 individuals) was applied, the proposed project could increase the risk 46 times higher to 9.7 (.211 individuals x 46 months) individuals per million. In general, sites increasing the cancer risk between one and ten in one million need to implement T-BACT or impose effective emission limitations, emission control devices or control techniques to reduce the cancer risk. With the incorporation of T-BACT, Alternative 3 would create less emissions than the proposed alternative and would be less that 9.7 but would still be greater than 1 in one million and would require T-BACT equipment to create a less than significant impacts scenario under CEQA.

Operations and Maintenance

Once operational, Alternative 3 would not generate DPM or expose sensitive receptors to substantial pollutants. Therefore, no CEQA significance determinations can be made with regard to Criterion 4 for Alternative 3 during operations and maintenance.

Decommissioning

Emissions generated during decommissioning of Alternative 3 are anticipated to similar to the Proposed Action based on more equipment requiring dismantling including the Ring Bus, five H-frame undercrossing structures and three 3-pole tubular structures. Equipment used during decommissioning would be similar to what was used during construction and would generate DPM. However, decommissioning activities are assumed to be less intensive in nature than construction. Thus, emissions for Alternative 3 would be substantially less than the amount generated during Phase I construction (worst-case scenario). Construction-generated DPM was determined to be less than one in one million as defined by CARB for the Proposed Action. Therefore, Alternative 3 is not expected to result in a significant health risk impact during decommissioning. Alternative 3 is anticipated to result in less than significant impacts under CEQA with regard to exposure of sensitive receptors to substantial pollutant concentrations during decommissioning.

4.5.3.5 Alternative 4 - No Action/No Project

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this alternative, the proposed project would not be constructed. It would not be necessary for BLM to grant a right-of-way on BLM land and no CUP or variance would be required from Imperial County. No direct or indirect construction air quality impacts would occur.

Operations and Maintenance

No solar PV structures or gen-tie line facilities would be constructed on the project site or BLM lands. As a result, no direct impacts on air quality associated with operations and maintenance of the Proposed Action, though minimal, would occur. Conversely, direct benefits to air quality of the proposed project in reducing greenhouse gas emissions from fossil-fuel burning electricity plants would also not occur. Both State and Federal law support the increased use of renewable power generation. Thus, if the proposed Centinela Solar Energy Project is not approved, other renewable projects would likely be constructed on other sites in Imperial County or in other areas of California as developers strive to provide renewable power that complies with utility requirements and State/Federal mandates. Multiple wind and solar development applications have been submitted to BLM for approximately one million acres of the California Desert Conservation Area.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct or indirect air quality impacts associated with decommissioning would occur.

B. CEQA Significance Determinations

Conflict with Applicable Air Quality Plan

1) Conflict with or obstruct implementation of the applicable air quality plan

Violate Air Quality Standard/Cause Air Quality Violation

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Diesel-Related Toxic Emissions

4) Expose sensitive receptors to substantial pollutant concentrations

Construction

Under Alternative 4, no construction air pollutant emissions would be generated. Short-term construction air quality impacts from PM_{10} would be avoided and temporary significant and unavoidable impacts resulting from NO_x would be eliminated. Thus, no impact to air quality associated with construction would occur under CEQA in association with Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site. Air quality is not expected to change from existing conditions associated with farming operations (fugitive dust, tractor exhaust, etc). Over the long-term, the No Project/No Action Alternative would generate greater air quality impacts resulting from continued agricultural operations compared to reduced air emissions associated with operations and maintenance of the Proposed Action. Likewise, beneficial air quality impacts under CEQA resulting from reducing greenhouse gas emissions from fossil-fueled electricity generation would not occur for Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. No impacts to air quality under CEQA would occur.

4.4.4 MITIGATION MEASURES

AQ-1 The following practices are required to reduce construction related PM_{10} impacts to a level below significance:

- Apply water during grading/grubbing activities to all active disturbed areas at least three times daily.
- Apply water to all onsite roadways at least three times daily or use magnesium chloride or other County approved dust suppression additives and apply water once daily.
- Reduce all construction related traffic speeds onsite to below 15 miles per hour (mph).

AQ-2 The following practices are standard mitigation measures for Fugitive PM_{10} Control based on guidance from the *ICAPCD 2007 CEQA Air Quality Handbook* regarding construction sites larger than 5 acres in size. These measures shall be implemented by the project contractor.

- All disturbed areas, including Bulk Material storage which is not being actively used, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent 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 percent 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 percent 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 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

AQ-3 The following practices are standard mitigation measures for construction combustion equipment based on guidance from the *ICAPCD 2007 CEQA Air Quality Handbook* regarding construction sites larger than 5 acres in size. These measures apply to NO_x emissions and shall be implemented by the project contractor.

- 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)

AQ-4 The project contractor shall use aqueous diesel fuel and diesel oxidation catalysts on all diesel equipment (i.e. construction equipment, not vehicles registered to drive on public highways).

Mitigation measures AQ-1, AQ-2, AQ-3 and AQ-4 would also apply to Alternative 1 - Double Circuit Gen-tie Line Structures, and Alternative 2 - Reduced CSE Facility Site. None of the mitigations identified would be necessary in association with Alternative 4 - No Action/No Project Alternative. Continued agricultural operations on the project site occurring as part of Alternative 4 would be required to comply with Imperial County rules and regulations applicable to fugitive dust and pesticide application in order to mitigate impacts to air quality.

4.4.5 RESIDUAL IMPACTS AFTER MITIGATION

Mitigation measure AQ-1 is based on control efficiencies established by the *ICAPCD 2007 CEQA Air Quality Handbook* and recommended within the 2007URBEMIS Model. The *ICAPCD 2007 CEQA Air Quality Handbook* states that watering twice daily can reduce PM_{10} from 34 to 68 percent. In keeping with this range, an average 55 percent reduction was applied as recommended by the 2007URBEMIS Model. Mitigation measure AQ-2 includes standard mitigation measures for Fugitive PM_{10} Control based on guidance from the *ICAPCD 2007 CEQA Air Quality Handbook* regarding construction sites larger than 5 acres in size. Together, mitigation measures AQ-1 and AQ-2 would adequately reduce PM_{10} impacts to less than significant levels (i.e. below ICAPCD thresholds of significance shown in **Table 4.4-2**).

Application of standard mitigation measures for combustion equipment included in mitigation measure AQ-3 would reduce NO_x emissions, but not below ICAPCD thresholds of significance. Mitigation measure AQ-4 would reduce NO_x impacts by up to 42 percent and would sufficiently reduce NO_x impacts to below thresholds of significance.

SECTION 4.5
GREENHOUSE GAS EMISSIONS/ CLIMATE CHANGE

4.5 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

This section provides an analysis of potential climate change impacts related to construction, operation and maintenance, and decommissioning of the Proposed Action and alternatives. Information in this section was partially derived from the Centinela Solar Energy Project Air Quality Assessment prepared by Ldn Consulting, Inc. (Ldn, 2011a) (included on the attached CD of technical appendices of this EIR/EA as **Appendix D**).

4.5.1 METHODOLOGY FOR ANALYSIS

Greenhouse gasses generated during construction activities were calculated using the latest URBEMIS 2007 air quality model, which was developed by the California Air Resources Board (CARB). URBEMIS 2007 has been approved by the Imperial County Air Pollution Control District and Imperial County for construction emissions calculations. URBEMIS incorporates emission factors from the EMFAC 2007 model for on-road vehicle emissions and the OFFROAD 2007 model for off-road vehicle emissions. Default settings were used within the model.

Proposed Action decommissioning construction emissions were assumed to mirror Proposed Action construction emissions. This assumption is likely overly conservative, as decommissioning activities are anticipated to occur more quickly than initial construction, and as such, would not result in emissions levels as high as those experienced during construction.

Operation and maintenance emissions were also calculated using URBEMIS 2007. Daily operations of the Proposed Action would primarily involve periodic maintenance and worker trips to and from the project site. The Proposed Action is anticipated to generate up to 21 average daily trips (ADT) on most days. Up to four times per year, the Proposed Action could generate up to 50 ADT during periodic PV panel cleaning.

4.5.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to greenhouse gas emissions. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

Due to the global nature of climate change and GHG emissions and their potential effects, GHG emissions generated by an individual project are evaluated on a cumulative basis.

4.5.2.1 CEQA Significance Criteria

For the purposes of this EIR/EA, a significant Climate Change impact would occur if implementation of the Proposed Action, or any of the project alternatives would:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

To determine if a project would generate GHG emissions that would directly or indirectly have a significant impact on the environment 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 (SCAQMD, 2008). Pursuant to CEQA Guidelines Section 15064.4(b) and 15064.7, Imperial County has determined that 10,000 metric tons of CO2e annually is the appropriate threshold of significance to apply to the Proposed Action, based on the recommendation from the SCAQMD.

Imperial County has not established or adopted any plans or policies for the purposes of reducing the emissions of greenhouse gasses. Therefore, the Proposed Action will be analyzed for consistency with applicable State plans for the reduction of GHGs, including Executive Order (EO) S-21-09, which required that the CARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target as established in Executive Order S-14-08. Under Executive Order S-21-09, the CARB will work with the Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The CARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the CARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

4.5.2.2 NEPA Requirements

The Council on Environmental Quality (CEQ) "Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" (U.S. Council on Environmental Quality, February, 2010) 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. While the guidance is in draft form, this indicator of 25,000 metric tons or more of CO_2-equivalent (CO2e) GHG emissions on an annual basis can still serve as a useful benchmark against which to compare a Proposed Action's expected GHG emissions. Each alternative is evaluated against this number in the NEPA analysis below.

4.5.3 ENVIRONMENTAL CONSEQUENCES

4.5.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

The following provides an analysis of the potential impacts associated with construction, operation and maintenance, and decommissioning of the Proposed Action.

Construction

Phase I construction of the Proposed Action (175-MW) is planned to occur over 22 to 28 months and Phase II (100-MW) would be constructed at another date, with a construction schedule estimated to be 15 to 18 months in duration. Expansion of the generating capacity of the Proposed Action will predominantly involve incremental construction of additional PV blocks, electrical wiring, incremental electrical equipment within the CSE Facility substation, and associated roads and fencing.

The common services area facilities and the Gen-tie Line constructed as part of Phase I will be designed and sized to accommodate Phase II. With the exception of additional equipment within the project substation, no substantive changes or additions to other project facilities would be required to accommodate Phase II. Permanent operational staffing would not be expected to increase as a result of future expansion. For these reasons, construction related impacts from future 100-MW expansion (Phase II) will be less than the initial 175-MW (Phase I) component.

Furthermore, to focus on the expected maximum impacts, the worst case schedule provided by the applicant assumes that construction activities may occur on the common services area facilities, the project substation, the Gen-tie Line and up to three PV Areas simultaneously. This peak construction activity would occur during month six of Phase I on the representative construction schedule and would also be expected to generate 1,260 ADT from construction workers.

As described above, Phase I construction activities would take place over a 22 to 28 month period, and Phase II construction activities would take place over a 15 to 18 month period, for a total worst-case construction period of 46 months, or approximately 3.8 years.

As shown in the attached Air Quality Study (included on the attached CD of technical appendices of this EIR/EA as **Appendix D**), CO_2 would be the primary GHG generated during construction activities. CO_2 was calculated for all aspects of project construction, including site preparation, PV Panel installation, substation construction, access road construction and construction worker vehicle trips. Total annual CO_2 emissions associated with peak construction activity would be 2,932.02 tons/year, which is below the established CEQA threshold of 10,000 tons/year and the NEPA indicator of 25,000 tons/year, as described above. Therefore, construction of the Proposed Action would not have a direct or indirect impact on climate change.

Reduction Strategies

Even though the Proposed Action would not exceed CEQA thresholds of significance and meet the NEPA indicator for the generation of GHGs during construction, 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, mitigation measures CC-1 (Diesel Equipment [Compression Ignition] Offset Strategies) and CC-2 (Vehicular Trip [Spark Ignition] Offset Strategies) greenhouse gas offset measures have been shown to be effective by CARB and should be implemented whenever possible.

Operation and Maintenance

According to the 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) (Imperial Solar Energy Center South Final EIR/EA, Imperial County, April 2011). 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 (207,984,263 MW-h/62,544,000 MT = 0.301 MT/MW-h).

Direct Impacts

Table 4.5-1 and **Table 4.5-2** provide data on the electricity consumption for a comparable solar energy facility with similar operational characteristics and power generation capacity during operational generating and non-generating hours, respectively. Based on **Table 4.5-1** and **Table 4.5-2**, the operation of the Proposed Action would consume approximately 4.84 MW-h of electricity during generating hours (peak electricity consumption) and approximately 6.90 MW-h of electricity during non-generating hours (peak electricity consumption).

TABLE 4.5-1
GENERATING HOURS (PEAK ELECTRICITY CONSUMPTION)

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

Source: Imperial County, 2011a, Table 4.5-4

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TABLE 4.5-2
NON-GENERATING HOURS (PEAK ELECTRICITY CONSUMPTION)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	250	140	35
Inverter HVAC	250	1,400	350
O & M Building	1	50,000	50
SCADA System	1	5,000	5
House Lighting	1	175	91
Total Power Consumption by Plant (KW)			531.0
Total Electrical Consumption over 11 Hours (MW-h)			6.90

Source: Imperial County 2011a, Table 4.5-5

Higher consumption levels were used (non-generating hours) to assess greenhouse gas emissions. As such, during the operational phase of the Proposed Action, CO_2 produced by non-generation consumption would be 6.90 MW-h x 0.301 MT/MW-h = 2.08 metric tons per day. Additionally, as described above, the project is anticipated to generate 15 to 21 ADT on most days and up to 50 ADT up to four times per year for PV Panel cleaning. The GHGs generated by this relatively small volume of vehicle trips would total approximately 66.28 tons/year.

Annually the Proposed Action would produce approximately 825.48 metric tons per year of CO_2 (2.08 metric tons per day x 365 days/year + 66.28 tons/year from mobile sources), which is below the NEPA indicator of 25,000 metric tons or the CEQA threshold of 10,000 metric tons or more CO2e per year. Therefore, the operation of the Proposed Action would not generate greenhouse gas emissions, either directly or indirectly, that may have an adverse impact on the environment. Likewise, the Proposed Action would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Indirect Impacts

The Proposed Action would assist in alleviating dependence on fossil fuels and would provide an overall benefit to air quality and climate change by providing a clean, renewable source of energy. **Table 4.5-3** depicts the estimated criteria pollutant emission rates from fossil-based power generated in the California grid mix and the amount of emissions displaced by the Proposed Action annually.

TABLE 4.5-3
ESTIMATED CRITERIA POLLUTANT EMISSION REDUCTIONS CREATED BY THE PROPOSED ACTION

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

Source: Wolf, 2005. .

Decommissioning

The CSE facility's useful operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When the Proposed Action reaches the end of its operational life, the components will be decommissioned and deconstructed. It is expected that many components will be suitable for recycling or reuse and the facility decommissioning will be designed to optimize such salvage as circumstances allow and in compliance with all local, state and federal regulations as they exist at the time of decommissioning. The decommissioning of the Proposed Action is expected to generally include the following steps:

- The CSE Facility will be electrically disconnected from the power grid.
- Any portion(s) of the Gen-tie Line that may have become an integral part of the utility power grid will remain in operations.
- Electrical equipment such as inverters, transformers, and PV panels will be disconnected and removed.
- Panel racks and similar equipment and structures will be mechanically dismantled and removed.
- Electrical and communications wiring will be removed from underground trenches/conduits and aboveground runs. Poles and towers used to support aboveground wires will be removed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4 feet below ground level and demolished
- Driven piles will be removed from the ground.
- Buildings in the common service area will be evaluated for agricultural and commercial use. If the buildings are not suitable for these uses then furniture and fixtures would be removed and the buildings would be dismantled and removed.
- Water tanks will be removed intact for reuse or demolished and recycled.
- The water treatment evaporation ponds (if constructed) will be cleaned and the accumulated solids properly characterized and disposed. The pond liners will be removed and the concrete foundations demolished and removed.
- Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed.
- Fencing will be removed.
- Gravel roads will be removed and the material either used on site for fill or removed.
- Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.
- Commercially reasonable efforts will be used to recycle or reuse materials from the decommissioning; all other materials will be disposed of at a licensed facility.

For the purposes of this evaluation, the time period for decommissioning activities and the volume of mechanical and diesel powered equipment used during the decommissioning process are assumed to mirror the Proposed Action's construction timeframe and construction equipment. This is likely an

overestimate of the time period and emissions generated during decommissioning. Therefore, a worst-case scenario for GHG emissions associated with decommissioning the Proposed Action has been assumed.

Total annual CO_2 emissions associated with decommissioning activities are estimated to generate a maximum of 2,932.02 tons/year. Calculations for this figure are provided in the attached Air Quality Study (included on the attached CD of technical appendices of this EIR/EA as **Appendix D**) as the decommissioning emissions were assumed to mirror the construction emissions. This is below the established CEQA threshold of 10,000 tons/year and the NEPA indicator of 25,000 tons/year, as described above.

B. CEQA Significance Determinations

Generate Greenhouse Gas Emissions

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

Conflict with Applicable Greenhouse Gas Reduction Plan, Policy or Regulation

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

Construction

As described above, CO_2 was calculated for all aspects of project construction, including site preparation, PV panel installation, substation construction, access road construction, and construction worker vehicle trips. Total annual CO_2 emissions associated with peak construction activity would be 2,932.02 tons/year, which is below the established CEQA threshold of 10,000 tons/year. This is a less than significant impact under CEQA.

Even though the Proposed Action would not exceed the established CEQA threshold of significance for the generation of GHGs during construction, consistent with the intent of AB 32, the Proposed Action should demonstrate that is has policies in place that would assist in providing a statewide reduction in CO_2. To this end, Mitigation Measures CC-1 and CC-2 have been included in this EIR/EA to further reduce construction related impacts to climate change and GHGs. These measures encourage reduced energy consumption during construction, decreased emissions from diesel powered equipment, decreased emissions from construction worker vehicles, and other measures to reduce emissions during construction activities.

Operation and Maintenance

As described above, and shown in **Table 4.5-1** and **Table 4.5-2**, on an annual basis, the Proposed Action would produce approximately 825.48 metric tons per year of CO_2, which is below the CEQA threshold of 10,000 metric tons or more CO2e per year. Furthermore, the Proposed Action would have the beneficial effect of providing renewable energy and displacing fuel sources that potentially generate much higher levels of greenhouse gases. Therefore, the operation of the Proposed Action would result in a less than significant impact under CEQA.

Additionally, the Proposed Action would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. AB 32, SB 1078, and Executive

Order S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. The California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Proposed Action is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions. This is a less than significant impact under CEQA.

Decommissioning

Total annual CO_2 emissions associated with decommissioning activities are estimated to generate a maximum of 2,932.02 tons/year, which is below the established CEQA threshold of 10,000 tons/year. This is a less than significant impact under CEQA.

4.5.3.2 Alternative 1 - Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

The construction of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would contribute total annual CO_2 emissions associated with peak construction activity of 2,932.02 tons/year. This amount of CO_2 is much less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Operation and Maintenance

The operation and maintenance of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. This amount of CO_2 is much less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Decommissioning

The decommissioning of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would contribute total annual CO_2 emissions associated with peak decommissioning activity of 2,932.02 tons/year. This amount of CO_2 is much less than the NEPA indicator of 25,000 metric tons of CO2e per year.

B. CEQA Significance Determinations

Alternative 1 Generate Greenhouse Gas Emissions

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

Conflict with Applicable Greenhouse Gas Reduction Plan, Policy or Regulation

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

Construction

The construction of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would contribute total annual CO_2 emissions associated with peak construction activity of 2,932.02 tons/year. This amount of CO_2 is much lower than the CEQA threshold of 10,000 metric tons of CO2e per year. Therefore, Alternative 1 would result in a less than significant impact to GHG under CEQA.

Operation and Maintenance

The operation and maintenance of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. Furthermore, Alternative 1 would have the beneficial effect of providing renewable energy and displacing fuel sources that potentially generate much higher levels of greenhouse gases. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

Additionally, Alternative 1 would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. AB 32, SB 1078, and EO S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. The California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Alternative 1 is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions. This is a less than significant impact under CEQA and no mitigation is required.

Decommissioning

The decommissioning of Alternative 1 would not change compared to the Proposed Action. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 1. Similar to the Proposed Action, as discussed above, Alternative 1 would contribute total annual CO_2 emissions associated with peak decommissioning activity of 2,932.02 tons/year. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

4.5.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

The construction of Alternative 2 would be reduced compared to the Proposed Action, as 335 fewer acres would be disturbed and a smaller solar facility would be constructed. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would overestimate construction emissions for Alternative 2. Alternative 2 would contribute total annual CO_2 emissions associated with peak construction activity of less than 2,932.02 tons/year; estimated to be approximately 2,527.6 tons/year, based on a 16 percent reduction in the acreage disturbed under this alternative. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Operation and Maintenance

The operation and maintenance of Alternative 2 would be reduced compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would overestimate GHG emissions associated Alternative 2. As discussed above, the Proposed Action would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. Alternative 2 would result in reduced GHG emissions and would generate fewer than 825.48 metric tons per year of CO_2. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Decommissioning

The decommissioning of Alternative 2 would not change compared to the Proposed Action. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 2. Similar to the Proposed Action, as discussed above, Alternative 2 would contribute total annual CO_2 emissions associated with peak decommissioning activity estimated to be approximately 2,527.6 tons/year, based on a 16 percent reduction in the acreage disturbed under this alternative. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

B. CEQA Significance Determinations

Alternative 2 Generate Greenhouse Gas Emissions

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

Conflict with Applicable Greenhouse Gas Reduction Plan, Policy or Regulation

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

Construction

The construction of Alternative 2 would be reduced compared to the Proposed Action, as 335 fewer acres would be disturbed and a smaller solar facility would be constructed. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would overestimate construction emissions for Alternative 2. Alternative 2 would contribute total annual CO_2 emissions associated with peak construction activity of less than 2,932.02 tons/year; estimated to be approximately 2,527.6 tons/year, based on a 16 percent reduction in the acreage disturbed under this alternative. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

Operation and Maintenance

The operation and maintenance of Alternative 2 would be reduced compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would overestimate GHG emissions associated Alternative 2. As discussed above, the Proposed Action would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. Alternative 2 would result in reduced GHG emissions and would generate fewer than 825.48 metric tons per year of CO_2. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. Furthermore, Alternative 2 would have the beneficial effect of providing renewable energy and displacing fuel sources that potentially generate much higher levels of greenhouse gases. This is a less than significant impact.

Additionally, Alternative 2 would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. AB 32, SB 1078, and EO S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. The California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Proposed Action is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions. This is a less than significant impact under CEQA and no mitigation is required.

Decommissioning

The decommissioning of Alternative 2 would generate fewer GHG emissions compared to the Proposed Action, as the project area under this alternative would be reduced by approximately 16 percent. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 2, once reductions for the reduced site area are factored in. Alternative 2 would contribute total annual CO_2 emissions associated with peak decommissioning activity estimated to be approximately 2,527.6 tons/year, based on a 16 percent reduction in the acreage disturbed under this alternative. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

4.5.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

The construction of Alternative 3 would be very similar compared to the Proposed Action. Alternative 3 would include construction of the Ring Bus component on 2.3 acres of private land, and the construction of 11 fewer towers on BLM land. For the purposes of this construction emissions calculation, these changes were assumed to be emissions neutral. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would also apply to the Alternative. Similar to the Proposed Action, as discussed above, Alternative 3 would contribute total annual CO_2 emissions associated with peak construction activity of 2,932.02 tons/year. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Operation and Maintenance

The operation and maintenance of Alternative 3 would not significantly change compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 3. Similar to the Proposed Action, as discussed above, Alternative 3 would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

Decommissioning

The decommissioning of Alternative 3 would be very similar compared to the Proposed Action. Alternative 3 would include decommissioning of the Ring Bus component on 2.3 acres of private land, and the decommissioning of 11 fewer towers on BLM land. For the purposes of this decommissioning emissions calculation, these changes were assumed to be emissions neutral. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to the Alternative. Similar to the Proposed Action, as discussed above, Alternative 3 would contribute total annual CO_2 emissions associated with peak decommissioning activity of 2,932.02 tons/year. This is less than the NEPA indicator of 25,000 metric tons of CO2e per year.

B. CEQA Significance Determinations

Generate Greenhouse Gas Emissions

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

Conflict with Applicable Greenhouse Gas Reduction Plan, Policy or Regulation

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

Construction

The construction of Alternative 3 would not change significantly compared to the Proposed Action. As such, the analysis provided above for the construction greenhouse gas emission impacts for the Proposed Action would also apply to the Alternative 3. Similar to the Proposed Action, as discussed above, Alternative 3 would contribute total annual CO_2 emissions associated with peak construction activity of 2,932.02 tons/year. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

Operation and Maintenance

The operation and maintenance of Alternative 3 would not change significantly compared to the Proposed Action. As such, the analysis provided above for the operation and maintenance greenhouse gas emission impacts for the Proposed Action would also apply to Alternative 3. Similar to the Proposed Action, as discussed above, Alternative 3 would produce approximately 825.48 metric tons per year of CO_2, as shown in **Table 4.5-1** and **Table 4.5-2**. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. Furthermore, Alternative 3 would have the beneficial effect of providing renewable energy and displacing fuel sources that potentially generate much higher levels of greenhouse gases. This is a less than significant impact under CEQA.

Additionally, the Proposed Action would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. AB 32, SB 1078, and Executive Order S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. The California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Proposed Action is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions. This is a less than significant impact under CEQA and no mitigation is required.

Decommissioning

The decommissioning of Alternative 3 would not change significantly compared to the Proposed Action. As such, the analysis provided above for the decommissioning greenhouse gas emission impacts for the Proposed Action would also apply to the Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping. Similar to the Proposed Action, as discussed above, Alternative 3 would contribute total annual CO_2 emissions associated with peak decommissioning activity of 2,932.02 tons/year. This is less than the CEQA threshold of 10,000 metric tons of CO2e per year. This is a less than significant impact under CEQA.

4.5.3.5 ALTERNATIVE 4 - NO ACTION/NO PROJECT

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project site would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

The project would not be constructed if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no effects related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations.

Operation and Maintenance

The project would not be operated or require maintenance if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no effects related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations. The beneficial impacts of the Proposed Action associated with providing renewable energy in accordance with the State's adopted renewable energy portfolio standard would also not occur under this alternative.

Decommissioning

The project would not be constructed or decommissioned if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no effects related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations.

B. CEQA Significance Determinations

Generate Greenhouse Gas Emissions

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. For this project, a threshold of 10,000 metric tons of CO_2-equivalent GHG emissions on an annual basis has been established.

Conflict with Applicable Greenhouse Gas Reduction Plan, Policy or Regulation

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses.

Construction

The project would not be constructed if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no impact related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations.

Operation and Maintenance

The project would not be operated or require maintenance if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no impact related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations.

Decommissioning

The project would not be constructed or decommissioned if the Alternative 4 - No Action/No Project Alternative were selected. As such, there would be no impact related to greenhouse gas emissions beyond those that already occur on the project site as a result of existing agricultural operations.

4.5.4 CUMULATIVE IMPACTS

4.5.4.1 GEOGRAPHIC SCOPE AND TIMEFRAME

GHG emission impacts are considered global effects and the Earth's atmosphere is used as the geographic scope for analysis of greenhouse gas emissions impacts. The EPA and CARB regulate the GHG emission levels within the United States and more locally within the State of California. The cumulative impact of the Proposed Action on global climate change is defined as the incremental physical impact of the Proposed Action when added to other closely related past, present, and reasonably foreseeable probable future projects.

4.5.4.2 EXISTING CONDITIONS

The CSE Facility site is currently used for agricultural production, primarily non-food crops such as Bermuda grass and alfalfa. The current activities of the site emit a small amount of GHG emissions associated with the operation of mechanical farm equipment and vehicles.

The transmission line corridor site is currently desert land under the jurisdiction of the BLM and privately held agricultural lands. For most of its length, the Gen-tie Line is proposed as a ROW adjacent to existing 230-kV electric lines. All of the private parcels crossed by the Gen-tie Line are agriculture lands. BLM lands through which the Gen-tie Line will extend are generally flat, native desert scrub habitat within the Yuha Basin. There are currently no man-made sources of GHGs on the transmission line corridor site. As such, there are no existing "point sources" of GHG emissions at the site.

4.5.4.3 EFFECTS OF THE PROPOSED ACTION

A. Short-term Construction-Related GHG Impacts

The Proposed Action would contribute a total of 590.27 tons/year tons of CO2e due to construction activities. This is below both CEQ indicator of 25,000 metric tons and SCAQMD threshold of significance. However, the project would still be required to be consistent with AB 32 and the 2008 Scoping Plan; therefore, the implementation of Mitigation Measures CC-1 and CC-2, would result in a less than significant greenhouse gas emissions impact under CEQA. These mitigation measures are provided at the end of this chapter. These measures require reductions in the use of diesel equipment during construction activities, and the implementation of measures to reduce construction worker vehicle trips.

B. Long-term Operational GHG Impacts

During the operational phase of the Proposed Action, annual CO_2 produced by non-generation consumption would be 825.48 metric tons per year of CO_2. This quantity of CO_2 is below both the CEQ indicator of 25,000 metric tons and the SCAQMD threshold of 10,000 metric tons of CO2e per year. Therefore, the Proposed Action would not result in a long-term impact on global climate change.

C. Future Decommissioning GHG Impacts

The Proposed Action would contribute a total of 2.242.6 tons of CO2e due to decommissioning activities. This is below both the CEQ indicator and SCAQMD thresholds of significance. Therefore, the Proposed Action would not result in a future impact on global climate change.

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 4.5-3** depicts the estimated criteria pollutant emission rates from fossil-based power generation in the California grid mix and the quantity of emissions displaced by the project annually.

4.5.4.4 Cumulative Impact Analysis

A. CEQA Impact Analysis

By their nature, GHG emissions impacts are cumulative. As discussed previously in this section, the Proposed Action will implement Mitigation Measures CC-1 and CC-2 to ensure that the Proposed Action GHG impacts are less than significant. These mitigation measures will be implemented with the Proposed Action, even though they are not required to mitigate an impact but are BMPs recommended to reduce GHG emissions associated with construction activities and ensure the project is consistent with the intent of AB 32.

Furthermore, cumulative air quality impacts were analyzed in the Solar Programmatic Draft Environmental Impact Statement (see DPEIS pages 6-97 and 6-98). The Solar Energy Development PEIS is being prepared by the U.S. Department of Energy, Energy Efficiency and Renewable Energy Program and the U.S. Department of the Interior, Bureau of Land Management (the Agencies) in order to assess environmental impacts associated with the development and implementation of agency-specific programs that would facilitate environmentally responsible utility-scale solar energy development in six western states (Arizona, California, Colorado, New Mexico, Nevada, and Utah). The document is available at: http://solareis.anl.gov/.

As described in the PEIS, utility-scale solar energy development contributes to relatively minor GHG emissions as a result of emissions from heavy equipment, primarily used during the construction phase; vehicular emissions; and natural gas or propane combustion from backup generators. The removal of plants from within the footprint of solar facilities would reduce the amount of carbon uptake by terrestrial vegetation, but only by a small amount (about 1 percent of the CO_2 emissions avoided by a solar energy facility compared to fossil-fuel generation facilities [see section 5.11.4 of the DPEIS]).

As addressed in the PEIS, utility-scale solar energy production over the next 20 years may result in fewer CO_2 emissions from utilities by offsetting emissions from new fossil fuel energy sources. CO_2 emission offsets related to increased solar energy production could range from a few percentage points to more than 20 percent in some of the study area states if future fossil energy production is offset by solar energy. Table 6.5-22 of the Solar DPEIS, provides a comparison of the CO_2 emissions of different generation technologies during facility operations. In the near-term, solar facilities would tend to offset facilities serving peak loads rather than baseline loads served by large fossil fuel plants. GHG emissions from future fossil fuel plants serving peak loads, typically natural-gas-fired plants, would nevertheless be offset. The addition of thermal energy or electrical storage to solar facilities could allow offsets of base load fossil fuel plants in the long term.

Because GHG emission are aggregated across the global atmosphere and cumulatively contribute to climate change, it is not possible to determine the specific impact on global climate change from GHG emissions associated with solar development over the next 20 years. It is possible to predict, however, that increased solar energy generation could cumulatively result in fewer GHG emissions if it offsets electrical generation from new fossil fuel facilities.

Therefore, the Proposed Action in combination with other closely related past, present, and reasonably foreseeable probable future projects would not result in cumulatively significant, under CEQA, impacts on global climate change. **Table 4.5-4** provides a comparison of the Proposed Action and Alternatives related to cumulative greenhouse gas emissions impacts.

TABLE 4.5-4
COMPARISON OF ALTERNATIVES FOR CUMULATIVE GREENHOUSE GAS EMISSIONS IMPACTS

Proposed Action	Alternative 1 - Double Circuit Gen-tie Line Structures	Alternative 2 - Reduced CSE Facility Site	Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing	Alternative 4 - No Action/No Project
CEQA Alternatives Comparison				
Cumulative projects will generate GHG emissions during construction. These cumulative projects are required to comply with ICAPCD's Rules and Regulations to mitigate air quality impacts associated with construction emissions. Therefore, the cumulative short-term GHG emissions impact would be mitigated through compliance with ICAPCD regulations for construction emissions. No long-term cumulative GHG emissions impact would result under CEQA.	As with the Proposed Action, this alternative would not result in a significant cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact, and the impact would remain less than significant under CEQA. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under CEQA.	As with the Proposed Action, this alternative would not result in a significant cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact, and the impact would remain less than significant under CEQA. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under CEQA.	As with the Proposed Action, this alternative would not result in a significant cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact, and the impact would remain less than significant under CEQA. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under CEQA.	This alternative would have no significant cumulative GHG emissions impact during construction, as no solar energy facility would be constructed. However, this alternative would not provide a regional air quality benefit by reducing GHG emissions associated with the production of electricity, as it would not provide an alternative, clean renewable energy source.
NEPA Alternatives Comparison				

TABLE 4.5-4
COMPARISON OF ALTERNATIVES FOR CUMULATIVE GREENHOUSE GAS EMISSIONS IMPACTS

Proposed Action	Alternative 1 - Double Circuit Gen-tie Line Structures	Alternative 2 - Reduced CSE Facility Site	Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing	Alternative 4 - No Action/No Project
Cumulative projects will generate GHG emissions during construction. These cumulative projects are required to comply with ICAPCD's Rules and Regulations to mitigate air quality impacts associated with construction emissions. Therefore, the cumulative short-term GHG emissions impact would be mitigated through compliance with ICAPCD regulations for construction emissions. No long-term cumulative GHG emissions impact would result under NEPA.	As with the Proposed Action, this alternative would not result in a cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under NEPA.	As with the Proposed Action, this alternative would not result in a cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under NEPA.	As with the Proposed Action, this alternative would not result in a cumulative GHG emissions impact during construction. Proposed mitigation for construction vehicles and emissions controls would further reduce the impact. The short-term cumulative impact would be the same as the Proposed Action. No long-term cumulative GHG emissions impact would result under NEPA.	This alternative would have no cumulative GHG emissions impact during construction, as no solar energy facility would be constructed. However, this alternative would not provide a regional air quality benefit by reducing GHG emissions associated with the production of electricity, as it would not provide an alternative, clean renewable energy source.

In addition, none of the project alternatives would emit enough GHGs into the atmosphere to create a considerable incremental contribution to global climate change. As explained in the analysis above, the Proposed Action would contribute a total of 2,242.6 tons of CO2e due to construction activities, which is well below the EPA indicator and SCAQMD thresholds of significance (25,000 MTCO2e and 10,000 MTCO2e, respectively), and with implementation of CC-1 and CC-2, the Proposed Action is consistent with AB 32. Moreover, as explained above, the Proposed Action would produce 825.48 tons per year of CO_2, which is far below the SCAQMD threshold of 10,000 metric tons or more of CO2e emissions on an annual basis, and it is also below the CAPCOA and CARB threshold of 900 metric tons of CO_2 per year. Therefore, the operation of the Proposed Action would not generate an incrementally considerable amount of greenhouse gas emissions. As demonstrated in the analysis above, the same is true of the other project alternatives.

Thus, operation of the Proposed Action will not have a considerable incremental contribution to global climate change.

As explained in Section 3.5, AB 32, SB 1078, and EO S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. The California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Proposed Action is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions.

B. NEPA Impact Analysis

By their nature, GHG emissions impacts are cumulative. The analysis presented above in this section of this EIR/EA concluded that the Proposed Action would contribute a total of 2,242.6 tons of CO2e due to construction activities, which is well below the CEQ indicator and SCAQMD threshold of significance (25,000 MTCO2e and 10,000 MTCO2e, respectively). Additionally, implementation of Mitigation Measures CC-1 and CC-2 would ensure that the Proposed Action is consistent with AB 32. The design features identified in Mitigation Measures CC-1 and CC-2 include BMPs recommended by CAPCOA and CARB to reduce GHG emissions associated with construction activities.

Furthermore, cumulative air quality impacts were analyzed in the Solar Programmatic Draft Environmental Impact Statement (see DPEIS pages 6-97 and 6-98). Utility-scale solar energy development contributes to relatively minor GHG emissions as a result of emissions from heavy equipment, primarily used during the construction phase; vehicular emissions; and natural gas or propane combustion from backup generators.

As addressed in the DPEIS, utility-scale solar energy production over the next 20 years may result in fewer CO_2 emissions from utilities by offsetting emissions from new fossil fuel energy sources. CO_2 emission offsets related to increased solar energy production could range from a few percentage points to more than 20 percent in some of the study area states if future fossil energy production is offset by solar energy. Table 6.5-22 of the Solar DPEIS, provides a comparison of the CO_2 emissions of different generation technologies during facility operations. In the near-term, solar facilities would tend to offset facilities serving peak loads rather than baseline loads served by large fossil fuel plants. GHG emissions from future fossil fuel plants serving peak loads, typically natural-gas-fired plants, would nevertheless be offset. The addition of thermal energy or electrical storage to solar facilities could allow offsets of base load fossil fuel plants in the long term.

Because GHG emission are aggregated across the global atmosphere and cumulatively contribute to climate change, it is not possible to determine the specific impact on global climate change from GHG emissions associated with solar development over the next 20 years. It is possible to predict, however, that increased solar energy generation could cumulatively result in fewer GHG emissions if it offsets electrical generation from new fossil fuel facilities. As explained in Section 3.5, AB 32, SB 1078, and EO S-21-09 all call for the reduction of statewide GHG emissions or an increased reliance on renewable energy sources such as the Proposed Action. California Legislature has recently enacted the 33 percent renewable energy portfolio standard that was originally set forth in EO S-21-09. Thus, the Proposed Action is consistent with regulations or requirements adopted to implement statewide plans for the reduction or mitigation of greenhouse gas emissions. Thus, operation of the Proposed Action will not have a considerable incremental contribution to global climate change.

4.5.5 MITIGATION MEASURES

Even though the Proposed Action would not exceed CEQA thresholds of significance or the NEPA indicator for the generation of GHGs during construction, consistent with the intent of AB 32, the Proposed Action should demonstrate that is have 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 whenever possible.

CC-1 Diesel Equipment (Compression Ignition) Offset Strategies

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 pre-combustion chamber engines.
3. Construction equipment used for the project should utilize EPA Tier 2 or better engine technology.

CC-2 Vehicular Trip (Spark Ignition) Offset Strategies

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

These mitigation measures would also apply to Alternatives 1, 2, and 3, in addition to the Proposed Action.

4.5.6 RESIDUAL IMPACTS AFTER MITIGATION

The mitigation measures presented above would further assist with the Proposed Action's consistency with the intent of AB 32. As described in this section, construction and operation of the Proposed Action would not result in significant or adverse impacts related to GHG emissions under CEQA or NEPA. These mitigation measures have been added to provide additional reduction strategies to further improve air quality and reduce GHG emissions, even though a significant or adverse impact was not identified. Impacts related to GHG emissions from construction and operation of the Proposed Action would remain less than significant under CEQA, and no adverse impact would occur under NEPA, before or after implementation of mitigation measures CC-1 and CC-2.

No adverse or residual effects would result, either directly or indirectly, through implementation of these mitigation measures.

SECTION 4.6
GEOLOGY AND SOILS

4.6 GEOLOGY AND SOILS

Information contained in this section is summarized from the *Preliminary Geotechnical Investigation Report, Centinela Solar Energy Facility and Gen-tie Line* prepared by Landmark Consultants, Inc. (Landmark, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix E** of this EIR/EA.

4.6.1 METHODOLOGY FOR ANALYSIS

This section describes potential exposure to geological and seismic hazards that could result from implementation of the proposed Centinela Solar Energy Project (proposed project/Proposed Action) and alternatives. The following discussion addresses potential environmental impacts associated with implementation of the Proposed Action such as exposure to seismic activity, unstable soils, etc. Mitigation measures are identified to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the proposed Action and alternatives. A discussion of cumulative impacts related to geology and soil resources is included in Chapter 5.0.

The environmental setting relevant to geology and soil resources is presented in Section 3.6 of this EIR/EA. The existing conditions were evaluated based on their potential to be affected by construction activities, operation and maintenance activities, and decommissioning of the Proposed Action and/or an alternative to the Proposed Action. Construction, operation, and maintenance activities were identified based on analysis provided in the Applicant's Plan of Development (CSE, 2011e), as discussed in Chapter 2.0. Impacts to geology and soil resources were identified based on the findings of the Preliminary Geotechnical Investigation Report prepared by Landmark Consulting, Inc. (Landmark, 2011).

4.6.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts would occur if the Proposed Action or an alternative is exposed to potential geologic, soils and/or seismic hazards during construction, operation and maintenance, or decommissioning. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.6.2.1 CEQA Significance Criteria

The significance criteria listed below were used to determine if the proposed project/Proposed Action would be subject to any impacts resulting from geology and soils conditions. These criteria are the same as the significance criteria for Geology and Soils listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative would experience a significant impact if the project would:

1) 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.
2) Result in substantial soil erosion or loss of topsoil.
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.
4) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1994), creating substantial risk to life or property.
5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

4.6.2.2 Issues Scoped Out as Part of the Initial Study

Several criteria were eliminated from further evaluation as part of the Initial Study. Criteria 1-i and 1-iv were scoped out as part of the Initial Study. Criterion 1-i was eliminated because the proposed project site is not located within a State of California, Alquist-Priolo Earthquake Fault Zone. In addition, the hazard of landslide on the project site is unlikely due to the regional planar topography as identified in the Seismic and Public Safety Element of the County of Imperial General Plan. Thus, no impact is identified for criterion 1-iv and these issue areas are not discussed further in this EIR/EA.

Also note that corrosive soils were identified in the Preliminary Geotechnical Investigation Report (Appendix E of this EIR/EA) and are discussed as part of Criterion 4.

4.6.2.3 NEPA Requirements

The CEQA Criteria identified above also serve to fulfill the NEPA Requirement of a basis for analysis to evaluate geology and soils effects associated with the Proposed Action and Alternatives 1, 2, 3, and 4.

4.6.3 ENVIRONMENTAL CONSEQUENCES

4.6.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

The project site (which includes the CSE Facility site and Gen-tie Line corridor) is relatively flat with elevations on the CSE Facility site averaging 20 to 25 feet below mean sea level (GS Lyon, 2010b, 2011a). Elevations across the private parcels of the Gen-tie Line corridor range from mean sea level on the western-most parcel to 10-feet below mean sea level on the eastern parcel near the CSE Facility substation (GS Lyon, 2011b). Minimal grading is expected due to the flat topography of the site and the current topographic features of the project site will generally be retained.

Excavation will be required for activities such as trenching for underground wiring and cables, for placing electric poles, preparing equipment pads and for common services facilities. According to the Preliminary Geotechnical Investigation (Landmark, 2011), the main geology and soils hazards include potential for ground shaking, liquefaction, and expansive soils. Direct (e.g. ground shaking, liquefaction) and indirect impacts (e.g. settlement of foundations) could occur in association with these hazards.

Ground Shaking

The project site is located in the seismically active Imperial Valley of Southern California. Based on its location, the site is considered to be subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Direct impacts to the site could occur from strong seismic ground shaking. Indirect impacts could occur in the form of damage to equipment that would require replacement. Mitigation Measure GS-1 would reduce the potential effects of ground shaking to structures on the project site by requiring design in compliance with the California Building Code (CBC) standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design.

Liquefaction/Unstable Soils

Liquefaction is a potential design consideration because of saturated sandy substrata under the CSE Facility and the Gen-tie Line route (Landmark, 2011). Soils within the CSE Facility site and Gen-tie Line route include saturated silts and silty sands that could liquefy. Moreover, liquefaction can occur within isolated silt and sand layers below groundwater. The likely triggering mechanism for liquefaction appears to be strong ground shaking associated with rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6).

Settlements within the CSE Facility site are estimated to be about 1 to 3 inches should liquefaction occur. Liquefaction induced settlement occurring on the Gen-tie Line route has not been determined and will require a site specific geotechnical investigation (Landmark, 2011, p. 9).

Based on the thickness of the overlying un-liquefiable soil in the CSE Facility area, liquefaction induced ground rupture or sand boil formation (a sand boil is a conical pile of sand formed by the upward flow of groundwater caused by excess pore water pressures created during strong ground shaking) is not likely. Sand boils are not inherently damaging by themselves but are an indicator that liquefaction has happened below the surface. Liquefaction induced lateral spreading is not expected to occur on the CSE Facility portion of the project site due to the planar topography, except adjacent to irrigation canals and drainage (Landmark, 2011, p. 9).

Differential settlement impacts on PV module piles and inverter enclosures are anticipated to be small and not result in loss of integrity or functionality of these structures (Landmark, 2011). Likewise, if monopole transmission structures are planned for the Gen-tie Line, it is unlikely that small settlements would adversely affect the integrity of the structures. However, the O&M building proposed for the CSE Facility site would be sensitive to differential settlement due to liquefaction. Thus, direct impacts could occur in association with differential settlement. Mitigation measures GS-2 (geotechnical report for Gen-tie Line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be effective to reduce impacts and avoid indirect impacts associated with repairs or replacement of facilities damaged by differential settlement.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to the Proposed Action.

Expansive Soils

Soils on the CSE Facility site predominately consist of clays with imbedded silts and sandy silts along the proposed Gen-tie Line route generally consist of inter-bedded sands, silts and clays of varying thickness and densities. The native surface clays within the agricultural lands exhibit high to very high swell potential when tested according to the Uniform Building Code Standard 18-2 methods. The clay is expansive when wetted and can shrink with moisture loss (drying). Causes for soil saturation include landscape irrigation, broken utility lines, or capillary rise in moisture upon sealing the ground surface to evaporation (Landmark, 2011, p.7). Moisture losses can occur with lack of landscape watering, lose proximity of structures to downslopes and root system moisture extraction from deep rooted shrubs and trees placed near the foundations. The solar field and Gen-tie Line structures could be subject to direct impacts resulting from potential swelling forces and reduction in soil strength resulting from saturation. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) implemented during project construction would reduce direct impacts associated with expansive soils. Likewise, indirect impacts associated with repairs or replacement of facilities damaged by expansive soils would be avoided.

Septic Systems

The project site and surrounding areas are rural and not served by municipal wastewater. Rural residences in this portion of the County use septic systems for sanitary waste. The proposed project is underlain by 11 soil types (refer to Table 3.6-3 in Section 3.6). Clay soils with high to very high expansion are present throughout the CSE Facility site. These soils are non-absorptive and provide for poor

infiltration and drainage. However, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of these soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Under this scenario, the tank would pumped out on a periodic or as-needed basis and the waste would be transported and disposal of at a licensed sanitary waste treatment facility. Therefore, no direct or indirect impacts to soil capability with regard to supporting septic systems would occur in association with the Proposed Action.

Operations and Maintenance

Operation and maintenance activities that would affect geology and soils include site preparation and trenching. Minor site grading activities could lead to erosion and loss of topsoil. However, the generally flat topography of the project site and the low average annual precipitation for the area would reduce the likelihood of substantial erosion and loss of topsoil. Daily operations and routine maintenance (such as PV panel washing one to four times per year) would not alter the drainage patterns on-site, and would not lead to a substantial increase in erosion or loss of topsoil. Any surface water runoff resulting from permanent project features is not anticipated to influence surface runoff in a manner which would result in erosion or loss of topsoil.

Once installed, operation of the septic system would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. No direct or indirect impacts to geology and soils would occur during operation of the Proposed Action.

Decommissioning

The generating facilities' useful operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When the project reaches the end of its operational life, the components will be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4-feet below ground level and demolished and driven piles will be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed. Gravel roads will be removed and the material either used on site for fill or removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.

The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan would be implemented prior to the termination of the right-of-way grant from the BLM which would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Therefore, no direct or indirect impacts would result in association with decommissioning the Proposed Action.

B. CEQA Significance Determination

Construction

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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 the seismically active Imperial Valley of Southern California. Based on its location, the site is considered to be subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Exposure of the site to strong seismic ground shaking is considered a potentially significant impact under CEQA for the Proposed Action. Mitigation Measure GS-1 requires structures to be designed in compliance with CBC standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design. Implementation of Mitigation Measure GS-1 would reduce impacts associated with ground shaking to less than significant under CEQA.

Liquefaction/Unstable Soils

Soils within the CSE Facility site and Gen-tie Line route include saturated silts and silty sands that could liquefy. The likely triggering mechanism for liquefaction appears to be strong ground shaking associated with rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6). The O&M building proposed for the CSE Facility site would be sensitive to differential settlement caused by liquefaction. This is considered a potentially significant impact under CEQA. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be implemented at the time of project construction to reduce liquefaction impacts to less than significant under CEQA for the Proposed Action.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to the Proposed Action.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

Disturbance associated with site preparation activities leaves soils vulnerable to detachment by wind, resulting in net loss, or displacement. Construction soil erosion impacts are considered potentially significant short-term impacts under CEQA. However, erosion would be controlled on-site in accordance

with County standards including preparation, review and approval of a grading plan by the County Engineer; implementation of a dust control plan (Rule 801); and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. These actions would mitigate the potential soil erosion impact to a level less than significant under CEQA for the Proposed Action.

Expansive and Corrosive Soils

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

Expansive Soils

Soils on the CSE Facility site predominately consist of clays with imbedded silts and sandy silts. Soils along the proposed Gen-tie Line route generally consist of inter-bedded sands, silts and clays of varying thickness and densities. The native surface clays within the agricultural lands exhibit high to very high swell potential when tested according to the Uniform Building Code Standard 18-2 methods. The solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Exposure of proposed structures to expansive soils on the project site is considered a potentially significant impact under CEQA. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) would reduce impacts associated with expansive soils. These measures would be implemented as part of project construction. Therefore, expansive soils impacts would be considered less than significant under CEQA for the Proposed Action.

Corrosive Soils

The native soils of the CSE Facility site have severe levels of sulfate ion concentration, generally ranging between 3,300 and 6,500 parts per million (ppm). Sulfate ions in high concentrations can attack cement material in concrete causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils has moderate to very severe levels of chloride ion concentration, generally ranging between 200 and 2,900 ppm. Chloride ions can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electro-chemical corrosion processes. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA. Mitigation Measures GS-5 and GS-6 would reduce the potential damage to foundations as a result of corrosion caused by soil chemistry through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA. Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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 proposes to collect wastewater from sinks and toilets located in the operations and maintenance building and convey the waste stream to an on-site sanitary waste septic system and leach field. Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. The septic system would be engineered based on on-site soil characteristics, and designed and installed in compliance with County Environmental Health Department

standards. Therefore, impacts to soil ability to support the use of septic tanks or alternative wastewater disposal systems are considered less than significant under CEQA for the Proposed Action.

Operations and Maintenance

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Operation and maintenance of the proposed project would place the Proposed Action in a seismically active region on soils considered unstable. This is considered a potentially significant impact under CEQA. However, the project would be designed in accordance with all applicable building codes and standards (e.g. the California Building Code) as well as recommendations identified in the Preliminary Geotechnical Report, including the recommendation that detailed geotechnical investigations be performed based on final project design. Compliance with these recommendations, as well as mitigation measures GS-1 (require that the project be designed in compliance with the California Building Code (CBC) standards and recommendations provided in the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations on the final project design), GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) would reduce potential impacts associated with seismic hazards and unstable soils to less than significant levels under CEQA for the Proposed Action

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

During operation, soil erosion and sedimentation will be controlled in accordance with the General Industrial Permit and Best Management Practices (BMPs) included as part of the Storm Water Pollution Prevention Plan (SWPPP). Compliance with the provisions of the General Industrial Permit and BMPs (e.g., use of pervious surfaces, containment for chemical storage, retention/detention basins, etc.) identified in the SWPPP would serve as mitigation for erosion that may occur during operations. Therefore, impacts associated with erosion during operation are considered less than significant under CEQA.

Expansive and Corrosive Soils

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

Expansive Soils

The solar field and Gen-tie Line structures are located in areas that could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. This is considered a potentially significant impact under CEQA. However, siting building foundations, concrete flatwork, and asphaltic

concrete pavement on expansive soils is addressed through compliance with the California Building Code, as well as the mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) would reduce direct impacts associated with expansive soils to less than significant levels for the Proposed Action. Likewise, indirect impacts associated with repairs or replacement of facilities damaged by expansive soils would be avoided.

Corrosive Soils

The native soils of the CSE Facility site have severe levels of sulfate ion concentration that can attack cement material in concrete causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils have moderate to very severe levels of chloride ion concentration, which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA. However, mitigation measures GS-5 and GS-6 address corrosivity through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of the Proposed Action.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

Once installed, operation of the septic system, or alternative waste disposal system, would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. Therefore, impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems is considered less than significant under CEQA for the Proposed Action.

Decommissioning

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Decommissioning of the proposed project would eliminate exposure of the project to seismic risk because all project infrastructure would be dismantled and removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour. Therefore, no impacts associated with seismic risk or unstable soils would occur under CEQA during decommissioning of the Proposed Action.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

Soil erosion and sedimentation during decommissioning is anticipated to be controlled in accordance with the Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (currently Order No. 97-03-DWQ; NPDES No. CAS000001, referred to herein as the "General Industrial Permit"). Compliance with the provisions of the General Industrial Permit and BMPs identified in the SWPPP would serve as mitigation for erosion that may occur during decommissioning of the Proposed Action. Therefore, soil erosion impacts would be considered less than significant under CEQA during decommissioning of the Proposed Action.

Expansive and Corrosive Soils

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

Expansive Soils

Project decommissioning would result in the dismantling and removal of all infrastructure constructed as part of the project. The solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) would be removed and no longer be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Thus, following decommissioning the Proposed Action, no impacts resulting from exposure to expansive soils would occur under CEQA.

Corrosive Soils

All concrete foundations (if used for poles and towers) will be removed to a depth of at least 4-feet below ground level and demolished. Likewise, other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed as part of decommissioning. The site would be reclaimed for agricultural uses and therefore no new structures with concrete foundations would be constructed on the site. Therefore, no impacts associated with corrosive soils would occur under CEQA in association with decommissioning the Proposed Action.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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 on-site septic system would be removed as part of decommissioning activities. Therefore, no impact to soil capability to support septic tanks or alternative wastewater disposal systems would occur under CEQA in association with decommissioning the Proposed Action.

4.6.3.2 Alternative 1- Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the

segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

The project site (which includes the CSE Facility site and Gen-tie Line corridor) for Alternative 1 is identical to the Proposed Action. The site is relatively flat and accordingly will require minimal grading. Like the Proposed Action, Alternative 1 will require excavation and trenching for underground wiring and cables, placing electric poles, preparing equipment pads and for the common services facilities (O&M building, septic system, parking lot, etc). According to the Preliminary Geotechnical Investigation (Landmark, 2011), the main geology and soils hazards include potential for ground shaking, liquefaction, and expansive soils.

Ground Shaking

As with the Proposed Action, Alternative 1 would be subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1). Thus, direct impacts to Alternative 1 could occur from strong seismic ground shaking. Indirect impacts could occur in the form of damage to equipment that would require replacement. Mitigation Measure GS-1 would reduce the potential effects of ground shaking to structures on the project site by requiring design in compliance with California Building Code (CBC) standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design.

Liquefaction/Unstable Soils

As with the Proposed Action, liquefaction is a potential design consideration for Alternative 1 because of saturated sandy substrata under the CSE Facility and the Gen-tie Line route (Landmark, 2011). Liquefaction could on the project site could be triggered from strong ground shaking associated with rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6). Should liquefaction occur, settlement within the CSE Facility site is estimated to be approximately 1 to 3 inches. Liquefaction induced settlement occurring on the Gen-tie Line route has not been determined and will require a site specific geotechnical investigation (Landmark, 2011, p. 9).

Based on the thickness of the overlying un-liquefiable soil in the CSE Facility area, liquefaction induced ground rupture or sand boil formation (a sand boil is a conical pile of sand formed by the upward flow of groundwater caused by excess pore water pressures created during strong ground shaking) is not likely. Sand boils are not inherently damaging by themselves but are an indicator that liquefaction has happened below the surface. Liquefaction induced lateral spreading is not expected to occur on the CSE Facility portion of the site due to the planar topography, except adjacent to irrigation canals and drainages (Landmark, 2011, p. 9).

Differential settlement impacts on PV module piles and inverter enclosures are anticipated to be small and not result in loss of integrity or functionality of these structures (Landmark, 2011). Likewise, if monopole transmission structures are planned for the Gen-tie Line of Alternative 1, it is unlikely that small settlements would adversely affect the integrity of the structures. However, as with the Proposed Action, the O&M building proposed for the CSE Facility site as part of Alternative 1 would be sensitive to differential settlement due to liquefaction which represents a direct impact. Mitigation measures GS-2 (ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation

design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be effective to reduce impacts and avoid indirect impacts associated with repairs or replacement of facilities damaged by differential settlement for the Proposed Action as well as Alternative 1.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to the Proposed Action.

Expansive Soils

Soils on the CSE Facility site predominately consist of clays with imbedded silts and sandy silts. Soils along the proposed Gen-tie Line route generally consist of inter-bedded sands, silts and clays of varying thickness and densities. Based on these conditions, the solar field and Gen-tie Line structures proposed as part of Alternative 1 could be subject to direct impacts resulting from potential swelling forces and reduction in soil strength resulting from saturation. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) implemented during project construction would reduce direct impacts associated with expansive soils for Alternative 1. Likewise, indirect impacts associated with repairs or replacement of facilities damaged by expansive soils would be avoided.

Septic Systems

The project site and surrounding areas are rural and not served by municipal wastewater. Clay soils which make up a portion of the project site are non-absorptive and provide for poor infiltration and drainage. However, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of clay soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Under this scenario, the tank would pumped out on a periodic or as-needed basis and the waste would be transported and disposal of at a licensed sanitary waste treatment facility. Therefore, no direct or indirect impacts to soil capability with regard to supporting septic systems would occur in association with Alternative 1.

Operations and Maintenance

Operation and maintenance activities that would affect geology and soils include site preparation and trenching. Minor site grading activities could lead to erosion and loss of topsoil. However, the generally flat topography of the project site and the low average annual precipitation for the area would reduce the likelihood of substantial erosion and loss of topsoil. Daily operations and routine maintenance (such as PV panel washing one to four times per year) would not alter the drainage patterns on-site, and would not lead to a substantial increase in erosion or loss of topsoil. Any surface water runoff resulting from permanent project features is not anticipated to influence surface runoff in a manner which would result in erosion or loss of topsoil during operation and maintenance of Alternative 1.

Once installed, operation of the septic system would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. No direct or indirect impacts to geology and soils would occur during operation of the Proposed Action.

Decommissioning

The generating facilities' useful operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When the project reaches the end of its operational life, the components will be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4-feet below ground level and demolished and driven piles will be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed. Gravel roads will be removed and the material either used on site for fill or removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.

It is anticipated that the Best Management Practices (BMPs) and stipulations developed reduce erosion for construction activities (refer to Table 2.0-6 in Chapter 2.0) would also be applied to similar activities during decommissioning. A decommissioning plan including BMPs to address erosion would be implemented prior to the termination of the right-of-way grant from the BLM. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Therefore, no direct or indirect impacts would result in association with decommissioning Alternative 1.

B. CEQA Significance Determination

Construction

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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 for Alternative 1 is identical to the Proposed Action and is located in the seismically active Imperial Valley of Southern California. Based on its location, the site would be subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Impacts associated with exposure of the site to strong seismic ground shaking are considered a potentially significant impact under CEQA for Alternative 1.

Liquefaction/Unstable Soils

As previously described for the Proposed Action, the O&M building proposed for the CSE Facility site would be sensitive to differential settlement. Soils within the CSE Facility site and Gen-tie Line route include saturated silts and silty sands that could liquefy as a result of strong ground shaking caused by rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6) and result in differential settlement. This is considered a potentially significant impact

under CEQA for Alternative 1. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be implemented at the time of project construction to reduce liquefaction impacts to less than significant under CEQA for Alternative 1.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to the Alternative 1.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

As with the Proposed Action, disturbance associated with site preparation activities for Alternative 1 would leave soils vulnerable to detachment by wind, resulting in net loss, or displacement. Construction soil erosion impacts are considered potentially significant short-term impacts under CEQA. However, erosion would be controlled on-site in accordance with County standards including preparation, review and approval of a grading plan by the County Engineer; implementation of a dust control plan (Rule 801); and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. These actions would mitigate the potential soil erosion impact to a level less than significant under CEQA for Alternative 1.

Expansive and Corrosive Soils

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

Expansive Soils

Areas covered by both the Proposed Action and Alternative 1 are identical. The solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Exposure of proposed structures to expansive soils is considered a potentially significant impact under CEQA for Alternative 1. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) would reduce impacts associated with expansive soils. These measures would be implemented as part of construction. Therefore, expansive soils impacts would be considered less than significant under CEQA for Alternative 1.

Corrosive Soils

As with the Proposed Action, the native soils of the CSE Facility site for Alternative 1 have severe levels of sulfate ion concentration and moderate to very severe levels of chloride ion concentration. The presence of these ions can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electro-chemical corrosion processes. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA for Alternative 1. Mitigation Measures GS-5 and GS-6 would reduce the potential damage to foundations as a result of corrosion caused by soil chemistry through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

Like the Proposed Action, Alternative 1 proposes to collect wastewater from sinks and toilets located in the operations and maintenance building and convey the waste stream to an on-site sanitary waste septic system and leach field. Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. The septic system would be engineered based on on-site soil characteristics, and designed and installed in compliance with County Environmental Health Department standards. Therefore, impacts to soil ability to support the use of septic tanks or alternative wastewater disposal systems are considered less than significant under CEQA for Alternative 1.

Operations and Maintenance

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Operation and maintenance of the proposed project would place Alternative 1 in a seismically active region on soils considered unstable. This is considered a potentially significant impact under CEQA. However, the project would be designed in accordance with all applicable building codes and standards (e.g. the California Building Code) as well as recommendations identified in the Preliminary Geotechnical Report, including the recommendation that detailed geotechnical investigations be performed based on final project design. Compliance with these recommendations, as well as mitigation measures GS-1 (require that the project be designed in compliance with the California Building Code (CBC) standards and recommendations provided in the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations on the final project design), GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) would reduce potential impacts associated with seismic hazards and unstable soils to less than significant levels under CEQA for Alternative 1.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

During operation, soil erosion and sedimentation will be controlled in accordance with the General Industrial Permit. Compliance with the provisions of the General Industrial Permit and BMPs identified in the SWPPP would serve as mitigation for erosion that may occur during operations. Therefore, impacts associated with erosion during operations and maintenance are considered less than significant under CEQA for Alternative 1.

Expansive and Corrosive Soils

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

Expansive Soils

As with the Proposed Action, the solar field and Gen-tie Line structures proposed as part of Alternative 1 are located in areas that could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. This is considered a potentially significant impact under CEQA. However, siting building foundations, concrete flatwork, and asphaltic concrete pavement on expansive soils is addressed through compliance with the California Building Code, as well as the mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion). Therefore, mitigation measures would reduce expansive soils impacts to less than significant during operations and maintenance under CEQA for Alternative 1.

Corrosive Soils

The native soils of the CSE Facility site have severe levels of sulfate ion concentration that can attack cement material in concrete causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils have moderate to very severe levels of chloride ion concentration, which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA. However, mitigation measures GS-5 and GS-6 address corrosivity through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of Alternative 1. Mitigation Measures GS-5 and GS-6 would reduce potential damage to foundations caused by corrosive soils through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

Once installed, operation of the septic system, or alternative waste disposal system, would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. Therefore, impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems is considered less than significant under CEQA for Alternative 1.

<u>Decommissioning</u>

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Decommissioning of Alternative 1 would eliminate exposure of the project to seismic risk because all project infrastructure would be dismantled and removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour. Therefore, impacts associated with seismic risk or unstable soils would be eliminated relative to Alternative 1 following decommissioning. No impact would occur under CEQA.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

Soil erosion and sedimentation during decommissioning is anticipated to be controlled in accordance with the Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (currently Order No. 97-03-DWQ; NPDES No. CAS000001, referred to herein as the "General Industrial Permit"). Compliance with the provisions of the General Industrial Permit and BMPs identified in the SWPPP would serve as mitigation for erosion that may occur during decommissioning of the Alternative 1. Therefore, impacts associated with erosion during decommissioning are considered less than significant under CEQA.

Expansive and Corrosive Soils

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

Expansive Soils

Decommissioning would result in the dismantling and removal of all infrastructure constructed as part of Alternative 1. The solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) would be removed and no longer be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Thus, following decommissioning of Alternative 1, no impacts resulting from exposure to expansive soils would occur under CEQA.

Corrosive Soils

As part of decommissioning, all concrete foundations (if used for poles and towers) will be removed to a depth of at least 4-feet below ground level and demolished. Likewise, other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed as part of decommissioning. The site would be reclaimed for agricultural uses and therefore no new structures with concrete foundations would be constructed on the site. Following decommissioning, no impacts under CEQA related to corrosive soils would occur in association with Alternative 1.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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 on-site septic system would be removed as part of decommissioning activities for Alternative 1. Therefore, no impacts to soil capability to support septic tanks or alternative wastewater disposal systems would occur under CEQA in association with decommissioning Alternative 1.

4.6.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

As with the Propose Action, minimal grading is expected for Alternative 2 due to the flat topography of the site. Current topographic features of the project site will generally be retained with approximately 335 fewer acres affected by Alternative 2 compared to the Proposed Action.

Excavation will be required for activities such as trenching for underground wiring and cables, for placing electric poles, preparing equipment pads and for common services facilities. According to the Preliminary Geotechnical Investigation (Landmark, 2011), the main geology and soils hazards include potential for ground shaking, liquefaction, and expansive soils.

Ground Shaking

Although reduced in size from the Proposed Action, Alternative 2 is also subject to strong ground shaking from potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Direct impacts to the site could occur from strong seismic ground shaking. Likewise, indirect impacts could occur in the form of damage to equipment that would require replacement. Mitigation Measure GS-1 would reduce the potential effects of ground shaking to structures on the project site by requiring design in compliance with the California Building Code (CBC) standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design.

Liquefaction/Unstable Soils

While approximately 335 acres smaller than the Proposed Action, the CSE Facility site and Gen-tie Line route for Alternative 2 also include saturated silts and silty sands that could liquefy. Specifically, liquefaction within isolated silt and sand layers below groundwater could be triggered by strong ground shaking resulting from rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6).

As with the Proposed Action, settlements within the CSE Facility site of Alternative 2 are estimated to be approximately 1 to 3 inches should liquefaction occur. Liquefaction induced settlement occurring on the Gen-tie Line route has not been determined and will require a site specific geotechnical investigation (Landmark, 2011, p. 9).

Based on the thickness of the overlying un-liquefiable soil in the CSE Facility area, liquefaction induced ground rupture or sand boil formation (a sand boil is a conical pile of sand formed by the upward flow of groundwater caused by excess pore water pressures created during strong ground shaking) is not likely. Liquefaction induced lateral spreading is not expected to occur due to the planar topography, except adjacent to irrigation canals and drainage (Landmark, 2011, p. 9).

As with the Proposed Action, differential settlement impacts on PV module piles and inverter enclosures for Alternative 2 are anticipated to be small. No loss of integrity or functionality of these structures would result from differential settlement (Landmark, 2011). Likewise, if monopole transmission structures are planned for the Gen-tie Line, it is unlikely that small settlements would adversely affect the integrity of the structure. However, the O&M building proposed for the CSE Facility site would be sensitive to differential settlement due to liquefaction. Thus, direct impacts could occur in association with differential settlement. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be effective to reduce impacts avoid indirect impacts associated with repairs or replacement of facilities damaged by differential settlement for Alternative 2.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to Alternative 2.

Expansive Soils

As with the Proposed Action, soils on the CSE Facility site of Alternative 2 predominately consist of clays with imbedded silts and sandy silts. Soils along the proposed Gen-tie Line route generally consist of interbedded sands, silts and clays of varying thickness and densities. The solar field for Alternative 2, though 335 acres smaller than the Proposed Action, and Gen-tie Line structures could be subject to direct impacts resulting from potential swelling forces and reduction in soil strength resulting from saturation. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) implemented during project construction would reduce direct impacts associated with expansive soils for Alternative 2. Likewise, indirect impacts associated with repairs or replacement of facilities damaged by expansive soils would be avoided.

Septic Systems

The project site and surrounding areas are rural and not served by municipal wastewater. Similar to the Proposed Action, the CSE Facility site portion of Alternative 2 is underlain by clay soils with high to very high expansion. These soils are non-absorptive and provide for poor infiltration and drainage. However, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of these soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Therefore, no direct or indirect impacts to soil capability with regard to supporting septic systems would occur in association with Alternative 2.

Operations and Maintenance

Operation and maintenance activities that would affect geology and soils for Alternative 2 include site preparation and trenching. Minor site grading activities could lead to erosion and loss of topsoil. However, the generally flat topography of the project site and the low average annual precipitation for the area would reduce the likelihood of substantial erosion and loss of topsoil. Daily operations and routine maintenance of Alternative 2 (such as PV panel washing one to four times per year) would not alter the drainage patterns on-site, and would not lead to a substantial increase in erosion or loss of topsoil. Any surface water runoff resulting from permanent project features is not anticipated to influence surface runoff in a manner which would result in erosion or loss of topsoil.

Once installed, operation of the septic system would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. No direct or indirect impacts to geology and soils would occur during operation of Alternative 2.

Decommissioning

The generating facilities' useful operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When Alternative 2 reaches the end of its operational life, the components will be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4-feet below ground level and demolished and driven piles will be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed. Gravel roads will be removed and the material either used on site for fill or removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.

The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan implemented prior to termination of the right-of-way grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Therefore, no direct or indirect impacts would result in association with decommissioning Alternative 2.

B. CEQA Significance Determination

Construction

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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

Although 335 acres smaller than the Proposed Action, the Alternative 2 project site is also subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Impacts associated with exposure of the site to strong seismic ground shaking are considered a potentially significant impact under CEQA for Alternative 2. Mitigation Measure GS-1 requires structures to be designed in compliance with the California Building Code (CBC) standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design. Implementation of Mitigation Measure GS-1 would reduce impacts associated with ground shaking to less than significant under CEQA.

Liquefaction/Unstable Soils

As with the Proposed Action, soils within the CSE Facility site and Gen-tie Line route for Alternative 2 include saturated silts and silty sands that could liquefy in the event of strong ground shaking associated with rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6). The O&M building proposed for the CSE Facility site as part of Alternative 2 would be sensitive to differential settlement due to liquefaction. This is considered a potentially significant impact under CEQA. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be implemented at the time of project construction to reduce liquefaction impacts to less than significant under CEQA for Alternative 2.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to Alternative 2.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

As with the Proposed Action, disturbance associated with site preparation activities for Alternative 2 would leave soils vulnerable to detachment by wind, resulting in net loss, or displacement. Construction soil erosion impacts are considered potentially significant short-term impacts under CEQA. However, erosion would be controlled on-site in accordance with County standards including preparation, review and approval of a grading plan by the County Engineer; implementation of a dust control plan (Rule 801); and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. These actions would mitigate the potential soil erosion impact to a level less than significant under CEQA for Alternative 2.

Expansive and Corrosive Soils

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

Expansive Soils

As with the Proposed Action, the solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) proposed for Alternative 2 could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Exposure of proposed

structures to expansive soils on the project site is considered a potentially significant impact under CEQA. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) would reduce impacts associated with expansive soils. These measures would be implemented as part of project construction. Therefore, expansive soils impacts would be considered less than significant under CEQA for Alternative 2.

Corrosive Soils

As with the Proposed Action, the native soils of the CSE Facility site for Alternative 2 have severe levels of sulfate ion concentration which can attack cement material in concrete causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils has moderate to very severe levels of chloride ion concentration which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electro-chemical corrosion processes. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA for Alternative 2. However, mitigation measures GS-5 and GS-6 address corrosivity through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of Alternative 2. Mitigation Measures GS-5 and GS-6 would reduce potential damage to foundations caused by corrosive soils through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

As with the Proposed Action, Alternative 2 proposes an on-site sanitary waste septic system and leach field. Although a majority of the soils on the project site are considered potentially unstable and incapable of adequately supporting the use of septic tanks, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of site soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Therefore, impacts to soil ability to support the use of septic tanks or alternative wastewater disposal systems are considered less than significant under CEQA for Alternative 2.

Operations and Maintenance

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Operation and maintenance of the proposed project would place Alternative 2 in a seismically active region on soils considered unstable. This is considered a potentially significant impact under CEQA. However, the project would be designed in accordance with all applicable building codes and standards (e.g. the California Building Code) as well as recommendations identified in the Preliminary Geotechnical Report, including the recommendation that detailed geotechnical investigations be performed based on final project design. Compliance with these recommendations, as well as mitigation measures GS-1 (require that the project be designed in compliance with the California Building Code (CBC) standards and recommendations provided in the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations on the final project design), GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) would reduce potential impacts associated with seismic hazards and unstable soils to less than significant levels under CEQA for Alternative 2.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

As with the Proposed Action, during operation of Alternative 2 soil erosion and sedimentation will be controlled in accordance with the General Industrial Permit and BMPs (e.g., use of pervious surfaces, containment for chemical storage, retention/detention basins, etc.) included in the SWPPP. Therefore, impacts associated with erosion during operation are considered less than significant under CEQA for Alternative 2.

Expansive and Corrosive Soils

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

Expansive Soils

The solar field and Gen-tie Line structures are located in areas that could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. This is considered a potentially significant impact under CEQA. However, siting building foundations, concrete flatwork, and asphaltic concrete pavement on expansive soils is addressed through compliance with the California Building Code, as well as the mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion). Following implementation of applicable codes and mitigation, expansive soils would be considered less than significant under CEQA for Alternative 2.

Corrosive Soils

The native soils of the CSE Facility site have severe levels of sulfate ion concentration that can attack cement material in concrete, causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils have moderate to very severe levels of chloride ion concentration, which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA. However, mitigation measures GS-5 and GS-6 address corrosivity

through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of Alternative 2. Mitigation Measures GS-5 and GS-6 would reduce the potential damage to foundations as a result of corrosion caused by soil chemistry through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

Once installed, operation of the septic system, or alternative waste disposal system, would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. Therefore, impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems is considered less than significant under CEQA for Alternative 2.

Decommissioning

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Decommissioning of Alternative 2 would eliminate exposure of the project to seismic risk because all project infrastructure would be dismantled and removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour. Therefore, no impacts associated with seismic risk or unstable soils would occur under CEQA following decommissioning of the Alternative 2.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

Soil erosion and sedimentation during decommissioning is anticipated to be controlled in accordance with the General Industrial Permit and BMPs identified in the SWPPP would serve as mitigation for erosion that may occur during decommissioning of the Proposed Action. Therefore, impacts associated with erosion during decommissioning are considered less than significant under CEQA for Alternative 2.

Expansive and Corrosive Soils

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

Expansive Soils

Decommissioning of Alternative 2 would result in the dismantling and removal of all infrastructure constructed as part of the project. The solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) would be removed and no longer be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Thus, following decommissioning Alternative 2, no impacts resulting from exposure to expansive soils would occur under CEQA.

Corrosive Soils

All concrete foundations (if used for poles and towers) will be removed to a depth of at least 4-feet below ground level and demolished. Likewise, other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed as part of decommissioning. The site would be reclaimed for agricultural uses and therefore no new structures with concrete foundations would be constructed on the site. Therefore, no impacts resulting from corrosive soils would occur in association with decommissioning Alternative 2.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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 on-site septic system would be removed as part of decommissioning activities. Therefore, no impacts to soil capability to support septic tanks or alternative wastewater disposal systems would occur under CEQA in association with decommissioning Alternative 2.

4.6.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a “loop-in” to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus (“Ring Bus”) would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

As with the Propose Action, minimal grading is expected for Alternative 3, including the 450 foot by 350 foot electric switch yard. Excavation will be required for activities such as trenching for underground wiring and cables, for placing electric poles, preparing equipment pads and for common services facilities. According to the Preliminary Geotechnical Investigation (Landmark, 2011), the main geology and soils hazards include potential for ground shaking, liquefaction, and expansive soils.

Ground Shaking

Although reduced in size from the Proposed Action, Alternative 3 is also subject to strong ground shaking from potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Direct impacts to the site could occur from strong seismic ground shaking. Likewise, indirect impacts could occur in the form of damage to equipment that would require replacement.

Liquefaction/Unstable Soils

As with the Proposed Action, the CSE Facility site (including the 450 foot by 350 foot electric switch yard on the western edge of the CSE Facility site) and Gen-tie Line route for Alternative 3 also include saturated silts and silty sands that could liquefy. Specifically, liquefaction within isolated silt and sand layers below groundwater could be triggered by strong ground shaking resulting from rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6).

As with the Proposed Action, settlements within the CSE Facility site of Alternative 3 are estimated to be approximately 1 to 3 inches should liquefaction occur. Liquefaction induced settlement occurring on the Gen-tie Line route has not been determined and will require a site specific geotechnical investigation (Landmark, 2011, p. 9).

Based on the thickness of the overlying un-liquefiable soil in the CSE Facility area, liquefaction induced ground rupture or sand boil formation (a sand boil is a conical pile of sand formed by the upward flow of groundwater caused by excess pore water pressures created during strong ground shaking) is not likely. Liquefaction induced lateral spreading is not expected to occur due to the planar topography, except adjacent to irrigation canals and drainage (Landmark, 2011, p. 9).

As with the Proposed Action, differential settlement impacts on PV module piles and inverter enclosures for Alternative 3 are anticipated to be small. Similar impacts on equipment included as part of the Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house, communications systems) would be anticipated. No loss of integrity or functionality of these structures would result from differential settlement (Landmark, 2011). Likewise, if monopole transmission structures are planned for the Gen-tie Line, it is unlikely that small settlements would adversely affect the integrity of the structure. However, the O&M building proposed for the CSE Facility site would be sensitive to differential settlement due to liquefaction. Thus, direct impacts could occur in association with differential settlement. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be effective to reduce impacts

avoid indirect impacts associated with repairs or replacement of facilities damaged by differential settlement for Alternative 3.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to Alternative 3.

Expansive Soils

As with the Proposed Action, soils on the CSE Facility site of Alternative 3 predominately consist of clays with imbedded silts and sandy silts. Soils along the proposed Gen-tie Line route generally consist of inter-bedded sands, silts and clays of varying thickness and densities. The solar field, 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site, and Gen-tie Line tower structures could be subject to direct impacts resulting from potential swelling forces and reduction in soil strength resulting from saturation. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) implemented during project construction would reduce direct impacts associated with expansive soils for Alternative 3. Likewise, indirect impacts associated with repairs or replacement of facilities damaged by expansive soils would be avoided.

Septic Systems

The project site and surrounding areas are rural and not served by municipal wastewater. Similar to the Proposed Action, the CSE Facility site portion of Alternative 3 is underlain by clay soils with high to very high expansion. These soils are non-absorptive and provide for poor infiltration and drainage. However, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of these soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Therefore, no direct or indirect impacts to soil capability with regard to supporting septic systems would occur in association with Alternative 3.

Operations and Maintenance

Operation and maintenance activities that would affect geology and soils for Alternative 3 include site preparation and trenching. Minor site grading activities, including grading of the 450 foot by 350 foot electric switch yard area proposed as part of Alternative 3, could lead to erosion and loss of topsoil. However, the generally flat topography of the project site and the low average annual precipitation for the area would reduce the likelihood of substantial erosion and loss of topsoil. Daily operations and routine maintenance of Alternative 3 (such as PV panel washing one to four times per year) would not alter the drainage patterns on-site, and would not lead to a substantial increase in erosion or loss of topsoil. Any surface water runoff resulting from permanent project features is not anticipated to influence surface runoff in a manner which would result in erosion or loss of topsoil. As discussed in Section 4.11, Hydrology and Water Quality, soil erosion and sedimentation during construction will be controlled in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (currently Order No. 2010-0014-DWQ; NPDES No. CAS000002). Once installed, operation of the septic

system would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. No direct or indirect impacts to geology and soils would occur during operation of Alternative 3.

Decommissioning

The generating facilities' useful operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When Alternative 3 reaches the end of its operational life, the components will be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4-feet below ground level and demolished and driven piles will be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed. Gravel roads will be removed and the material either used on site for fill or removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.

The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the right-of-way grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Therefore, no direct or indirect impacts would result in association with decommissioning Alternative 3.

B. CEQA Significance Determination

Construction

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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

As with the Proposed Action, the Alternative 3 project site is also subject to strong ground shaking due to potential fault movements along the Imperial Fault, Superstition Hills Fault and Laguna Salada Fault (refer to Table 3.6-1 in Section 3.6). Impacts associated with exposure of the site to strong seismic ground shaking are considered a potentially significant impact under CEQA for Alternative 3. Mitigation Measure GS-1 requires structures to be designed in compliance with the California Building Code (CBC) standards, recommendations provided in the Preliminary Geotechnical Investigation Report (Landmark, 2011), and any subsequent geotechnical investigations on the final project design. Implementation of Mitigation Measure GS-1 would reduce impacts associated with ground shaking to less than significant under CEQA.

Liquefaction/Unstable Soils

As with the Proposed Action, soils within the CSE Facility site and Gen-tie Line route for Alternative 3 include saturated silts and silty sands that could liquefy in the event of strong ground shaking associated with rupture of the Imperial Fault, Laguna Salada Fault, and possibly the Cerro Prieto Fault (refer to Table 3.6-2 in Section 3.6). The O&M building proposed for the CSE Facility site as part of Alternative 3 would be sensitive to differential settlement due to liquefaction. This is considered a potentially significant impact under CEQA. Mitigation measures GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) are identified to address potential for liquefaction. These measures would be implemented at the time of project construction to reduce liquefaction impacts to less than significant under CEQA for Alternative 3.

Subsidence or collapse was not identified as a potential geologic issue in the Preliminary Geotechnical Report prepared for the project site (Landmark, 2011). As such, it is not discussed further with regard to Alternative 3.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

As with the Proposed Action, disturbance associated with site preparation activities for Alternative 3 would leave soils vulnerable to detachment by wind, resulting in net loss, or displacement. Construction soil erosion impacts are considered potentially significant short-term impacts under CEQA. However, erosion would be controlled on-site in accordance with County standards including preparation, review and approval of a grading plan by the County Engineer; implementation of a dust control plan (Rule 801); and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (discussed in Section 4.11, Hydrology and Water Quality). These actions would mitigate the potential soil erosion impact to a level less than significant under CEQA for Alternative 3.

Expansive and Corrosive Soils

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

Expansive Soils

As with the Proposed Action, the solar field and Gen-tie Line structures (building foundations, concrete flatwork, and asphaltic concrete pavement) proposed for Alternative 3 could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Alternative 3 also includes the additional feature of a 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. Exposure of proposed structures to expansive soils on the project site is considered a potentially significant impact under CEQA. However, mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion) would reduce impacts associated with expansive soils. These measures would be implemented as part of project construction. Therefore, expansive soils impacts would be considered less than significant under CEQA for Alternative 3.

Corrosive Soils

As with the Proposed Action, the native soils of the CSE Facility site for Alternative 3 have severe levels of sulfate ion concentration, which can attack cement material in concrete causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soil has moderate

to very severe levels of chloride ion concentration which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electro-chemical corrosion processes. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA for Alternative 3. However, mitigation measures GS-5 and GS-6 address corrosivity through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of Alternative 3. Mitigation Measures GS-5 and GS-6 would reduce the potential damage to foundations as a result of corrosion caused by soil chemistry through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

As with the Proposed Action, Alternative 3 proposes an on-site sanitary waste septic system and leach field. Although a majority of the soils on the project site are considered potentially unstable and incapable of adequately supporting the use of septic tanks, the Applicant has indicated that the soil conditions at the site would be suitable to support a septic system based on consultation with a local geotechnical contractor (White, 2011). An engineered septic system is expected to be designed and installed in compliance with County Environmental Health Department standards. This is consistent with the recommendation of the Preliminary Geotechnical Report which states that on-site sewage disposal systems and stormwater basins must be designed in consideration of site soil characteristics (Landmark, 2011).

Alternatively, the CSE Facility site may be designed to direct sanitary waste streams to an underground tank for storage. Therefore, impacts to soil ability to support the use of septic tanks or alternative wastewater disposal systems are considered less than significant under CEQA for Alternative 3.

Operations and Maintenance

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Operation and maintenance of the proposed project would locate Alternative 3 in a seismically active region on soils considered unstable. This is considered a potentially significant impact under CEQA. However, the project would be designed in accordance with all applicable building codes and standards (e.g. the California Building Code) as well as recommendations identified in the Preliminary Geotechnical Report, including the recommendation that detailed geotechnical investigations be performed based on

final project design. Compliance with these recommendations, as well as mitigation measures GS-1 (require that the project be designed in compliance with the California Building Code (CBC) standards and recommendations provided in the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations on the final project design), GS-2 (geotechnical report for gen-tie line, ground improvements such as deep soil mixing [cement] and vibro-compaction) and GS-3 (foundation design to withstand liquefaction during a seismic event) would reduce potential impacts associated with seismic hazards and unstable soils to less than significant levels under CEQA for Alternative 3.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

As with the Proposed Action, during operation of Alternative 3 soil erosion and sedimentation will be controlled in accordance with the General Industrial Permit and BMPs (e.g., use of pervious surfaces, containment for chemical storage, retention/detention basins, etc.) included in the SWPPP (refer to discussion in Section 4.11, Hydrology and Water Quality). Therefore, impacts associated with erosion during operation are considered less than significant under CEQA for Alternative 3.

Expansive and Corrosive Soils

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

Expansive Soils

The solar field, Ring Bus, and Gen-tie Line structures are located in areas that could be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. This is considered a potentially significant impact under CEQA. However, siting building foundations, concrete flatwork, and asphaltic concrete pavement on expansive soils is addressed through compliance with the California Building Code, as well as the mitigation measure GS-4 (replace expansive soils or condition soils to minimize expansion). Following implementation of applicable codes and mitigation, expansive soils would be considered less than significant under CEQA for Alternative 3.

Corrosive Soils

The native soils of the CSE Facility site have severe levels of sulfate ion concentration that can attack cement material in concrete, causing weakening of the cement matrix and eventual deterioration (Landmark, 2011). In addition, the native soils have moderate to very severe levels of chloride ion concentration, which can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Potential damage to foundations as a result of soil chemistry is considered a potentially significant impact under CEQA. However, mitigation measures GS-5 and GS-6 address corrosivity through concrete mixes and coating steel components with epoxy as a corrosion inhibitor. Implementation of these measures would reduce corrosive soils impacts to less than significant under CEQA during operations and maintenance of Alternative 3. Mitigation Measures GS-5 and GS-6 would reduce potential damage to foundations caused by corrosive soils through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Implementation of these measures would reduce impacts of corrosive soils to less than significant under CEQA.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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.

Once installed, operation of the septic system, or alternative waste disposal system, would not adversely impact soil resources as it would be placed in soils that are capable supporting this type of use. Therefore, impacts associated with soils incapable of supporting the use of septic tanks or alternative wastewater disposal systems is considered less than significant under CEQA for Alternative 3.

Decommissioning

Exposure to Seismic Risk/Unstable Soils

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

   ii. Strong seismic ground shaking;

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

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.

Decommissioning of Alternative 3 would eliminate exposure of the project to seismic risk because all project infrastructure would be dismantled and removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour. Therefore, no impacts associated with seismic risk or unstable soils would occur under CEQA following decommissioning of the Alternative 3.

Soil Erosion

2) Result in substantial soil erosion or loss of topsoil.

Soil erosion and sedimentation during decommissioning is anticipated to be controlled in accordance with the General Industrial Permit and BMPs identified in the SWPPP would serve as mitigation for erosion that may occur during decommissioning of the Proposed Action. Therefore, impacts associated with erosion during decommissioning are considered less than significant under CEQA for Alternative 3.

Expansive and Corrosive Soils

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

Expansive Soils

Decommissioning of Alternative 3 would result in the dismantling and removal of all infrastructure constructed as part of the project. The solar field, Ring Bus and Gen-tie Line structures (building foundations, concrete flatwork, asphaltic concrete pavement, H-frame undercrossing structures and 3-pole tubular structures) would be removed and no longer be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Thus, following decommissioning Alternative 3, no impacts resulting from exposure to expansive soils would occur under CEQA.

Corrosive Soils

All concrete foundations (if used for poles and towers) will be removed to a depth of at least 4-feet below ground level and demolished. Likewise, other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed as part of decommissioning. The site would be reclaimed for agricultural uses and therefore no new structures with concrete foundations would be constructed on the site. Therefore, no impacts resulting from corrosive soils would occur in association with decommissioning Alternative 3.

Soil Capability to Support Septic Tanks/Alternative Wastewater Disposal System

5) 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 on-site septic system would be removed as part of decommissioning activities. Therefore, no impacts to soil capability to support septic tanks or alternative wastewater disposal systems would occur under CEQA in association with decommissioning Alternative 3.

4.6.3.5 ALTERNATIVE 4 - NO ACTION/NO PROJECT ALTERNATIVE

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this Alternative, the proposed project would not be constructed. It would not be necessary for the BLM to grant a right-of-way and no CUP or variance would be required from Imperial County. Existing seismic hazards, unstable and expansive soils would remain unchanged. Alternative 4 would not require the use of a septic tank or alternative wastewater disposal system, as there would be no uses to generate wastewater. Therefore, direct or indirect impact associated with geology and soils would occur for Alternative 4.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts associated with geology and soils would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct or indirect impacts associated with geology and soils would occur and the site would remain in its existing condition.

B. CEQA Significance Determinations

Construction

Under Alternative 4, no impacts resulting from soil erosion or construction on expansive soils would occur. Thus, no impact associated with geology and soils would occur under CEQA in association with Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site. No facilities or equipment would be exposed to seismic hazards. Thus, no geology and soils impacts would occur with regard to operations and maintenance under CEQA in association with Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. No impacts to geology and soils under CEQA would occur.

4.6.4 MITIGATION MEASURES

GS-1 The Applicant shall implement the recommendations of the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations on the final project design regarding seismicity.

The project shall be engineered and constructed using earthquake resistant design and materials. Design of structures on the CSE Facility site and along the Gen-tie Line route shall comply with the latest edition of the California Building Code for a "Maximum Considered Earthquake" for Site Class D (stiff soil profile). The design shall incorporate the seismic coefficients provided in Section 2.4 of the Preliminary Geotechnical Investigation Report prepared by Landmark (2011). All geotechnical investigations shall be conducted and incorporated into project design prior to issuance of a building permit from the Imperial County Planning and Development Services, Building Division.

GS-2 A site specific geotechnical investigation shall be prepared for the Gen-tie Line route to determine potential for liquefaction induced settlement. The investigation shall be conducted prior to issuance of a building permit by the Imperial County Planning and Development Services, Building Division.

The Applicant shall implement the recommendations of the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations with regard to site preparation, building foundations and settlement, drilled piers, driven steel piles, Gen-tie Line foundations, building slabs on-grade. These recommendations shall be required as a condition of project approval by the Imperial County Planning and Development Services, Building Division.

Ground improvement methods shall be implemented to mitigate potential for liquefaction damage to structures on the CSE site and Gen-tie Line. Available methods include deep soil mixing (cement), vibro-compaction, vibro-replacement, geopiers, stone columns, compaction, grouting, deep dynamic compaction, deep foundation system, rigid mat foundations. All

recommendations and improvement methods shall be incorporated into final building design prior to issuance of building permit by the Imperial County Planning and Development Services, Building Division.

GS-3 To reduce potential for differential settlement upon liquefaction, final foundation design shall require structures to be founded on either: 1) grade-beam footings to tie floor slabs and isolated columns to continuous footings (conventional or post-tensioned); or, 2) structural flat-plate mats, either conventionally reinforced or tied with post-tensioned tendons. Foundation design shall be incorporated into final building plans prior to issuance of building permit by the Imperial County Planning and Development Services, Building Division.

GS-4 The following actions shall be required as conditions of project approval by the Imperial County Planning and Development Services, Building Division**:**

- Expansive silts/clays on the CSE Facility and Gen-tie Line route shall be replaced.
- Subgrade soils shall be conditioned to a minimum of 5 percent above optimum moisture (ASTM D1557) within the drying zone of surface soils
- Foundations shall be designed to resists shrink/swell forces of silt/clay soil.

GS-5 The following actions shall be required as conditions of project approval by the Imperial County Planning and Development Services, Building Division**:**

- The Applicant shall implement the recommendations of the Preliminary Geotechnical Investigation Report and any subsequent geotechnical investigations based on final project design with regard to concrete mixes and corrosivity.
- The project shall comply with the recommendations of the California Building Code regarding concrete subjected to moderate sulfate concentrations.

GS-6 The following actions shall be required as conditions of project approval by the Imperial County Planning and Development Services, Building Division**:**

- Steel pipes coated with epoxy corrosion inhibitors, asphaltic and epoxy coatings, cathodic protection or encapsulating the portion of the pipe lying above groundwater with a minimum of 3-inches of densely consolidated concrete shall be sued to mitigate corrosion of steel. No unprotected metallic water pipes or conduits shall be placed below building foundations.
- Foundations designs shall provide a minimum concrete cover of 3-inches around steel reinforcing or embedded components (anchor bolts, etc.) exposed to native soil or landscape water (to 18 inches above grade). If the 3-inch concrete edge distance cannot be achieved, all embedded steel components (anchor bolts, etc.) shall be epoxy dipped for corrosion protection or a corrosion inhibitor and a permanent waterproofing membrane shall be placed along the exterior face of the exterior footings. Hold-down straps shall not be used at foundation edges due to corrosion of metal at its protrusion form the slab edge. Additionally, the concrete shall be thoroughly vibrated at footings during placement to decrease the permeability of the concrete.
- Copper piping within 18-inches of ground surface shall be wrapped with two layers of 10 millimeter plumbers' tape or sleeved with polyvinylchloride (PVC) piping to prevent contact with soil. The trap primer shall be completely encapsulated in a PVC sleeve and Type K copper should be used if polyethylene tubing cannot be used. Fire protection piping (risers) shall be placed outside of the building foundation.

Mitigation measures GS-1, GS -2, GS -3, GS-4 and GS -5 would also apply to Alternative 1 – Double Circuit Gen-tie Line Structures, Alternative 2- Reduced CSE Facility Site and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Continued agricultural operations and existing geologic and soil conditions would remain unchanged under Alternative 4 – No Action/No Project. No mitigation is required in association with Alternative 4.

4.6.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of mitigation measure GS-1 would reduce the potential effects of ground shaking to structures on the project site by designing the project in compliance with the California Building Code (CBC) standards and recommendations provided in the Preliminary Geotechnical Investigation Report any subsequent geotechnical investigations on the final project design. Implementation of GS-2 and GS-3 would reduce the potential effects of liquefaction-induced settlements by making the structures more able to withstand differential settlement through ground improvements such as deep soil mixing (concrete) and vibro-compaction. Implementation of GS-4 would reduce the potential effects of liquefaction-induced settlements by making the structures more able to withstand differential settlement though foundation design. Implementation of GS-5 and GS-6 would reduce the potential damage to foundations as a result of corrosive soils/soil chemistry through compliance with the CBC and use of protective coatings (epoxy) for buried steel components. Impacts after mitigation would be reduced to less than significant for the Proposed Action, Alternative 1, Alternative 2 and Alternative 3.

SECTION 4.7
CULTURAL RESOURCES

4.7 CULTURAL RESOURCES

This section provides a background discussion of the methodology for the analysis, CEQA significance/NEPA requirements, environmental consequences, cumulative impacts, mitigation measures, and residual impacts after mitigation. The methodology for the analysis discussion focuses on the field surveys, reports prepared, and Native American participation, The CEQA significant/NEPA requirements presents the federal and state requirements for determining impact significance. The environmental consequences section includes an impact analysis for each of the alternatives. The cumulative impacts discussion also includes an impact analysis for each alternative, although this analysis focuses on the incremental impacts that exist when added to other closely related past, present, and reasonably foreseeable probable future projects. Mitigation measures are presented as well as the residual impacts after mitigation are implemented.

Information contained in this section is summarized from four reports prepared for the project site: *Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area, Imperial County, California* prepared by Laguna Mountain Environmental, Inc. (Laguna, 2011); *Inventory Report of the Cultural Resources within the Centinela Solar Energy Gen-tie Line, Imperial County, California* prepared by kp environmental, LLC (kp, 2011a); *Addendum Letter Report for the Centinela Solar Energy Gen-tie Line Cultural Resources Inventory Report, Imperial County, California* (kp, 2011b); and *Inventory, Evaluation, and Analysis of Effects on Historic Resources within the Area of Potential Effect of the Centinela Solar Energy, LLC Imperial County, California* prepared by ASM Affiliates, Inc. (ASM, 2011).

4.7.1 METHODOLOGY FOR ANALYSIS

4.7.1.1 SURVEY

The Secretary of the Interior has issued standards and guidelines for the identification and evaluation of historic properties (*The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* [48 FR 44720–44726]), which are used to ensure that the procedures are adequate and appropriate. The identification and evaluation of historic properties are dependent upon the relationship of individual properties to other similar properties. Information about properties regarding their prehistory, history, architecture, and other aspects of culture must be collected and organized to define these relationships, which is the intent of the survey that was performed.

An intensive survey was conducted for the Proposed Action in order to adequately identify and describe specific cultural resources in the survey corridor. The portion of the Proposed Action and Alternatives that was not covered by the 2010 RECON survey was subject to a Class III Inventory, a full-coverage pedestrian survey. The survey on private lands was conducted in phases between April 19 and December 20, 2010. The survey on BLM land was conducted from March 14 through 17, 2011.

Additionally, a historic built environment field survey was conducted on May 5, 2011. This was a reconnaissance-level field survey intended to document historic resources within the APE, and in some areas the survey area expanded to one mile from the APE.

4.7.1.2 REPORTS

Documentation of sites for this project complied with the reporting specifications in the BLM 8100 Manual guidance as stipulated in the BLM Cultural Resources Use Permit and Field Authorizations for this Undertaking, and with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48 FR 44716-44740), as well as the California Office of Historic Preservation

Planning Bulletin Number 4(a), December 1989, *Archaeological Resource Management Reports* (ARMR). All prehistoric and historic sites and isolates identified during this inventory were recorded on California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the *Instructions for Recording Historical Resources* published by the Office of Historic Preservation 1995.

Four reports were prepared for the Proposed Action. These include: *Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area, Imperial County, California* (Laguna , 2011); *Inventory Report of the Cultural Resources within the Centinela Solar Energy Gen-tie Line, Imperial County, California* (kp, 2011a), *Addendum Letter Report for the Centinela Solar Energy Gen-tie Line Cultural Resources Inventory Report, Imperial County, California* (kp, 2011b); and *Inventory, Evaluation, and Analysis of Effects on Historic Resources within the Area of Potential Effect of the Centinela Solar Energy, LLC Imperial County, California* prepared by ASM Affiliates, Inc. (ASM, 2011). Additionally, one report was prepared for a separate Project, but includes surveys and inventory of a portion of the area of potential effect (APE) for the Proposed Action. This includes: *Cultural Resources Survey for the Imperial Solar Energy Center South Project, Imperial County, California* (RECON 2010). These studies are the basis for the analysis provided herein.

4.7.1.3 Native American Participation

With the filing of the application for a right-of-way for the Proposed Action, the BLM, as the lead federal agency, invited tribes into consultation pursuant to the Executive Memorandum of April 29th, 1994, as well as other relevant laws and regulations, including Section 106 of the NHPA. To date, fifteen Native American tribes have been identified and invited to consult on this project. The BLM invited the tribes into government-to-government consultation by letter on February 18, 2011. Local Native Americans were invited to participate in the field survey. The Cocopah Indian Tribe was able to send a representative out with the survey crew. With their consent, Native American input during the survey was documented in the daily survey log. Additional letters were sent to tribes on July 14, 2011, August 23, 2011, and August 30, 2011. The consultation process is still ongoing.

4.7.2 CEQA Significance Criteria/NEPA Requirements

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance, or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to damage or destruction of cultural resources, most likely during construction. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations

and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

Requirements for CEQA, NEPA, and the National Historic Preservation Act (NHPA) differ to varying degrees. Among the key differences is that NEPA and NHPA require a tribal consultation process and require that significance determinations and mitigation measures be developed through the consultation process (36 CFR 800). In contrast, CEQA requires Imperial County to make an independent evaluation of the significance of impacts and does not require tribal consultation. Pub Res. Code § 21082.1(c) requires the lead agency to (1) independently review and analyze any report or declaration required by CEQA; (2) circulate draft documents that reflect its independent judgment; and (3) as part of the certification of an environmental impact report, find that the report or declaration reflects the independent judgment of the lead agency. The California legislature debated whether to include a tribal consultation requirement in CEQA, but instead opted to limit tribal consultations to certain circumstances identified in the California Planning and Zoning Law. SB 18's tribal consultation requirements (Government Code §65300) are not applicable to the Proposed Action and Alternatives because they do not require a general plan amendment or development of an open space management plan for a post-March 15, 2005 locally designated open space area.

Archaeological resources may also qualify as "historical resources" and PRC § 5024 requires consultation with the State Office of Historic Preservation (SHPO) when a project may impact historical resources on state-owned land. The Proposed Action and Alternatives do not impact a historical resource on state-owned land. As such, compliance with CEQA does not require a consultation.

The BLM has invited tribes into consultation by letter dated February 18, 2011. The BLM anticipates a finding of no effect to historic properties and will request SHPO peer-review in this finding. The project has been redesigned to reach this no effect determination and the BLM has proposed eight conditions to ensure that any effects to historic properties will be avoided. The issuance of the BLM finding of no effect to historic properties and SHPO peer-review of this finding will complete the Section 106 process. The Decision Record will likely occur after Imperial County decision-makers review the Proposed Action and Alternatives for compliance with CEQA.

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

4.7.2.1 CEQA Significance Criteria

Appendix G of the CEQA Guidelines 15064.5(a) and Sections 5024, 21083.2 and 21084.1 of the Public Resources Code, and CEQA Guidelines 15064.5(c) contain significance criteria regarding cultural resources. A significant cultural resources impact would occur if implementation of the Proposed Action, Alternative 1-Double Circuit Gen-tie Line Structures, Alternative 2-Reduced CSE Facility Site, Alternative

3-Use Existing Electric Line Towers and 230-kV Line Looping, and Alternative 4-No Action/No Project Alternative would result in any of the following three effects:

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:

1. 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.
2. 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 impact on the environment.

3) Disturb any human remains, including those interred outside of formal cemeteries.

4.7.2.2 Issues Scoped Out as Part of the Initial Study

No cultural resources issues were scoped out as part of the Initial Study. Impacts relevant to all three criteria are included in the discussion of environmental consequences.

4.7.2.3 NEPA Requirements

NEPA addresses a wide range of environmental issues, including the documentation of, and potential impacts on, cultural and historic properties. An evaluation of the eligibility of resources for the National Register of Historic Places and compliance with Section 106 of the National Historic Preservation Act (NHPA) (see below) constitutes adequate analysis for NEPA's purposes.

A. National Register of Historic Places (NRHP)

The NHPA establishes laws for historic resources to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The Antiquities Act of 1906, which aimed to protect important historic and archaeological sites, initiated legislation for historic preservation. It established a system of permits for conducting archaeological studies on federal land (i.e. BLM land), as well as setting penalties for noncompliance. This permit process controls disturbances to archaeological sites. New permits are currently issued under the Archeological Resources Protection Act (ARPA) of 1979. The

purpose of the ARPA is to enhance the preservation and protection of archaeological resources on public and Native American lands.

A property that qualifies for the NRHP is considered significant in terms of the planning process under the NHPA, NEPA, and other federal mandates. The National Register Criteria for Evaluation (36 CFR 60.4) provides guidance in determining a property's eligibility for listing on the NRHP. This states that the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

1. is associated with events that have made a significant contribution to the broad patterns of our history; or
2. is associated with the lives of persons significant in our past; or,
3. 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
4. has yielded, or may be likely to yield, information important in prehistory or history [36 CFR 60.4].

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

B. Section 106 of the National Historic Preservation Act

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

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be further removed in distance or be cumulative. Adverse effects on historic properties include, but are not limited to:
>
> i. Physical destruction of or damage to all or part of the property;
>
> ii. Isolation of the property from or alteration of the character of the property's setting when that character contributes to the property's qualification for the National Register;

iii. Removal of the property from its historic location;

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

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

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

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

4.7.3 ENVIRONMENTAL CONSEQUENCES

4.7.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

A total of 43 cultural resources are within the Proposed Action APE. **Table 4.7-1** presents the recommended eligibility of the cultural resources within the Proposed Action APE and the potential for impacts. **Table 4.7-2** presents the recommended eligibility of the built historic resources within the Proposed Action APE and the potential for impacts.

TABLE 4.7-1
NATIONAL REGISTER OF HISTORIC PLACES STATUS AND POTENTIAL FOR IMPACTS

Site	Site Type	Location	NRHP Eligibility
BLM Lands			
ISO-64	Isolate	ROW	Recommended not eligible
IMP-115-ISO-19	Isolate	ROW	Recommended not eligible
IMP-115-ISO-20	Isolate	ROW, Tower	Recommended not eligible
IMP-115-ISO-21	Isolate	ROW	Recommended not eligible
IMP-115-ISO-23	Isolate	ROW	Recommended not eligible
CA-IMP-3999/115-3999	Temporary Camp	ROW, Tower, PT	Determined Eligible
S-5	Ceramic & Lithic Scatter	ROW, Tower	Recommended eligible: D
IMP-115-S-2	Ceramic & Lithic Scatter	ROW	Recommended eligible: D
IMP-115-S-3	Sparse Lithic Scatter	ROW	Recommended not eligible
IMP-115-S-4	Lithic Scatter	ROW	Recommended eligible: D
IMP-115-S-6	Sparse Lithic Scatter	ROW	Recommended not eligible
IMP-115-S-7	Sparse Lithic Scatter	Tower	Recommended not eligible
Private Lands			
CA-IMP-6641	Lithic/ceramic scatter	ROW	Recommended not eligible

TABLE 4.7-1
NATIONAL REGISTER OF HISTORIC PLACES STATUS AND POTENTIAL FOR IMPACTS

Site	Site Type	Location	NRHP Eligibility
P-13-008983	Irrigation canal; Wormwood Canal (2 portions)	ROW	Recommended not eligible
P-13-013073	Irrigation canal; Woodbine Canal (2 portions)	ROW	Recommended not eligible
P-13-013074	Irrigation canal; Woodbine Lateral 7 (partial)	ROW	Recommended not eligible
P-13-013075	Irrigation canal; Woodbine Lateral 7A	ROW	Recommended not eligible
P-13-013076	Irrigation canal; Woodbine Lateral 2 (partial)	ROW	Recommended not eligible
P-13-013077	Irrigation canal; Woodbine Lateral 8	ROW	Recommended not eligible
P-13-013078	Agricultural drain; Brockman Drain (partial)	ROW	Recommended not eligible
P-13-013079	Agricultural drain; Mt. Signal Drain (2 portions)	ROW	Recommended not eligible
P-13-013080	Agricultural drain; Mt. Signal Drain 1 (partial)	ROW	Recommended not eligible
P-13-013081	Agricultural drain; Carpenter Drain	ROW	Recommended not eligible
P-13-013082	Agricultural drain; Wells Drain (partial)	ROW	Recommended not eligible
P-13-013083	Historic-age structure; 601 Pulliam Rd. residence	ROW	Recommended not eligible
P-13-013084	Historic-age structure; 598 Pulliam Rd. residence	ROW	Recommended not eligible
P-13-013085	Historic glass isolate; Sun-colored amethyst glass vessel handle fragment	ROW	Recommended not eligible

Source: Laguna, 2011; kp, 2011a.

TABLE 4.7-2
HISTORIC RESOURCES MORE THAN 45 YEARS OLD

Resource	Date Built	Resource Type	Eligibility Recommendations
Westside Main Canal	ca. 1907	Canal	Recommended eligible
Wormwood Canal	1911	Canal	Recommended not eligible
Woodbine Canal	ca. 1915	Canal	Recommended not eligible
Mount Signal	ca. 1940-1965	District	Recommended not eligible
Brockman Ranch	ca. 1920	Farm complex	Recommended not eligible
1249 Anza Road	ca. 1950	Residence	Recommended not eligible
640 Brockman Road	ca. 1965	Residence	Recommended not eligible
644 Brockman Road	ca. 1940	Residence	Recommended not eligible
405 Drew Road	1940	Residence	Recommended not eligible
695 Drew Road	ca. 1900 and ca.1960	Farm complex	Recommended not eligible
706 Drew Road	ca. 1960	Residence	Recommended not eligible

TABLE 4.7-2
HISTORIC RESOURCES MORE THAN 45 YEARS OLD

Resource	Date Built	Resource Type	Eligibility Recommendations
1160 Kubler Road	ca. 1920	Agricultural building	Recommended not eligible
1596 Fisher Road	ca. 1940	Farm complex	Recommended not eligible
596 Pulliam Road	ca. 1950	Residence	Recommended not eligible
605 Pulliam Road	ca. 1950	Residence	Recommended not eligible
904 State Highway 98	ca. 1920	Residence	Recommended not eligible

Source: ASM, 2011.

BLM Land - Cultural Resources

Within BLM land, there are twelve cultural resources identified within the Proposed Action APE. Five isolated artifacts were newly recorded (ISO-64, IMP-115-ISO-19, IMP-115-ISO-20, IMP-115-ISO-21, and IMP-115-ISO-23). One of these isolates (IMP-115-ISO-20) is also within one of the proposed tower locations; however, isolated archaeological occurrences are not NRHP eligible.

Site IMP-115-3999 was relocated during the RECON 2010 survey, and the boundary was extended to the southeast within the project area but it was not completely defined and is expected to continue to the southeast. The site has been previously determined eligible for the NRHP under Criterion D and the CRHR under Criterion 4 in that it may be likely to yield information important in prehistory.

Site S-5 is described as a ceramic and lithic scatter, and is within Alternative 1 and one of the tower locations. The site was previously recommended eligible for the NRHP.

Site IMP-115-S-2 is also described as a ceramic and lithic scatter. It has two loci, and artifacts include five fine-grained porphyritic metavolcanic flakes, one large fine-grained porphyritic metavolcanic core, one Tizon brown ware sherd, fish bone, and three pieces of fire affected rock. The site is recommended eligible for the NRHP under Criterion D and the CRHR under Criterion 4 in that it may be likely to yield information important in prehistory.

Sites IMP-115-S-3, IMP-115-S-6, and IMP-115-S-7 are described as sparse lithic scatters. IMP-115-S-7 is also within a tower location. All three sites were previously recommended not eligible for the NRHP.

Site IMP-115-S-4 is described as a lithic scatter. It consists of one FGM flake, two FGPM flakes, and a complete portable sandstone metate. The metate is bifacial, and one surface is pecked. The edges of the metate had been shaped by flaking. The site is recommended eligible for the NRHP under Criterion D and the CRHR under Criterion 4 in that it may be likely to yield information important in prehistory.

Four isolates (CA-IMP-1402, -1403, -5585, and -5586) and a ceramic scatter (CA-IMP-2407) were not relocated.

Private Lands - Cultural Resources

Fourteen new cultural resources and one previously recorded resource were identified within the private lands of the Proposed Action. These include historic-age segments of the Wormwood Canal, Woodbine Canal and four Woodbine Canal laterals, portions of five drainage channels (Brockman, Mt. Signal, Mt. Signal 1, Carpenter, and Wells drains), as well as two historic residential structures, and the isolated historic-age glass vessel fragment.

Site CA-IMP-6641 included five Tizon Brown Ware rim sherds and four body sherds, one drilled buffware sherd and 35 additional body sherds, one quartzite hammerstone, one fine-grained volcanic hammerstone, one fine-grained volcanic core, two fine-grained volcanic scrapers, two chert flakes, four quartz flakes, one petrified wood flake, three fine-grained volcanic flakes, one porphyritic volcanic flake, and one quartzite flake.

Site P-13-008983 included two additional segments of the previously recorded Wormwood Canal. Site P-13-013073 includes two portions of the Woodbine irrigation canal. Site P-13-013074 includes a portion of the Woodbine Lateral 7. Site P-13-013075 includes a portion of Woodbine Lateral 7A. Site P-13-013076 includes a portion of Woodbine Lateral 2. Site P-13-013077 includes a portion of Woodbine Lateral 8. Site P-13-013078 (Brockman Drain), Site P-13-013079 (Mt. Signal Drain), P-13-013080 (Mt. Signal Drain 1), Site P-13-013081 (Carpenter Drain), and P-13-013082 (Wells Drain) are within this alternative.

The South Coastal Information Center has indicated that the irrigation system in the Imperial Valley area makes up an eligible historic district as part of the largest gravity flow irrigation system in the United States. Most of the irrigation system segments within the APE are associated with 1950s-era improvements to the original irrigation system and their significance is uncertain.

601 Pulliam Road (P-13-013083) is a residential structure at the southeast corner of the LeCrivain property (at approximately 601 Pulliam Road). The current structure appears to date from the late 1940s and is consistent with the World War II-era agricultural boom in the area.

598 Pulliam Road (P-13-013084) is a residential structure at the northwest corner of the Bishop property (at approximately 598 Pulliam Road). The 1918 Soils Bureau El Centro Sheet shows a structure at this location. However, the current structure is made from concrete block (set on block pilings) suggesting post-World War II construction.

Site P-13-013085 is a historic isolate glass item that is probably from a pitcher or similar vessel. The amethyst color is due to the use of the element manganese, which was phased out of glass production by 1930 for such glassware. The surface is pitted and abraded by wind-blown sand. No other items of historic age were observed in the area, but there is a possibility of additional historic material in this area.

Built Historic Resources

Westside Main Canal: The canal, including the segments in the Project APE, is eligible for listing in the NRHP and CRHR under Criterion A/1 for its significance in the development of the Imperial Valley. The earthen canal was integral to the development of irrigated commercial agriculture since its construction in the early 1900s. Under the themes of agriculture and economic development, ASM's professional, independent recommendation is that this section of the Westside Main Canal is eligible for the NRHP and CRHR on the local and state levels.

Character-defining features of the canal include:

- original canal alignment
- earthen walls
- earthen levees
- agricultural setting

- structures such as bridges, siphons, drops, and gates

As an irrigation system, the viewshed, or historic setting, is not a character-defining feature of this type of historic resource. No significant visual effect on the Westside Main Canal is anticipated. The canal will be subject to temporary auditory and atmospheric intrusions during the construction of the CSE Project.

Wormwood Canal: In 1999, Jill Hupp of Caltrans recommended the Wormwood Canal as not eligible for listing in the NRHP because the canal was realigned and lined with concrete from its original earthen materials. Therefore the canal does not retain enough integrity to convey its significance as one of the original irrigation canals for the Imperial Valley. ASM concurs with this finding and recommends the Wormwood Canal as not eligible for listing in the NRHP and the CRHR. Although the canal is associated with the early irrigation system of the Imperial Valley and the important local theme of agricultural development, this particular canal does not convey that theme as well as other similar resources such as the Westside Main and the All-American canals. Therefore, the Wormwood Canal is recommended not eligible for the NRHP and the CRHR.

Woodbine Canal: The Woodbine Canal was one of the earliest irrigation canals in the Imperial Valley. According to a previous inventory record by Andrew Pigniolo of Laguna Mountain Environmental, the Woodbine Canal was shown on the 1915 El Centro 15' USGS topographic quad map. However, later date stamps from the 1950s and 1960s were marked on the canal and laterals when they were lined with concrete. Although the canal is associated with the early irrigation system of the Imperial Valley and the important local theme of agricultural development, this particular canal does not convey that theme as well as other similar resources such as the Westside Main and the All-American canals. Additionally, the integrity of the original materials and craftsmanship of the 1915 canal system was not retained and therefore the Woodbine Canal is recommended not eligible for listing in the NRHR and the CRHR.

Mount Signal: Although historic maps indicate that Mt. Signal was an early small town and landmark along State Route 98, no other information could be found about why and how it was settled. It was likely a typical small hamlet that supported the scattered farmers in this area of southern Imperial County. Mt. Signal is believed to have been established in the early twentieth century, prior to the development of the state highway. A 1919 Blackburn's Map of Imperial County shows that the Mt. Signal School was located at the area of the current Mt. Signal town site. The school was moved, and appeared one mi. north of this site and on the east side of Brockman Road on a USGS topographic quad map in 1957. By 1964, the town contained the Mt. Signal Store and Post Office, as evidenced on a map of the area from that year.

Direct access from Mt. Signal to Seeley to the north was established as early as 1934, along what is now County Highway 29. Access to the west and east was along the route that would eventually become State Route 98. However, as late as 1953, the portion of the highway from Mt. Signal to its westernmost terminus at Coyote Wells was still unpaved. That segment provided access originally to U.S. Route 80, and later Interstate 8.

Surrounding Mt. Signal are the canals and adjoining laterals of the All-American Canal system, as well as the Westside Main Canal system. Through these canals and laterals, water was provided for agriculture in this area. To the north, towns such as Dixieland and Seeley were formed from the influx of farmers and others who came to the Imperial Valley to acquire and farm the land. In the case of Dixieland, this little roadside town ended almost as soon as it began when promoters incorrectly estimated the popularity of Dixieland. Today, much like Mt. Signal, it is an abandoned group of buildings. Because of the close proximity to each other, the shared history of the surrounding area, and the comparable condition of both places, this history of Dixieland could be similar to that of Mt. Signal.

According to the historic USGS Mount Signal topographic quad, the only buildings that were extant in 1957 at Mt. Signal were the commercial buildings and the walled-in property both located west of the current Mount Signal Café building. Most of those extant original buildings have lost integrity in feeling, materials, design, and craftsmanship. According to historic maps, approximately half of the original buildings appear to have been replaced or are gone, and consequently the district as a whole does not retain enough integrity to convey its association as one of the earliest agricultural towns in the southern Imperial Valley. Therefore, the Mt. Signal historic district is recommended not eligible for listing in the NRHP and the CRHR.

Brockman Ranch: The property at 513 Brockman Road is recommended not eligible for listing in the NRHP and CRHR. Specifically, under Criterion A/1, research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S., including the agricultural complexes in Imperial Valley. Although the Brockman Ranch was likely one of the earlier homesteads in the Imperial Valley, the majority of buildings extant on the property are not the original buildings. Additionally, the only original buildings of the early ranch that remains today are the barn and granary. Based on Google Earth aerial photographs, the main residence was demolished sometime between 2010 and May 2011. Because the majority of the original buildings of the homestead are not the original buildings of the early homestead, the overall ranch does not retain its integrity to convey its significance as an early homestead under criterion A/1. Under Criterion B/2, research failed to link the buildings with the lives of persons important to local, California, or national history. The Brockman family name was identified in archival research, such as early Imperial Valley newspaper clippings about the local sewing club; however, no information could be found to identify any of the Brockman family members as locally, regionally or nationally significant individuals. Under Criterion C/3, none of these buildings embody significant characteristics of a type, period, region, or method of construction; nor do they represent the work of a master, or possess high artistic values that would qualify them for listing. Finally, because this resource is a common property type it does not have the potential to provide information about history or prehistory that is not available through historic research. Therefore, the Brockman Ranch was not evaluated for the NRHP or the CRHR under Criterion D/4.

695 Drew Road: The property at 695 Drew Road is recommended not eligible for listing in the NRHP and CRHR. Specifically, under Criterion A/1, research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of California or the U.S., including agricultural homesteads in Imperial Valley. Although the ancillary building at Drew Road appears to be the earliest building on the property, no information could be found to indicate its original function. The residence was constructed ca. 1960, and was not the original residence of the homestead. No other information could be found to identify this property as an early homestead in the valley. Under Criterion B/2, research failed to link the buildings with the lives of persons important to local, California, or national history. Under Criterion C/3, none of these buildings embody significant characteristics of a type, period, region, or method of construction; nor do they represent the work of a master, or possess high artistic values that would qualify them for listing. Finally, because this resource is a common property type it does not have the potential to provide information about history or prehistory that is not available through historic research. Therefore, the 695 Drew Road was not evaluated for the NRHP or the CRHR under Criterion D/4.

1160 Kubler Road: The property at 1160 Kubler Road is recommended not eligible for listing in the NRHP and CRHR. Specifically, under Criterion A/1, research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural

heritage of California or the U.S., including agricultural complexes in Imperial Valley. Although the barn building appears to be remnants of an earlier homestead on this property, the other buildings are not the original buildings of this homestead. Therefore, the overall property has not retained its integrity to convey association as an early agricultural complex of the Imperial Valley. Under Criterion B/2, research failed to link the buildings with the lives of persons important to local, California, or national history. Under Criterion C/3, none of these buildings embody significant characteristics of a type, period, region, or method of construction; nor do they represent the work of a master, or possess high artistic values that would qualify them for listing. Finally, because this resource is a common property type it does not have the potential to provide information about history or prehistory that is not available through historic research. Therefore, the 1160 Kubler Road was not evaluated for the NRHP or the CRHR under Criterion D/4.

1596 Fisher Road: The property at 1596 Fisher Road is recommended not eligible for listing in the NRHP and CRHR. Specifically, under Criterion A/1, research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of California or the U.S., including agricultural complexes in Imperial Valley. Although it appears the buildings were constructed in the 1940s and 1950s, this homestead is not one of the earliest or best representations of an early homestead in the Imperial Valley. Under Criterion B/2, research failed to link the buildings with the lives of persons important to local, California, or national history. Under Criterion C/3, none of these buildings embody significant characteristics of a type, period, region, or method of construction; nor do they represent the work of a master, or possess high artistic values that would qualify them for listing. Finally, because this resource is a common property type it does not have the potential to provide information about history or prehistory that is not available through historic research. Therefore, the 1596 Fisher Road was not evaluated for the NRHP or the CRHR under Criterion D/4.

Residential Buildings within the APE: The remaining eight historic resources within the APE that are recommended ineligible for listing in the NRHP and CRHR are all single-family residential buildings:

- 1249 Anza Road
- 640 Brockman Road
- 644 Brockman Road
- 405 Drew Road
- 706 Drew Road
- 596 Pulliam Road
- 605 Pulliam Road
- 904 State Highway 98

None of these buildings are recommended as eligible for listing in the NRHP and CRHR. Specifically, under Criterion A/1, research failed to tie these buildings to events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S. Under Criterion B/2, research failed to link the buildings with the lives of persons important to local, California, or national history. Under Criterion C/3, none of these buildings embody significant characteristics of a type, period, region, or method of construction; nor do they represent the work of a

master, or possess high artistic values that would qualify them for listing. Finally, because these resources are a common property type they do not have the potential to provide information about history or prehistory that is not available through historic research. Therefore, none of these buildings were evaluated for the NRHP or the CRHR under Criterion D/4.

Construction

Construction activities associated with the Proposed Action would not directly affect the sites described above from ground disturbance activities. There is a potential for indirect effects to sites adjacent to the impact areas due to increased traffic during construction. Construction activities, such as grading, 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. Subsurface activities always have some potential to affect previously unknown cultural resources, including human remains.

Operations and Maintenance

Operational impacts are not expected to result in direct or indirect effects to these sites. Maintenance activities could result in grading, excavation, and trenching impacts if repairs are needed; however, there would be no new direct or indirect effects above those described during the construction phase.

Decommissioning

Decommissioning activities would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition that is consistent with the original condition (i.e. agricultural or native desert) at the end of the operational life of the project. The implementation of the reclamation plan would occur in the areas that were disturbed during the original construction activities, and no effects beyond those that occur during the original construction activities are anticipated.

B. CEQA Significance Determinations

Substantial Adverse Change to a Historical Resource

1) Cause a “substantial adverse change” in the “significance of a historical resource” as defined in CEQA Guidelines § 15064.5.

The Proposed Action APE includes a total of 43 cultural resources. One of these resources has been determined eligible, and four are recommended eligible. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a “substantial adverse change” in the “significance" of these sites. This is considered a potentially significant impact under CEQA. With the implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6, the impact can be reduced to a less than significant level under CEQA.

Substantial Adverse Change to an Archaeological Resource

2) Cause a “substantial adverse change” in the “significance of an archaeological resource” pursuant to CEQA Guidelines §15064.5.

The Proposed Action APE includes a total of 43 cultural resources. Thirty-eight of these resources have been determined to not be eligible, but may still be a "significant" archaeological resource under CEQA. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a “substantial adverse change” in the

"significance" of these sites. This is considered a potentially significant impact under CEQA. With the implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6, the impact can be reduced to a less than significant level under CEQA.

Disturb Human Remains

3) Disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the Proposed Action APE. However, during subsurface excavation activities for the Proposed Action, there will be a potential to impact previously unknown human remains. Mitigation Measures CR-4 and CR-5 will ensure that the potential impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA.

4.7.3.2 ALTERNATIVE 1 – DOUBLE CIRCUIT GEN-TIE LINE STRUCTURES

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

The cultural resources potentially affected by Alternative 1 are the same as those that would be potentially affected by the Proposed Action. A total of 43 cultural resources, of which one is determined eligible, and four are recommended eligible as presented in **Table 4.7-1** and **Table 4.7-2** and discussed thereafter.

Construction

Construction activities associated with Alternative 1 would not directly affect the sites described above under the Proposed Action **(Table 4.7-1** and **Table 4.7-2)** from ground disturbance activities. There is a potential for indirect effects to sites adjacent to the impact areas due to increased traffic during construction. Construction activities, such as grading, 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. Subsurface activities always have some potential to affect previously unknown cultural resources, including human remains.

There may be a second phase of construction for Alternative 1 that would consist of stringing electrical transmission lines on the Gen-tie towers from an adjacent project. Stringing additional line on the towers is not expected to have direct effects on the sites located within the Gen-tie area as listed in **Table 4.7-1**. These are the same sites that would not be potentially affected under the original construction activities, and the potential effects relative to the original construction would be less. The indirect effects of this second phase of construction are expected to be beneficial due to the fact that it would eliminate the construction of a separate set of gen-tie structures for other projects in the vicinity.

Operations and Maintenance

Operational impacts for Alternative 1 are not expected to result in direct or indirect effects to these sites. Maintenance activities for Alternative 1 could result in grading, excavation, and trenching impacts

if repairs are needed; however, there would be no new direct or indirect effects above those described during the construction phase.

Decommissioning

Decommissioning activities for Alternative 1 would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition that is consistent with the original condition (i.e. agricultural or native desert) at the end of the operational life of the project. The implementation of the reclamation plan would occur in the areas that were disturbed during the original construction activities, and no effects beyond those that occur during the original construction activities are anticipated.

B. CEQA Significance Determinations

Substantial Adverse Change to a Historical Resource

1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5.

Alternative 1 includes a total of 43 cultural resource sites. One of these sites has been determined eligible and four are recommended eligible. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a "substantial adverse change" in the "significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6, can reduce the impact to a less than significant level under CEQA

Substantial Adverse Change to an Archaeological Resource

2) Cause a "substantial adverse change" in the "significance of an archaeological resource" pursuant to CEQA Guidelines §15064.5.

Alternative 1 includes a total of 43 cultural resource sites. Thirty-eight of these sites have been determined to not be eligible, but may still be a "significant" archaeological resource under CEQA. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a "substantial adverse change" in the "significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6 can reduce the impact to a less than significant level under CEQA.

Disturb Human Remains

3) Disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the Alternative 1 APE. However, during subsurface excavation activities for Alternative 1, there will be a potential to impact previously unknown human remains. Mitigation Measures CR-4 and CR-5 will ensure that the potential impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA.

4.7.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural

uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Alternative 2 is 335 acres smaller then the Proposed Action; however, the cultural resources potentially affected by this alternative are the same as those that would be potentially impacted by the Proposed Action. A total of 43 cultural resource sites are within Alternative 2, which are presented in **Table 4.7-1** and **Table 4.7-2** and discussed thereafter.

Construction

Ground disturbance activities from construction activities associated with Alternative 2 would not have a direct effect on the sites described above. There is also a potential for indirect effects to sites adjacent to the impact areas due to increased traffic during construction. Construction activities, such as grading, 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. Subsurface activities always have some potential to affect previously unknown cultural resources, including human remains.

Operations and Maintenance

Operational impacts for Alternative 2 are not expected to result in direct and indirect effects to these sites. Maintenance activities for Alternative 2 could result in grading, excavation, and trenching effects if repairs are needed; however, there would be no new direct or indirect effect above those described during the construction phase.

Decommissioning

Decommissioning activities for Alternative 2 would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition consistent with the original condition (i.e. agricultural or native desert) at the end of the operational life of the project. The implementation of the reclamation plan would occur in areas disturbed during the original construction activities, and no effects beyond those that occur during the original construction activities are anticipated.

B. CEQA Significance Determinations

Substantial Adverse Change to a Historical Resource

1) Cause a “substantial adverse change” in the “significance of a historical resource” as defined in CEQA Guidelines § 15064.5.

Alternative 2 includes a total of 43 cultural resource sites. One of these sites has been determined eligible and four are recommended eligible. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a “substantial adverse change” in the “significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6, can reduce the impact to a less than significant level under CEQA.

Substantial Adverse Change to a Historical Resource

2) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5.

Alternative 2 includes a total of 43 cultural resource sites. Thirty-eight of these sites have been determined to not be eligible, but may still be a "significant" archaeological resource under CEQA. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a "substantial adverse change" in the "significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6 can reduce the impact to a less than significant level under CEQA.

Disturb Human Remains

3) Disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the Alternative 2 APE. However, during subsurface excavation activities for Alternative 2, there will be a potential to impact previously unknown human remains. Mitigation Measures CR-4 and CR-5 will ensure that the potential impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA.

4.7.3.3 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

A total of 32 cultural sites are within Alternative 3. These resources are all on the private lands portion of Proposed Action, Alternative 1, and Alternative 2. Except for one site, all other resources on the BLM land portion of the Proposed Action, Alternative 1, and Alternative 2 are outside this alternative. **Table 4.7-3** and **Table 4.7-4** present the eligibility of sites within the Proposed Action and the potential for impacts.

TABLE 4.7-3
NATIONAL REGISTER OF HISTORIC PLACES STATUS AND POTENTIAL FOR IMPACTS

Site	Site Type	Location	NRHP Eligibility
BLM Land			
CA-IMP-3999/115-3999	Temporary Camp	ROW, Tower, PT	Determined Eligible
Private Lands			
CA-IMP-6641	Lithic/ceramic scatter	ROW	Recommended not eligible
P-13-008983	Irrigation canal; Wormwood Canal (2 portions)	ROW	Recommended not eligible
P-13-013073	Irrigation canal; Woodbine Canal (2 portions)	ROW	Recommended not eligible
P-13-013074	Irrigation canal; Woodbine Lateral 7 (partial)	ROW	Recommended not eligible
P-13-013075	Irrigation canal; Woodbine Lateral 7A	ROW	Recommended not eligible
P-13-013076	Irrigation canal; Woodbine Lateral 2 (partial)	ROW	Recommended not eligible
P-13-013077	Irrigation canal; Woodbine Lateral 8	ROW	Recommended not eligible
P-13-013078	Agricultural drain; Brockman Drain (partial)	ROW	Recommended not eligible
P-13-013079	Agricultural drain; Mt. Signal Drain (2 portions)	ROW	Recommended not eligible
P-13-013080	Agricultural drain; Mt. Signal Drain 1 (partial)	ROW	Recommended not eligible
P-13-013081	Agricultural drain; Carpenter Drain	ROW	Recommended not eligible
P-13-013082	Agricultural drain; Wells Drain (partial)	ROW	Recommended not eligible
P-13-013083	Historic-age structure; 601 Pulliam Rd. residence	ROW	Recommended not eligible
P-13-013084	Historic-age structure; 598 Pulliam Rd. residence	ROW	Recommended not eligible
P-13-013085	Historic glass isolate; Sun-colored amethyst glass vessel handle fragment	ROW	Recommended not eligible

Source: Laguna, 2011; kp, 2011a.

TABLE 4.7-4
HISTORIC RESOURCES MORE THAN 45 YEARS OLD

Resource	Date Built	Resource Type	Eligibility Recommendations
Westside Main Canal	ca. 1907	Canal	Recommended eligible
Wormwood Canal	1911	Canal	Recommended not eligible
Woodbine Canal	ca. 1915	Canal	Recommended not eligible
Mount Signal	ca. 1940-1965	District	Recommended not eligible
Brockman Ranch	ca. 1920	Farm complex	Recommended not eligible
1249 Anza Road	ca. 1950	Residence	Recommended not eligible
640 Brockman Road	ca. 1965	Residence	Recommended not eligible
644 Brockman Road	ca. 1940	Residence	Recommended not eligible
405 Drew Road	1940	Residence	Recommended not eligible
695 Drew Road	ca. 1900 and ca.1960	Farm complex	Recommended not eligible
706 Drew Road	ca. 1960	Residence	Recommended not eligible
1160 Kubler Road	ca. 1920	Agricultural building	Recommended not eligible
1596 Fisher Road	ca. 1940	Farm complex	Recommended not eligible
596 Pulliam Road	ca. 1950	Residence	Recommended not eligible
605 Pulliam Road	ca. 1950	Residence	Recommended not eligible
904 State Highway 98	ca. 1920	Residence	Recommended not eligible

Source: ASM, 2011.

Construction

Ground disturbance activities during construction activities associated with Alternative 3 would not affect the sites described above. Grading will be reduced compared to the Proposed Action because Alternative 3 will eliminate the need for 11 transmission towers, and consequently result in avoidance of 11 cultural resources. This would be a beneficial effect on these known cultural resources. There is a potential for indirect effects to sites adjacent to the impact areas due to increased traffic during construction. Construction activities, such as grading, 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. Subsurface activities always have some potential to affect previously unknown cultural resources, including human remains.

Operations and Maintenance

Operational impacts for Alternative 3 are not expected to result in direct and indirect effects to these sites. Maintenance activities for Alternative 3 could result in grading, excavation, and trenching effects if repairs are needed; however, there would be no new direct or indirect effects above those described during the construction phase.

Decommissioning

Decommissioning activities for Alternative 3 would involve the implementation of a reclamation plan, which would return the project site to a condition consistent with the original condition (i.e. agricultural or native desert) at the end of the operational life of the project. The implementation of the reclamation

plan would occur in the areas disturbed during the original construction activities, and no effects are anticipated beyond those that occur during the original construction activities.

B. CEQA Significance Determinations

Substantial Adverse Change to a Historical Resource

1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5.

Alternative 3 includes a total of 32 cultural resource sites. One of these sites has been determined eligible and four are recommended eligible. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a "substantial adverse change" in the "significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6 can reduce the impact to a less than significant level under CEQA.

Substantial Adverse Change to a Historical Resource

1) Cause a "substantial adverse change" in the "significance of a historical resource" as defined in CEQA Guidelines § 15064.5.

Alternative 3 includes a total of 32 cultural resource sites. Seventeen of these sites have been determined to not be eligible, but may still be a "significant" archaeological resource under CEQA. Ground disturbance from grading, excavation, and trenching during construction, operation, maintenance, or decommission of the project, could cause a "substantial adverse change" in the "significance" of these sites. This is considered a potentially significant impact under CEQA. Implementation of Mitigation Measures CR-1, CR-2, CR-3, CR-5, and CR-6 can reduce the impact to a less than significant level under CEQA.

Disturb Human Remains

3) Disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the Alternative 3 APE. However, during subsurface excavation activities for Alternative 3, there will be a potential to impact previously unknown human remains. Mitigation Measures CR-4 and CR-5 will ensure that the potential impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA.

4.7.3.4 ALTERNATIVE 4 - NO ACTION/NO PROJECT ALTERNATIVE

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 4 there would be no construction, operation, maintenance, or decommissioning activities under this alternative; therefore there would be no potential for direct or indirect effects to cultural resources.

B. CEQA Significance Determinations

Under Alternative 4 there would be no impact on cultural resources.

4.7.4 MITIGATION MEASURES

To the extent they are consistent with the conditions proposed in the BLM finding of no effect to historic properties, the mitigation measures contained herein shall be applied to ensure that the cultural impacts relative to the Proposed Action and Alternatives do not rise to a level of significance under CEQA. Additional mitigation measures developed pursuant to the consultation process shall also be implemented and 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 BLM conditions shall prevail. As such, any certification of the CEQA document will respect the on-going BLM consultation process.

CR-1 To the extent practicable, the CSE Facility and Gen-tie Line will be engineered and designed to avoid any cultural resources eligible for listing in the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP). Such resources will be mitigated as specified in accordance with the approved historic properties treatment plan for the project.

CR-2 Cultural resources sites eligible for listing in the CRHR or NRHP adjacent to project features but not directly impacted by construction shall be avoided during construction. Temporary fencing or other approved marking around the perimeter of such sites will be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel.

CR-3 In the event of an unanticipated discovery of cultural resources, including prehistoric, and historic archaeological finds, during construction or operation, all grading, excavation, and site disturbance shall cease in the area of the discovery, and the find left undisturbed until a qualified professional archaeologist is contacted to evaluate the discovery and make recommendations as to significance, disposition, mitigation, and/or salvage. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.

CR-4 If human remains are discovered, work will be halted in that area, and the procedures set forth in 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.

CR-5 A cultural monitor will be present in areas where construction or restoration surface-disturbing activities are occurring throughout the work day from initial clearing through habitat restoration.

CR-6 The areal limits of construction activities would be predetermined, with activity confined within those limits. No paint or permanent discoloring agents may be applied to rocks or vegetation to indicate survey or construction activity limits.

Mitigation Measures CR-1 through CR-6 identified above for the Proposed Action will also be implemented for Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping.

The project would not be constructed if the Alternative 4 - No Action/No Project Alternative were selected. Thus, there would be no impacts on cultural resources from the Alternative 4-No Action/No Project Alternative and no mitigation would be required.

4.7.5 RESIDUAL IMPACTS AFTER MITIGATION

4.7.5.1 IMPACT AFTER APPLICANT MITIGATION MEASURES

There are known cultural resources within the APE and vicinity of the Proposed Action, Alternative 1, Alternative 2, and Alternative 3. In addition, there may be buried cultural resources in these areas. Implementation of the Proposed Action, Alternative 1, Alternative 2, and Alternative 3 will result in potentially significant impacts to known historical and archaeological resources, and could result in potentially significant impacts to unknown cultural resources, including human remains. Implementation of Mitigation Measures CR-1 through CR-6 would reduce the impact on cultural resources to a level of less than significant under CEQA.

Alternative 4 would not cause impacts to cultural resources; therefore, no mitigation is required.

These fully enforceable Mitigation Measures provide sufficient mitigation independent of any conditions developed through the BLM's current consultation process. The Project shall be subject to any conflicting terms in the BLM conditions, 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 BLM conditions even though CEQA would not otherwise require mitigation for an impact that is already below a level of significance.

SECTION 4.8
NOISE

4.8 NOISE

The noise analysis provided in this section is summarized from the *Noise Assessment Centinela Solar Energy Project County of Imperial* prepared by Ldn Consulting, Inc. (Ldn) (Ldn, 2011). This document is provided on the attached CD of Technical Appendices as **Appendix F** of this EIR/EA.

4.8.1 METHODOLOGY FOR ANALYSIS

4.8.1.1 EXISTING ON-SITE AMBIENT NOISE

To determine the existing noise environment and to assess potential noise impacts, measurements were taken at two locations (M1 and M2) on the project site (**Figure 4.8-1**). Both measurement locations have a direct line of sight to the adjacent roadways. The noise measurement locations were chosen based on site access and noise impact potential as well as to determine the worst-case conditions at the nearest potential noise sensitive land use (residential development is an allowed use on surrounding lands zoned A-2, A-2-R and A-3). The noise measurements were recorded on March 22, 2011 by Ldn between approximately 11:45 AM and 12:30 PM. The noise measurements were monitored at each location for a time period of 15 minutes each.

Noise measurements recorded at the project site were taken using a Larson-Davis Model LxT Type 1 precision sound level meter programmed in "slow" mode to record noise levels in A-weighted form (i.e. dBA, a scale used to compensate for the fact that some frequencies are more noticeable to the human ear than others). The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen. The sound level meter was calibrated before and after monitoring using a Larson-Davis calibrator, Model CAL 200.

4.8.1.2 CONSTRUCTION NOISE ASSUMPTIONS AND MODEL

A. On-site Construction Equipment

The construction period for Phase I (175 MW) is expected to be 22 to 28 months and includes all site preparation, installation of the PV panels and all utilities including the Gen-Tie line. The construction period for the Phase II (100 MW) is expected to be 12 to 15 months and includes site preparation, installation of the PV panels and utilities as well. The mass grading and subsequent installation of the utilities and the installation of the PV panels are discussed separately below. The construction activities of both Phase I and Phase II are anticipated to be the similar and therefore are analyzed together below.

Calculations of the expected construction noise impacts were prepared using a point-source (i.e. localized or stationary) noise prediction model. Data used for the model to perform its calculations included noise levels of each type of equipment, distance from the receiving source and the equipment, and the amount of time the equipment is operating in a given days. To determine the worst-case noise levels for the grading operations, no topographic attenuation or barrier reductions were used. The noise levels used in model are based on a list of equipment provided by the Applicant (refer to **Table 4.8-5** later in this section).

Several Gen-tie conductors and shield wires may require a helicopter to string the pilot lines. If a helicopter is used, the associated noise would be brief and occur approximately 4 hours per day for one week. The helicopter would only be needed west of Drew Road to string the Gen-tie Line segment on BLM land. No sensitive receptors are located along the Gen-Tie Line route. Therefore, no analysis is of helicopter noise was conducted.

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Base Map Source: CSE, 2011.

FIGURE 4.8-1
NOISE MONITORING LOCATIONS

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B. Construction Traffic Roadway Noise

To determine if roadway noise level increases during project construction would create noise impacts, the noise levels for the opening year conditions (assumed to occur sometime between 2011 and 2012; hereafter referred to as "Year 2011-2012") were compared with the noise level increase from the project related construction traffic. The construction-related traffic activities of both Phase I and Phase II are anticipated to be the similar. The worst-case construction-related noise increases would occur during Phase I. During Phase II construction, ambient traffic noise conditions are anticipated to be higher, due to increases in traffic along the area roadways. Therefore, the construction related traffic during Phase I is analyzed as a worst-case scenario. Using the project's traffic assessment (LOS, 2011), noise contours were developed for the following traffic scenarios:

- Opening Year 2011-2012 without Project: Current noise conditions plus ambient growth without the construction of the Project.
- Opening Year 2011-2012 with Project: Current noise conditions plus ambient growth plus the construction related traffic of Phase I of the Project.
- Opening Year 2011-2012 with Project: Comparison of the Project construction traffic related noise level increases in the vicinity of the Project site.

The off-site project related roadway segment noise levels were calculated using the methods in the Highway Noise Model published by the Federal Highway Administration (FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, December, 1978). The FHWA Model uses the traffic volume, vehicle mix (95 percent autos, 3 percent medium trucks and 3 percent heavy trucks) and speed to compute the equivalent noise level. A spreadsheet calculation was used which computes equivalent noise levels for each of the time periods used in the calculation of CNEL. Weighting these equivalent noise levels and summing them gives the CNEL for the traffic Projections. The noise contours were then established by iterating the equivalent noise level until the distance to the desired noise contour(s) was found (refer to **Table 4.8-2**, **Table 4.8-3** and **Table 4.8-4**).

4.8.1.3 Operational Noise Assumptions and Model

A. CSE Facility

Operations and maintenance of the project is estimated to require 15 to 21 average daily trips (ADTs) with five to seven AM and PM peak hour trips. During a typical year, the project is estimated to require up to ten daily water trucks for panel washing over approximately 15 business days. Panel washing is estimated to take place one to four times a year. During the washing period, the total project daily traffic on area roadways may increase to 40 or 50 ADT over a 15 business day period. According to the Applicant, the construction workforce is expected to reach a peak during month six of Phase I with approximately 360 workers. The *Draft Traffic Impact Study* (LOS Engineering, 2011) prepared for the project predicts that the construction would produce approximately 1,260 average daily trips (ADT) during the most intense stages of Phase I construction. Because the operations and maintenance traffic generation is significantly less than the construction traffic, the higher and more conservative construction trip generation (worst-case) was used to determine operational noise levels.

For the purposes of the operational noise analysis, the most restrictive applicable sound limits are identified in Ordinance, Title 9, Division 7 (Noise Abatement and Control) Section 90702.00. Sound Level Limits were applied to accommodate the planning of potential future residential uses that are allowed

under existing A-2, A-2-R and A-3 zoning. Section 90702.00, Sound Level Limits sets a sound level limit of 50 dBA Leq for daytime hours of 7 AM to 10 PM and 45 dBA Leq during the noise sensitive nighttime hours of 10 PM to 7 AM for residential noise sensitive land uses. Most of the proposed Project components will only operate during the daytime hours but a few may operate during nighttime or early morning hours and therefore the most restrictive and conservative approach is to apply the 45 dBA Leq nighttime standard at the property lines.

C. Corona Affect

To determine the Corona Affect (refer to description in Section 3.8, subsection 3.8.2.1) of the proposed Gen-tie Line, noise measurements were taken along an existing SDG&E transmission line in the Borrego Springs area (approximately 60 miles northwest of the project site) (**Figure 4.8-2**). The noise measurement location was determined based on access and low ambient noise conditions to capture only the potential transmission line noise levels. The measurements were taken mid-span between two power poles along an existing SDG&E easement using a Larson-Davis Model LxT Type 1 precision sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The LxT was set to record in the low range of -10 to 110 dBA. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200.

Transformer Noise Assumptions

To determine transformer noise, several assumptions were made regarding size. Two different small-scaled transformers and a larger transformer were identified as examples of potential equipment. National Electric Manufactures Association (NEMA) Publication No. TR 1-1993.

The smaller transformers along with array tracker motors would be included as part of the 275 proposed inverter / transformer sites. A larger transformer is proposed as part of the onsite substation. The unshielded noise levels for these two small-scaled transformers and the larger transformer are provided below based on the National Electric Manufactures Association (NEMA) Publication No. TR 1-1993:

- 1 mega-volt ampere (MVA) from 200 Volt (V) to 12 kV - 58 dBA @ 5 feet
- 1 MVA from 12V to 34.5 kV - 58 dBA @ 5 feet
- 20 MVA from 34.5 to 69 kV - 71 dBA @ 5 feet

Water Treatment Plant Assumptions

The noise levels associated with the operation of the water treatment plant were based on a previous study conducted by Ldn for the Warner Ranch Treatment Facility in the County of San Diego. This study was chosen because the Warner Ranch Treatment Facility is comparable in size to the proposed water treatment plant.

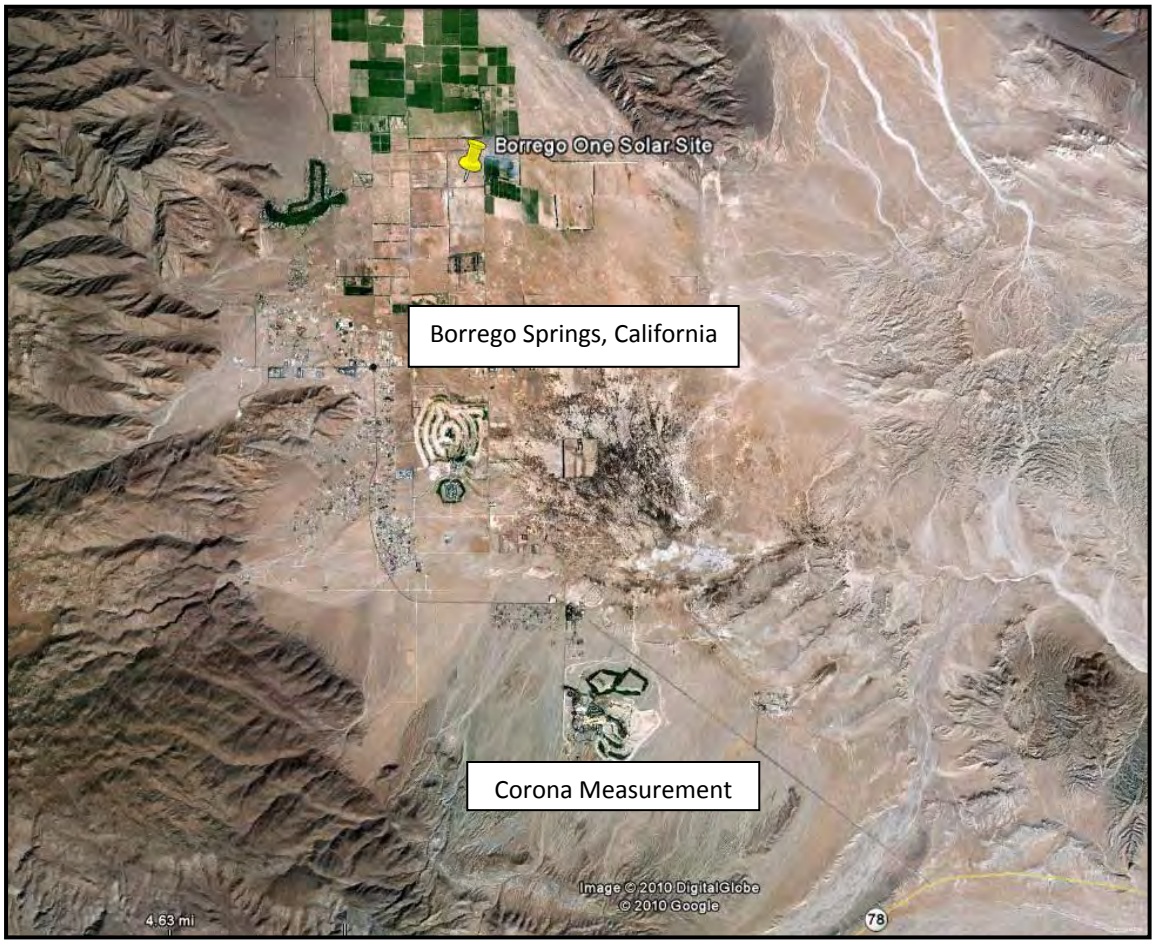

FIGURE 4.8-2
CORONA NOISE MONITORING LOCATIONS

Source: Ldn, 2011b.

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4.8.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct impacts from the Proposed Action or an alternative are related to increases in noise generated by traffic and equipment during construction, operations and maintenance, and decommissioning. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.8.2.1 CEQA SIGNIFICANCE CRITERIA

The significance criteria listed below were used to determine if the proposed project/Proposed Action would result in noise impacts. These criteria are the same as the significance criteria for Noise listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would have a significant impact on noise if any of the following would occur:

1) 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.

2) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project

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?

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?

4.8.2.2 Issues Scoped Out as Part of the Initial Study

Note that significance criteria 2, 5 and 6 were scoped out as part of the Initial Study. Criterion 2 was eliminated because the proposed project, as a solar electricity generating facility, would not create excessive groundborne vibration or noise levels. In addition, grading associated with project development is unlikely to generate groundborne vibration or noise levels through blasting or other construction related activity, as the project is characterized by flat topography. Therefore, no groundborne vibration impact would occur and this issue is not discussed further in this EIR/EA.

Significance criteria 5 and 6 address noise from airports and airstrips. The project site is not within two miles of a public airport or a private airstrip. Thus, no noise impacts would occur in association airport or airstrip noise. This issue is not discussed further in this EIR/EA.

BLM does not have regulations specific to noise and Imperial County Ordinance, Title 9, Division 7 (Noise Abatement and Control) is not applicable to BLM land.

4.8.2.3 NEPA Requirements

The National Environmental Policy Act (NEPA) does not have any specific noise requirements that apply to the Proposed Action. The federal role in regulating noise is mostly limited to transportation, workplace activities, and certain types of machinery. State and local governments determine the extent to which other sources of noise are controlled. The State of California does not directly regulate noise, instead deferring the primary role to local governments. To this end, Imperial County Standards regulating noise as they pertain to the Proposed Action and alternatives have been used in the analysis.

4.8.2.4 Imperial County Standards

A. Construction Noise Standards

The Imperial County General Plan Noise Element includes construction noise standards. Based on the Noise Element, construction noise from a single piece of equipment or a combination of equipment, shall not exceed 75 dB Leq, when averaged over an 8-hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB Leq when averaged over a 1-hour period.

Construction equipment operation shall be limited to the hours of 7 AM to 7 PM, Monday through Friday, and 9 AM to 5 PM Saturday. No commercial construction operations are permitted on Sunday or holidays. In cases where an individual is constructing or modifying a personal residence, and if the work is not being performed as a business, construction equipment operations may be performed on Sundays and holidays between the hours of 9 AM and 5 PM. Such non-commercial construction activities may be further restricted where disturbing, excessive, or offensive noise causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area. No sensitive receptors (e.g. residential uses) are currently in the project area.

B. Property Line Noise Level Limits

In addition to thresholds from CEQA Guidelines Appendix G, the Noise Element of the Imperial County General Plan identifies as shown in **Table 4.8-1**. Likewise, Imperial County's Ordinance, Title 9, Division 7 (Noise Abatement and Control) Section 90702.00 Subsection A provides acceptable sound level limits based on the property zoning. These sound level limits are provided in **Table 4.8-1** apply to noise generation from one property to an adjacent property. The standards imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. These standards do not apply to construction noise.

TABLE 4.8-1
PROPERTY LINE NOISE LEVEL LIMITS

Zone	Time	Applicable Limit One-hour Average Sound Level (Decibels)
Residential Zones	7 AM to 10 PM	50
	10 PM to 7 AM	45
Multi-residential Zones	7 AM to 10 PM	55
	10 PM to 7 AM	50
Commercial Zones	7 AM to 10 PM	60
	10 PM to 7 AM	55
Light Industrial/Industrial Park Zones	Anytime	70
General Industrial Zones	Anytime	75

Source: County of Imperial Ordinance, Title 9, Division 7 (Noise Abatement and Control).
Notes: When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal/exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dBL_{eq}.
The sound level limit between two zoning districts (different land uses) shall be measured at the property line between the properties.
Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of subsection A of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.
This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit.
This section does not apply to noise generated by standard agricultural field operating practices such as planting and harvesting of crops. The County of Imperial has a Right to Farm Ordinance (1031) which serves as recognition to agricultural practices to new development. Agricultural/industrial operations shall comply with the noise levels prescribed under the general industrial zones.

C. Noise/Land Use Compatibility Guidelines

The Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element are intended to prohibit the increase of ambient noise levels up to the maximum unless feasible noise reduction measures are considered. The following guidelines are established by Imperial County for the evaluation of significant noise impact.

a. If the future noise level after the Project is completed will be within the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, but will result in an increase of 5 dB CNEL or greater, the Project will have a potentially significant noise impact and mitigation measures must be considered.

b. If the future noise level after the Project is completed will be greater than the "normally acceptable" noise levels shown in the Noise/Land Use Compatibility Guidelines, a noise increase of 3 dB CNEL or greater shall be considered a potentially significant noise impact and mitigation measures must be considered.

D. Guidelines for the Determination of Significance

The Imperial County Ordinance, Title 9, Division 7 (Noise Abatement and Control), Section 90702.00, Sound Level Limits states it is unlawful for any person to make or cause any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of their property exceeds the applicable limits provided above in **Table 4.8-1**.

4.8.3 ENVIRONMENTAL CONSEQUENCES

4.8.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsection 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Several sources of noise would occur during the course of project construction. The following discussion looks at each of these noise sources individually. Combined construction noise impacts are discussed below in subsection 4.8.4.

Off-Site Traffic Related Noise Impacts

The noise levels and the distances to the 60 dBA CNEL contours for the roadways in the vicinity of the project site are provided in **Table 4.8-2** for the Opening Year 2011-2012 Scenario without Project construction traffic.

TABLE 4.8-2
OPENING YEAR 2011-2012 TRAFFIC NOISE LEVELS WITHOUT PROJECT

Roadway Segment	ADT[1]	Vehicle Speeds (MPH)[1]	Noise Level @ 50-Feet (dBA CNEL)	60 dBA CNEL Contour Distance (Feet)
Brockman Road				
McCabe Road to Kubler Road	420	45	55.6	26
Kubler Road to SR 98	318	45	54.4	21
Drew Road				
I-8 to Fisher Road	713	55	59.9	49
Fisher Road to Kubler Road	160	55	53.4	18
Kubler Road to SR 98	161	55	53.5	18
Ferrell Road				
Kubler Road to SR 98	838	45	58.6	41
Fisher Road				
Drew Road to Wormwood Road	26	40	42.4	3

TABLE 4.8-2
OPENING YEAR 2011-2012 TRAFFIC NOISE LEVELS WITHOUT PROJECT

Roadway Segment	ADT[1]	Vehicle Speeds (MPH)[1]	Noise Level @ 50-Feet (dBA CNEL)	60 dBA CNEL Contour Distance (Feet)
Forrester Road				
I-8 to McCabe Road	1,029	55	61.5	63
Kubler Road				
Drew Road to Pulliam Road	70	40	46.7	7
Pulliam Road to Brockman Road	131	40	49.5	10
Brockman Road to Rockwood Road	216	40	51.6	14
Rockwood Road to Ferrell Road	269	40	52.6	16
McCabe Road				
Brockman Road to Forrester Road	705	45	57.9	36
Pulliam Road				
Fisher Road to Kubler Road	47	40	45.0	5
Kubler Road to SR 98	34	40	43.6	4
Rockwood Road				
Kubler Road to SR 98	107	40	48.6	9
SR 98				
Drew Road to Pulliam Road	2,391	65	66.9	145
Pulliam Road to Brockman Road	2,391	65	66.9	145
Brockman Road to Rockwood Road	2,391	65	66.9	145
Rockwood Road to Ferrell Road	2,391	65	66.9	145
Ferrell Road to Clark Road	2,879	65	67.7	164
Clark Road to Dogwood Road	4,455	65	69.6	220

Source: Ldn, 2011b.
[1] *Draft Traffic Impact Assessment* prepared by LOS Engineering, Inc., 2011.

Table 4.8-3 shows noise levels and the distances to the 60 dBA CNEL contours for the same roadways in the vicinity of the project site for the Opening Year 2011-2012 with Project constriction traffic scenario. Note that the values given do not take into account the effect of any noise barriers or topography that may affect ambient noise levels.

TABLE 4.8-3
YEAR 2011-2012 TRAFFIC NOISE LEVELS WITH PROJECT

Roadway Segment	ADT[1]	Vehicle Speeds (MPH)[1]	Noise Level @ 50-Feet (dBA CNEL)	60 dBA CNEL Contour Distance (Feet)
Brockman Road				
McCabe Road to Kubler Road	924	45	59.1	43
Kubler Road to SR 98	1,007	45	59.3	46
Drew Road				
I-8 to Fisher Road	902	55	61.0	58
Fisher Road to Kubler Road	286	55	56.0	27
Kubler Road to SR 98	224	55	54.9	23
Ferrell Road				
Kubler Road to SR 98	901	45	59.0	43

TABLE 4.8-3
YEAR 2011-2012 TRAFFIC NOISE LEVELS WITH PROJECT

Roadway Segment	ADT[1]	Vehicle Speeds (MPH)[1]	Noise Level @ 50-Feet (dBA CNEL)	60 dBA CNEL Contour Distance (Feet)
Fisher Road				
Drew Road to Wormwood Road	99	40	48.2	8
Forrester Road				
I-8 to McCabe Road	1,344	55	62.7	75
Kubler Road				
Drew Road to Pulliam Road	183	40	50.9	12
Pulliam Road to Brockman Road	1,009	40	58.3	39
Brockman Road to Rockwood Road	284	40	52.8	17
Rockwood Road to Ferrell Road	332	40	53.5	18
McCabe Road				
Brockman Road to Forrester Road	1,209	45	60.2	52
Pulliam Road				
Fisher Road to Kubler Road	510	40	55.4	25
Kubler Road to SR 98	660	40	56.5	29
Rockwood Road				
Kubler Road to SR 98	112	40	48.8	9
SR 98				
Drew Road to Pulliam Road	2,617	65	67.3	154
Pulliam Road to Brockman Road	3,017	65	67.9	169
Brockman Road to Rockwood Road	2,932	65	67.8	166
Rockwood Road to Ferrell Road	2,832	65	67.7	162
Ferrell Road to Clark Road	3,257	65	68.3	178
Clark Road to Dogwood Road	4,707	65	69.9	228

Source: Ldn, 2011b.
[1] *Draft Traffic Impact Assessment* prepared by LOS Engineering, Inc., 2011.

Table 4.8-4 presents a comparison of noise levels for those roadways in the vicinity of the project site for Year 2011-2012 (the start of operations of Phase I) with and without the project. The overall roadway segment noise levels will increase from 0.3 dBA CNEL to 12.9 dBA CNEL based on the anticipated Phase I worst-case construction traffic.

As shown noted in **bold** in the last column of **Table 4.8-4,** the project would create a short-term noise increase during the peak period of construction of Phase I on four roadway segments. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. No sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated during the construction of Phase I or Phase II. As no sensitive receptors would be impacted by construction traffic noise, no direct or indirect noise impacts would occur in association with roadway traffic noise during construction.

On-Site Construction Equipment Noise

Construction noise represents a short-term impact on ambient noise levels. Noise generated by construction equipment such as haul trucks, water trucks, graders, dozers, loaders and scrapers can

reach relatively high levels. Grading activities typically represent one of the highest potential sources for noise impacts. However, minimal grading would be necessary for the project site based on its relatively flat topography. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

TABLE 4.8-4
YEAR 2011-2012 WITHOUT PROJECT/YEAR 2011-2012 WITH PROJECT NOISE LEVELS

Roadway Segment	Year 2011-2012 without Project Noise Level @ 50-Feet (dBA CNEL)	Year 2011-2012 with Project Noise Level @ 50-Feet (dBA CNEL)	Project Related Noise Level Increase (dBA CNEL)	County Threshold	Potential Impact?
Brockman Road					
McCabe Road to Kubler Road	55.6	59.1	3.5	5	No
Kubler Road to SR 98	54.4	59.3	4.9	5	No
Drew Road					
I-8 to Fisher Road	59.9	61.0	1.1	3	No
Fisher Road to Kubler Road	53.4	56.0	2.6	5	No
Kubler Road to SR 98	53.5	54.9	1.4	5	No
Ferrell Road					
Kubler Road to SR 98	58.6	59.0	0.4	5	No
Fisher Road					
Drew Road to Wormwood Road	42.4	48.2	**5.8**	5	**Yes**
Forrester Road					
I-8 to McCabe Road	61.5	62.7	1.2	3	No
Kubler Road					
Drew Road to Pulliam Road	46.7	50.9	4.2	5	No
Pulliam Road to Brockman Road	49.5	58.3	**8.8**	5	**Yes**
Brockman Road to Rockwood Road	51.6	52.8	1.2	5	No
Rockwood Road to Ferrell Road	52.6	53.5	0.9	5	No
McCabe Road					
Brockman Road to Forrester Road	57.9	60.2	2.3	5	No
Pulliam Road					
Fisher Road to Kubler Road	45.0	55.4	**10.4**	5	**Yes**
Kubler Road to SR 98	43.6	56.5	**12.9**	5	**Yes**
Rockwood Road					
Kubler Road to SR 98	48.6	48.8	0.2	5	No
SR 98					
Drew Road to Pulliam Road	66.9	67.3	0.4	3	No
Pulliam Road to Brockman Road	66.9	67.9	1.0	3	No
Brockman Road to Rockwood Road	66.9	67.8	0.9	3	No
Rockwood Road to Ferrell Road	66.9	67.7	0.8	3	No
Ferrell Road to Clark Road	67.7	68.3	0.6	3	No
Clark Road to Dogwood Road	69.6	69.9	0.3	3	No

Source: Ldn, 2011b.
[1] *Draft Traffic Impact Assessment* prepared by LOS Engineering, Inc., 2011.
Note: Sound Levels provided are worst-case and do not take into account topography or shielding from barriers.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment at a distance of 50 feet can range from 60 dBA for a small tractor up to 100 dBA for rock breakers. However, these noise levels diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 87 dBA measured at 50 feet from the noise source would be reduced to 81 dBA at 100 feet from the source and be further reduced to 75 dBA at 200 feet from the source.

Table 4.8-5 shows the noise levels associated with site preparation and trenching operations based on the list of equipment proved by the Applicant. Most of the construction activities for both Phases will consist of clearing and grubbing the site and the trenching of utilities for the preparation of the PV panels. The equipment is anticipated to be spread out over the entire site of each phase with some equipment potentially operating at or near the property line while the rest of the equipment may be over 1,000 to 2,000 feet from the same property line. This would result in an acoustical center for the grading operation of more than 500 feet from the nearest property line.

As shown in **Table 4.8-5**, if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Therefore, no direct or indirect construction equipment noise impacts would occur.

TABLE 4.8-5
CONSTRUCTION GRADING NOISE LEVELS (PHASE I & II)

Construction Equipment	Quantity	Duty Cycle (Hours/Day)	Source Level @ 50-Feet (dBA)	Combined Noise Level @ 50-Feet (dBA Leq-8 hour)
Off Highway Trucks	13	2.7	75	81.4
Graders	4	6.8	74	79.3
Rollers	2	6.8	75	77.3
Tractors/Loaders/Backhoes	2	6.8	73	75.3
Water Trucks	3	6.8	70	74.1
Rubber Tired Dozers	3	6.8	72	76.1
Rough Terrain Forklifts	1	1.7	72	65.3
			Combined Levels @ 50 Feet (dBA)	85.8
			Distance To Property Line	175
			Noise Reduction Due To Distance	-10.9
			NEAREST PROPERTY LINE NOISE LEVEL	74.9
			County of Imperial Threshold	75
			IMPACT?	NO

Source: Ldn, 2011b.

PV Panel Installation Noise

The installation of the PV panels for both phases would use two small pile drivers to install the panel stands, two mobile cranes to move the PV panel in position, and two pneumatic tools to secure the

panels to the stands. **Table 4.8-6** shows the noise levels used for the installation of the PV panels based on the list of equipment provided by the Applicant. Based on normal installation procedures, the equipment is anticipated to be spread out over the entire site similar to site preparation and trenching activity. Some equipment will be operating at or near the property line while the rest of the equipment may be over 1,000 to 2,000 feet from the same property line. This would result in an acoustical center for the PV installation operation of more than 500 feet from the nearest property line. The distance to the property lines would increase as the interior panels are installed and the noise levels would decrease due to distance.

As shown in **Table 4.8-6**, if all the equipment was operating in the same location (which is physically impossible) at a distance as close as 130 feet from the nearest property line, the point source noise attenuation from construction activities is -8.3 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this distance and the spatial separation of the equipment, the noise levels would comply with the Imperial County's Property Line Noise Level Limits of 75 dBA standard at all project site property lines for both Phase I and Phase II construction. Therefore, no direct or indirect noise impacts resulting from PV panel installation are anticipated.

TABLE 4.8-6
PV PANEL INSTALLATION NOISE LEVELS

Construction Equipment	Quantity	Duty Cycle (Hours/Day)	Source Level @ 50-Feet (dBA)	Combined Noise Level @ 50-Feet (dBA Leq-8h)
Rough Terrain Forklifts	8	1.7	72	74.3
Cranes	4	1.8	75	74.5
Generator Sets	1	8	74	74.0
Tractors/Loaders/Backhoes	1	8	73	73.0
Air Compressors	2	4	76	76.0
Forklifts	2	7	72	74.4
Water Trucks	3	2	70	68.8
Aerial Lifts	1	8	70	70.0
Crawler Tractors	1	8	72	72.0
			Combined Levels @ 50 Feet (dBA)	83.0
			Distance To Property Line	130
			Noise Reduction Due To Distance	-8.3
			NEAREST PROPERTY LINE NOISE LEVEL	74.7
			County of Imperial Threshold	75
			IMPACT?	NO

Source: Ldn, 2011b.

Operations and Maintenance

This section examines the potential stationary noise source impacts associated with the operation of the proposed CSE Facility. Specifically, noise levels from the proposed transformers, inverters, the substation and the transmission lines.

Operational noise would be generated by the proposed CSE Facility and Gen-tie Line. Specifically, noise would be generated by electrical current traveling through transformers, inverters, the substation and

the Gen-tie Line. Panels would be electrically connected into panel strings using wiring attached to the racking.

The Proposed Action includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. These structures would be approximately 9 feet wide by 30 feet wide and 10 feet in height at the apex of the roof. The structures would be open on the sides, constructed of wood and steel, and would be neutral in color. Phase I includes installation of 175 of these structures with the remaining 100 installed as part of Phase II. Each of these structures would house a Satcon PowerGate Plus 1 MW Commercial Solar PV Inverter, or equivalent, and one small transformer necessary to increase voltage. The transformer and inverter locations will be spread out over the site with one transformer and one inverter grouped next to each other.

The Project also includes a substation and water treatment facility south of SR (SR) 98 between Brockman Road and Carpenter Drain No. 1 in the southeast portion of the site. **Figure 4.8-3** shows the location of the proposed substation, water treatment facility and typical inverter/ transformer and PV array locations.

The electric power produced by the project will connect to the existing electrical system by way of a new 230-kV Gen-tie Line extending from the site to the Imperial Valley Substation (refer to Figure 2.0-3 in Chapter 2.0). Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. The operational noise levels from the proposed on site small-scale inverter/transformer buildings along with the substation equipment and the offsite Corona Affect are analyzed separately below.

Transformer/Inverter and Array Tracker Noise Levels

The proposed Satcon PowerGate Plus 1 MW Commercial Solar PV Inverter, or equivalent, has an unshielded noise rating of less than 65 dBA at a distance of 5 feet and the array tracker motor has a noise rating of 61 dBA at 5 feet (Ldn, 2011b). The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). The adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3). However, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was assessed because residential uses are allowed within these agricultural zoning designations. Therefore, if a residence or residential development is constructed in the future, the proposed project would still be in compliance with the County standards. The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. **Table 4.8-7** shows the results of the noise modeling.

TABLE 4.8-7
TRANSFORMER/INVERTER AND TRACKER NOISE – NEAREST PROPERTY LINE

Source	Noise Level @ 5-Feet (dBA)[1]	Distance to Nearest Property Line (Feet)	Noise Reduction due to distance (dBA)	Resultant Noise Level @ Property Line (dBA Leq)	Property Line Standard (dBA Leq)	Impact?
Transformer	58.0	75	-23.5	34.5	45	No
Inverter	65.0	75	-23.5	41.5	45	No
Array Tracker	61.0	75	-23.5	37.5	45	No
Combined Noise Level @ Property Line (dBA)				43.5	45	No

Source: Ldn, 2011b.
[1] Noise data are provided in the attachments to **Appendix F** of this EIR/EA.

As shown, the combined noise level at the nearest property line was projected to be 43.5 dBA Leq which is below the 45 dBA Leq. No direct or indirect noise impacts from transformer/inverter and tracker noise are anticipated. In fact, at a distance of 65 feet or more the transformers/inverters and array tracker motors, unshielded, would comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**).

Substation Noise Levels

The proposed project's onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (Table 4.8-1). No direct or indirect noise impacts would occur in association with the proposed substation.

Water Treatment Facility Noise

The water treatment plant control building would include a compressor, a stand-by diesel generator, fans and the hydropneumatic (i.e. collecting gases over water or other liquids) pumps. The noise level from the control building would depend on the orientation of the building and the location of any ventilation/louvers. Noise levels were found to be 58 dBA at 25 feet from the sides of the building that contained no openings, and as high as 77 dBA at 25 feet on the sides of the building that do contain openings or louvers. This worst-case noise level of 77 dBA was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**.

The water treatment facility is proposed next to the Substation south of SR 98 between Brockman Road and Carpenter Canal No. 1. The water treatment facility is also 2,000 feet or more from the nearest property line. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (Table 4.8-1). No direct or indirect noise impacts would occur in association with operation of the water treatment facility.

Corona Affect Noise Levels

The Corona Affect (Corona) is a phenomenon associated with the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to very high electric field strength. This is audible power line noise that is generated from electric Corona discharge, which is usually experienced as a random crackling or hissing sound (refer to Section 3.8 for additional details on the Corona Affect).

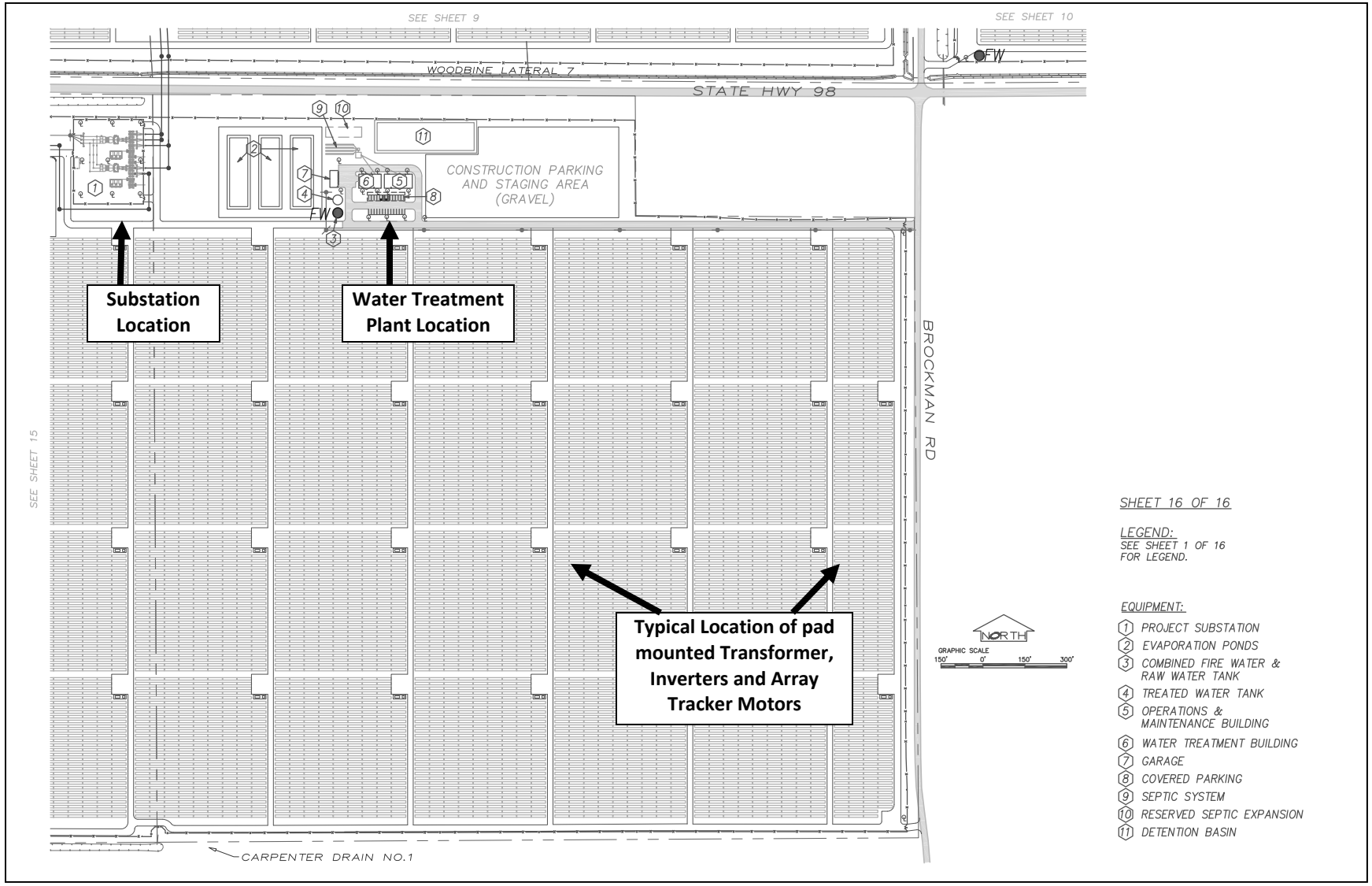
To determine the Corona Affect of the proposed Gen-tie line, representative noise measurements from an existing SDG&E transmission line in the Borrego Springs were considered. The short-term measurements are provided in **4.8-8**.

TABLE 4.8-8
MEASURED CORONA NOISE LEVELS

Location	Time	One Hour Noise Levels (dBA)						Property Line Standard (dBA L_{eq})	Impact ?
		L_{eq}	L_{min}	L_{max}	L10	L50	L90		
Transmission Lines Borrego Springs	9:35–9:36 AM	17.6	16.7	22.7	18.7	17.0	16.8	45	No
Transmission Lines Borrego Springs	9:37–9:38 AM	18.3	17.4	27.2	19.3	18.1	17.7	45	No

Source: Ldn Consulting, Inc. December 4, 2009 as cited in Ldn, 2011b.

As identified in **Table 4.8-8**, noise levels from the Corona were very low, below 20 dBA, during dry conditions. Typically during moist or wet conditions, Corona noise can double which would have caused the measurements to range from 35 to 37 dBA. This would be consistent with previous studies and modeling efforts conducted by the Electric Power Research Institute (EPRI) and CH_2M Hill for the Cross Valley Transmission Line Project conducted for Southern California Edison 2008. However, the measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. This was also consistent with previously measured and modeled noise levels on transmission line projects throughout California. Therefore, no direct or indirect noise impacts from the Corona Affect are anticipated from Gen-tie Line during both wet and dry conditions. It is noted that Corona produced by a transmission line can be reduced, depending on the type of conductors and hardware used for the construction of the line. For example, conductor hangers that have rounded edges rather than sharp edges, and no protruding sharp edges would help reduce Corona.



Base Map Source: CSE, 2011.

FIGURE 4.8-3
PROPOSED EQUIPMENT LOCATIONS

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Decommissioning

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. No direct or indirect on-site noise impacts are anticipated in association with decommissioning.

Noise from Traffic Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning activities would likely be somewhat less than the noise levels estimated for construction-related traffic was determined to be below thresholds. No direct or indirect traffic noise impacts are anticipated in association with decommissioning.

B. CEQA Significance Determinations

Noise Levels In Excess of Standards/Temporary Increase in Noise

1) 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.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Construction

Short-Term Construction Noise

Several sources of noise would occur during the course of project construction including traffic on area roadways, on-site construction equipment operations and PV panel installation activities.

Off-Site Traffic Noise

Off-site traffic-related noise was modeled to determine the change in noise levels measured. Noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as exceeding the County threshold during construction of

Phase I: Fisher Road from Drew Road to Wormwood Road; Kubler Road from Pulliam Road to Brockman Road; Pulliam Road from Fisher Road to Kubler Road; and Pulliam Road from Kubler Road to SR 98. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. Furthermore, no sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same or lower noise level increases during the peak construction period as Phase I, and therefore no impacts are anticipated during the construction of Phase I or Phase II. Because no sensitive uses would be affected by the increase in off-site traffic noise, and the increase is considered "normally acceptable", this is considered a less than significant impact under CEQA.

On-Site Construction Equipment Noise

Although construction noise is short-term in nature, noise generated by construction equipment such as haul trucks, water trucks, graders, dozers, loaders and scrapers can reach relatively high levels. Grading activities typically represent one of the highest potential sources for noise impacts. Most of the construction activities for both Phase I and II will consist of clearing and grubbing the site and the trenching of utilities for the preparation of the PV panels.

Noise modeling of on-site construction equipment appears in **Table 4.8-5.** As shown, if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 235 feet from the nearest property line, the point source noise attenuation from construction activities is -13.5 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of 75.0 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Because the project would meet the County's standard, short-term on-site construction noise impacts are considered less than significant under CEQA.

PV Panel Installation Noise

Installation of PV panels would generate noise in association with the use of two small pile drivers to install the panel stands, two mobile cranes to move the PV panel in position, and two pneumatic tools to secure the panels to the stands. Noise modeling prepared for the Proposed Action identified a worst-case eight-hour average combined noise level of 75 dBA at the property line based on a distance as close as 175 feet from the point source. Noise attenuation from the site preparation activities and the nearest property line is -10.9 dBA. Likewise, at a distance of 130 feet, noise associated with PV panel installation would also not exceed a noise level of 75 dBA. Site preparation, trenching and PV installation equipment are anticipated to be an average of more than 500 feet from the nearest property line. Based on this distance, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with the Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, the short-term construction noise resulting from PV panel installation is considered a less than significant impact under CEQA.

Operations and Maintenance

Long-Term Operational Noise Levels

Noise Levels In Excess of Standards/Permanent Increase in Noise

1) 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.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

The Proposed Action includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. These structures would be approximately 9 feet wide by 30 feet wide and 10 feet in height at the apex of the roof. The structures would be open on the sides, constructed of wood and steel, and would be neutral in color. The transformer and inverter locations will be spread out over the site with one transformer and one inverter grouped next to each other.

Phase I includes installation of 175 of these structures with the remaining 100 installed as part of Phase II. Each of these structures would house a Satcon PowerGate Plus 1 MW Commercial Solar PV Inverter, or equivalent, and one small transformer necessary to increase voltage.

The electric power produced by the project will connect to the existing electrical system by way of a new 230-kV Gen-tie Line extending from the site to the Imperial Valley Substation (refer to Figure 2.0-3 in Chapter 2.0). Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment.

The proposed Satcon PowerGate Plus 1 MW Commercial Solar PV Inverter, or equivalent, has an unshielded noise rating of less than 65 dBA at a distance of 5 feet and the array tracker motor has a noise rating of 61 dBA at 5 feet (Ldn, 2011b). The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). While adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3), residential uses are allowed within these agricultural zoning designations. Therefore, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. In using this standard any future residence or residential development constructed on adjacent property would still be in compliance with the County standards. The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq. This noise level would be below the 45 dBA Leq property line standard (**Table 4.8-7**). In fact, at a distance of 65 feet or more, the transformers/inverters and array tracker motors, unshielded, would still comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**). Therefore, the Proposed Action would not exceed

Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. This is considered a less than significant impact under CEQA.

Substation Noise Levels

The proposed onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, the Proposed Action would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the onsite substation. This is considered a less than significant impact under CEQA.

Water Treatment Facility Noise

The water treatment plant control building would include a compressor, a stand-by diesel generator, fans and the hydropneumatic (i.e. collecting gases over water or other liquids) pumps. The noise level from the control building would depend on the orientation of the building and the location of any ventilation/louvers. Noise levels were found to be 58 dBA at 25 feet from the sides of the building that contained no openings and as high as 77 dBA at 25 feet on the sides of the building that do contain openings or louvers. This worst-case noise level of 77 dBA was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**.

The water treatment facility is proposed next to the substation south of SR 98 between Brockman Road and Carpenter Canal No. 1. The water treatment facility is also 2,000 feet or more from the nearest property line. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, the Proposed Action would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. This is considered a less than significant impact under CEQA.

Corona Affect Noise Levels

To determine the Corona Affect (refer to Section 3.8, sub-section 3.8.2.1) of the proposed Gen-tie line, representative noise measurements from an existing SDG&E transmission line in the Borrego Springs were considered (**Table 4.8-8**). Noise levels from the Corona were very low, below 20 dBA, during dry conditions. Typically during moist or wet conditions, Corona noise can double which would have caused the measurements to range from 35 to 37 dBA. This would be consistent with previous studies and modeling efforts conducted by the Electric Power Research Institute (EPRI) and CH_2M Hill for the Cross Valley Transmission Line Project conducted for Southern California Edison 2008. However, the measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. This was also consistent with previously measured and modeled noise levels on transmission line projects throughout California. Therefore, the Corona Affect from Gen-tie Line during both wet and dry conditions would be within acceptable limits. Noise

associated with the Corona Affect is considered a less than significant under CEQA for the Proposed Action.

Decommissioning

Temporary Increase in Noise

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. On-site noise impacts in association with decommissioning the Proposed Action would be temporary and are anticipated to be similar to construction noise levels which were all determined to be within thresholds or "normally acceptable" limits. Therefore, noise from on-site decommissioning activities is considered a less than significant impact under CEQA.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning the Proposed Action would likely be somewhat less than the noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, traffic noise associated with decommissioning activities is considered a less than significant impact under CEQA.

4.8.3.2 Alternative 1 - Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant retains the flexibility to construct either single or double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Short-Term Construction Noise

The Proposed Action and Alternative 1 are exactly the same with the exception of the use of double circuit structures as part of Alternative 1. Therefore, the short-term construction noise modeling prepared for the Proposed Project also applies to Alternative 1. As noted in **bold** in the last column of **Table 4.8-4,** a short-term noise increase would occur during the peak period of construction of Phase I on four roadway segments. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. No sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated during the construction of Phase II. As no sensitive receptors would be impacted by construction traffic noise, no direct or indirect noise impacts would occur in association with roadway traffic noise during construction of Alternative 1.

Off-Site Construction Traffic Noise

Off-site traffic-related noise was modeled to determine the change in noise levels occurring on area roadways for the Proposed Action. Noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side and to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Because the Proposed Action and Alternative 1 are anticipated to have identical off-site construction traffic noise, the result of the modeling would also apply to Alternative 1. Therefore, just as no direct or indirect construction equipment noise impacts were identified for the Proposed Action, no direct or indirect construction noise equipment noise impacts would occur in association with Alternative 1.

On-Site Construction Equipment Noise

Noise modeling of on-site construction equipment for the Proposed Action appears in **Table 4.8-5** and also applies to Alternative 1**.** As shown, if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Therefore, no direct or indirect construction equipment noise impacts would occur.

PV Panel Installation Noise

Installation of PV panels would generate noise in association with the use of two small pile drivers to install the panel stands, two mobile cranes to move the PV panel in position, and two pneumatic tools to secure the panels to the stands. Noise modeling prepared for the Proposed Action identified a worst-case eight-hour average combined noise level of less than 75 dBA at the property line based on a distance as close as 130 feet from the point source. This modeling also applies to Alternative 1 because it so closely resembles the Proposed Action, aside for the use of double circuit structures for Alternative 1. Based on distance and the spatial separation of the equipment over the large site area, the noise

levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, no direct or indirect noise impacts resulting from PV panel installation are anticipated for Alternative 1.

Operations and Maintenance

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

Identical to the Proposed Action, Alternative 1 includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). While adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3), residential uses are allowed within these agricultural zoning designations. Therefore, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq. This noise level would be below the 45 dBA Leq property line standard (**Table 4.8-7**). In fact, at a distance of 65 feet or more, the transformers/inverters and array tracker motors, unshielded, would still comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**). Therefore, the Alternative 1 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. No direct or indirect noise impacts from transformer/inverter and tracker noise are anticipated. In fact, at a distance of 65 feet or more the transformers/inverters and array tracker motors, unshielded, would comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**).

Substation Noise Levels

The proposed onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). No direct or indirect noise impacts would occur in association with the proposed substation for Alternative 1.

Water Treatment Facility Noise

Alternative 1 would have a water treatment facility identical to the Proposed Action in terms of location and design. Noise levels for the operations building were found to be 58 dBA at 25 feet from the sides of

the building that contained no openings and as high as 77 dBA at 25 feet on the sides of the building that do contain openings or louvers. This worst-case noise level of 77 dBA was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**.

The water treatment facility is proposed next to the substation south of SR 98 between Brockman Road and Carpenter Canal No. 1. The water treatment facility is also 2,000 feet or more from the nearest property line. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, the water treatment plant would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. No direct or indirect noise impacts would occur in association with operation of the water treatment facility for Alternative 1.

Corona Affect Noise Levels

The Gen-tie Line for the Proposed Action and Alternative 1 would be identical. The measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. This was also consistent with previously measured and modeled noise levels on transmission line projects throughout California. Therefore, the Corona Affect from the Gen-tie Line during both wet and dry conditions would be within acceptable limits. No direct or indirect noise impacts from the Corona Affect are anticipated from Gen-tie Line proposed as part of Alternative 1 during both wet and dry conditions.

Decommissioning

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. Thus, short-term direct impacts would occur from on-site noise associated with decommissioning Alternative 1. No indirect noise impacts would occur.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate

lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 1 would likely be somewhat less than the noise levels estimated for construction-related traffic, which was determined to be below thresholds. Therefore, short-term direct impacts would occur from traffic noise associated with decommissioning Alternative 1. No indirect noise impacts would occur.

B. CEQA Significance Determinations

Construction

Noise Levels In Excess of Standards/Temporary Increase in Noise

1) 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.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-Term Construction Noise

Several sources of noise would occur during the course of project construction including traffic on area roadways, on-site construction equipment operations and PV panel installation activities.

Off-Site Traffic Noise

Off-site traffic-related noise was modeled for the Proposed Action to determine the change in noise levels resulting from construction traffic. Because construction of the Proposed Action and Alternative 1 would be identical, the same results for the Proposed Action also apply to Alternative 1. Traffic noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as exceeding the County threshold during construction of Phase I. Phase II would have the same, or lower, noise level increases during the peak construction period as Phase I. Because no sensitive uses would be affected by the increase in off-site traffic noise, and the increase is considered "normally acceptable", off-site construction traffic noise is considered a less than significant impact under CEQA for Alternative 1.

On-Site Construction Equipment Noise

Noise modeling of on-site construction equipment for the Proposed Action is shown in **Table 4.8-5.** Because the Proposed Action and Alternative 1 would are anticipated to use identical construction equipment, the modeling for the Proposed Action also applies to Alternative 1. As shown in **Table 4.8-5** if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Because the project would meet the County's standard, short-term on-site construction noise impacts are considered less than significant under CEQA for Alternative 1.

PV Panel Installation Noise

Installation of PV panels for Alternative 1 would be identical to the Proposed Action. Noise modeling prepared for the Proposed Action identified a worst-case eight-hour average combined noise level of 75 dBA at the property line based on a distance as close as 175 feet from the point source. This also applies to Alternative 1. Noise attenuation from the site preparation activities and the nearest property line is -10.9 dBA. Likewise, at a distance of 130 feet, noise associated with PV panel installation would also reach a noise level of less than 75 dBA. Site preparation, trenching and PV installation equipment are anticipated to be an average of more than 500 feet from the nearest property line. Based on this distance, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, the short-term construction noise resulting from PV panel installation is considered a less than significant impact under CEQA for Alternative 1.

Operations and Maintenance

Noise Levels In Excess of Standards/Permanent Increase in Noise

1) 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.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Long-Term Operational Noise Levels

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

The Proposed Action includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). While adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3), residential uses are allowed within these agricultural zoning designations. Therefore, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. The combination of noise from the transformer, inverter, and array tracker motor at the nearest property line was projected to be 43.5 dBA Leq which is below the 45 dBA Leq property line standard (**Table 4.8-7**). Therefore, Alternative 1 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. This is considered a less than significant impact under CEQA.

Substation Noise Levels

A substation is proposed as part of both the Proposed Action and Alternative 1. The proposed onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, Alternative 1 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the onsite substation. This is considered a less than significant impact under CEQA.

Water Treatment Facility Noise

The water treatment plant proposed as part of the Proposed Action is identical in location and design to the water treatment plant proposed for Alternative 1. Noise levels for a facility of this nature were found to be 58 dBA at 25 feet from the sides of the building that contained no openings and as high as 77 dBA at 25 feet on the sides of the building that do contain openings and/or louvers. This worst-case noise level of 77 dBA was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Likewise, Alternative 1 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. This is considered a less than significant impact under CEQA for Alternative 1.

Corona Affect Noise Levels

Measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. Therefore, the Corona Affect from the Gen-tie Line proposed as part of Alternative 1 would be within acceptable limits during both wet and dry conditions. Likewise, noise associated with the Corona Affect is considered a less than significant under CEQA for Alternative 1. While another 230 kV line could be accommodated as part of Alternative 1, it is not proposed as part of the project and a separate noise analysis would have to be prepared if, and when, a line is proposed to occupy the available circuit.

Decommissioning

Temporary Increase in Noise

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting

agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. On-site noise impacts in association with decommissioning of Alternative 1 would be temporary and are anticipated to be similar to construction noise levels which were all determined to be within thresholds or "normally acceptable" limits. Therefore, noise from on-site decommissioning activities for Alternative 1 is considered a less than significant impact under CEQA.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 1 would likely be somewhat less than the noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, traffic noise associated with decommissioning activities for Alternative 1 is considered a less than significant impact under CEQA.

4.8.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

<u>Construction</u>

Short-Term Construction Noise

The Proposed Action and Alternative 2 are anticipated to have similar construction noise levels, even though Alternative 2 is 335 acres smaller than the Proposed Action. Short-term construction noise modeling prepared for the Proposed Project is assumed to closely resemble conditions that would occur for Alternative 2. As noted in **bold** in the last column of **Table 4.8-4,** a short-term noise increase would occur during the peak period of construction of Phase I on four roadway segments. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. No sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated

during the construction of Phase II. As no sensitive receptors would be impacted by construction traffic noise, no direct or indirect noise impacts would occur in association with roadway traffic noise during construction of Alternative 2.

Off-Site Construction Traffic Noise

Off-site traffic-related noise was modeled to determine the change in noise levels occurring on area roadways for the Proposed Action. Similar noise is anticipated to occur in association with construction of Alternative 2. Noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side and to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as increasing and exceeding the County threshold during construction of Phase I. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. Furthermore, no sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I. Because the Proposed Action and Alternative 2 are anticipated to have very similar off-site construction traffic noise, the result of the modeling would also apply to Alternative 2. Therefore, no direct or indirect construction equipment noise impacts would occur in association with Alternative 2.

On-Site Construction Equipment Noise

Most of the construction activities for Phases I and II will consist of clearing and grubbing the site and the trenching of utilities for the preparation of the PV panels. These same activities would occur for both the Proposed Action and Alternative 2, though 335 fewer acres would be developed as part of Alternative 2.

Noise modeling of on-site construction equipment for the Proposed Action appears in **Table 4.8-5** and also applies to Alternative 2**.** As shown, if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Therefore, no direct or indirect construction equipment noise impacts would occur in association with Alternative 2.

PV Panel Installation Noise

Installation of PV panels would generate noise that could potentially affect neighboring uses. Noise modeling prepared for the Proposed Action identified a worst-case eight-hour average combined noise level of 75 dBA at the property line based on a distance as close as 175 feet from the point source. This modeling also applies to Alternative 2 because the same property lines that apply to Alternative 2 were used to determine impacts for the Proposed Action. Noise attenuation from the site preparation activities and the nearest property line is -10.9 dBA. Likewise, at a distance of 130 feet, noise associated with PV panel installation would also reach a noise level of 75 dBA. Site preparation, trenching and PV installation equipment are anticipated to be an average of more than 500 feet from the nearest property line. Based on this distance, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are

anticipated to comply with the Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, no direct or indirect noise impacts resulting from PV panel installation are anticipated for Alternative 2.

Operations and Maintenance

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

Alternative 2 includes up to 230 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. Thus, Alternative 2 contains approximately 45 less structures than the Proposed Action.

The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). While adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3), residential uses are allowed within these agricultural zoning designations. Therefore, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. In using this standard any future residence or residential development constructed on adjacent property would still be in compliance with the County standards. Alternative 2 would have more lands remaining in agricultural use (approximately 335 acres) than the Proposed Action and therefore has more likelihood of having an adjacent residential use in the future.

The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq. This noise level would be below the 45 dBA Leq property line standard (**Table 4.8-7**). In fact, at a distance of 65 feet or more, the transformers/inverters and array tracker motors, unshielded, would still comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**). Therefore, Alternative 2 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. No direct or indirect noise impacts from transformer/inverter and tracker noise are anticipated. In fact, at a distance of 65 feet or more the transformers/inverters and array tracker motors, unshielded, would comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**).

Substation Noise Levels

The proposed onsite substation for Alternative 2 will be in the same location as the Proposed Project: south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). The transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line

standard of 45 dBA Leq (**Table 4.8-1**). No direct or indirect noise impacts would occur in association with the proposed substation as part of Alternative 2.

Water Treatment Facility Noise

Alternative 2 would have a water treatment facility identical to the Proposed Action that would be 2,000 feet or more from the nearest property line. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, the water treatment plant would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. No direct or indirect noise impacts would occur in association with operation of the water treatment facility for Alternative 2.

Corona Affect Noise Levels

The Gen-tie Line for the Proposed Action and Alternative 2 would be identical. To determine the Corona Affect of the proposed Gen-tie line, representative noise measurements from an existing SDG&E transmission line in the Borrego Springs were considered (**Table 4.8-8**). Measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. Therefore, the Corona Affect from Gen-tie Line proposed as part of Alternative 2 would be within acceptable limits during both wet and dry conditions. No direct or indirect noise impacts from the Corona Affect are anticipated from Gen-tie Line during both wet and dry conditions.

Decommissioning

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. Thus, short-term direct impacts would occur from on-site noise associated with decommissioning Alternative 2. No indirect noise impacts would occur.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent

with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 2 would likely be somewhat less than the noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, short-term direct impacts would occur from traffic noise associated with decommissioning Alternative 2. No indirect noise impacts would occur.

B. CEQA Significance Determinations

Construction

Noise Levels In Excess of Standards/Temporary Increase in Noise

1) 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.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-Term Construction Noise

Several sources of noise would occur during the course of project construction including traffic on area roadways, on-site construction equipment operations and PV panel installation activities.

Off-Site Traffic Noise

Off-site traffic-related noise was modeled for the Proposed Action to determine the change in noise levels resulting from construction traffic. Because construction of the Proposed Action and Alternative 2 would be similar, the same results for the Proposed Action also apply to Alternative 2. Traffic noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as exceeding the County threshold during construction of Phase I: Fisher Road from Drew Road to Wormwood Road; Kubler Road from Pulliam Road to Brockman Road; Pulliam Road from Fisher Road to Kubler Road; and Pulliam Road from Kubler Road to SR 98. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. Furthermore, no sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated during the construction of Phase II. Because no sensitive uses would be affected by the increase in off-site traffic noise, and the increase is considered "normally acceptable", off-site construction traffic noise is considered a less than significant impact under CEQA for Alternative 2.

On-Site Construction Equipment Noise

Noise modeling of on-site construction equipment for the Proposed Action is shown in **Table 4.8-5.** Because the Proposed Action and Alternative 2 would are anticipated to use identical construction equipment, the modeling for the Proposed Action also applies to Alternative 2. As shown in **Table 4.8-5** if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level

Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Because the project would meet the County's standard, short-term on-site construction noise impacts are considered less than significant under CEQA for Alternative 2.

PV Panel Installation Noise

Installation of PV panels for Alternative 2 would be identical to the Proposed Action but involve installation of 45 fewer PV panels (refer to Table 4.8-6). Based on a distance of 130 feet or more from the noise source, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with the Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, the short-term construction noise resulting from PV panel installation is considered a less than significant impact under CEQA for Alternative 2.

Operations and Maintenance

Noise Levels In Excess of Standards/Permanent Increase in Noise

1) 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.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Long-Term Operational Noise Levels

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

The Proposed Action includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. The same number and configuration of these structures is anticipated as part of Alternative 2.To be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. By using this standard, any future residence or residential development constructed on adjacent property would still be in compliance with the County standards. The likelihood of this happening may be slightly higher in association with Alternative 2 because more lands would remain under agricultural designations adjacent to the project site (refer to Figure 2.0-37 in Chapter 2.0).

The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq which would be below the 45 dBA Leq property line standard (**Table 4.8-7**). Therefore, Alternative 2 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. This is considered a less than significant impact under CEQA.

Substation Noise Levels

A substation is proposed as part of both the Proposed Action and Alternative 2. The proposed onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Likewise, Alternative 2 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the onsite substation. This is considered a less than significant impact under CEQA.

Water Treatment Facility Noise

A water treatment plant with the same design features and location is proposed as part of both the Proposed Action and Alternative 2. The water treatment facility is proposed next to the substation south of SR 98 between Brockman Road and Carpenter Canal No. 1. A worst-case noise level of 77 dBA for the water treatment plant was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**. The proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**) based on the reduction in the noise level that would occur at a distance of 2,000 feet (-38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility). Therefore, Alternative 2 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. This is considered a less than significant impact under CEQA for Alternative 2.

Corona Affect Noise Levels

Measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. Therefore, the Corona Affect from the Gen-tie Line proposed as part of Alternative 2 would be within acceptable limits during both wet and dry conditions. Noise associated with the Corona Affect is considered a less than significant under CEQA for Alternative 2. While another 230 kV line could be accommodated as part of Alternative 2, it is not proposed as part of the project and a separate noise analysis would have to be prepared if, and when, a line is proposed to occupy the available circuit.

Decommissioning

Temporary Increase in Noise

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. Also, Alternative 2 would require decommissioning on 335 fewer acres than the Proposed Action. On-site noise impacts in association with decommissioning of Alternative 2 would be temporary and are anticipated to be similar to construction noise levels which were all determined to be within thresholds or "normally acceptable" limits. Therefore, noise from on-site decommissioning activities for Alternative 2 is considered a less than significant impact under CEQA.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities are anticipated to be slightly less than traffic volumes associated with construction activities. This is because Alternative 2 is 335 acres smaller than the Proposed Action and decommissioning would occur at a slower pace than construction. Engine technologies 30 years in the future, anticipated to rely less on internal combustion engines, would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 2 would likely be less than the noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, traffic noise associated with decommissioning activities for Alternative 2 is considered a less than significant impact under CEQA.

4.8.3.4 ALTERNATIVE 3 - USE EXISTING ELECTRIC LINE TOWERS AND 230-KV LINE LOOPING AND UNDERCROSSING

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Short-Term Construction Noise

The Proposed Action and Alternative 3 are anticipated to have similar construction noise levels, even though Alternative 3 eliminates construction of approximately 11 tower structures compared to the Proposed Action. Short-term construction noise modeling prepared for the Proposed Project is assumed to closely resemble conditions that would occur for Alternative 3. As noted in **bold** in the last column of **Table 4.8-4,** a short-term noise increase would occur during the peak period of construction of Phase I on four roadway segments. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. As with the Proposed Action, no sensitive receptors (e.g. residential uses) exist along these roadway segments or on BLM land. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated during the construction of Phase II. As no sensitive receptors would be impacted by construction traffic noise, no direct or indirect noise impacts would occur in association with roadway traffic noise during construction of Alternative 3.

Off-Site Construction Traffic Noise

Off-site traffic-related noise was modeled to determine the change in noise levels occurring on area roadways for the Proposed Action. Similar noise is anticipated to occur in association with construction of Alternative 3. Noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side and to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as increasing and exceeding the County threshold during construction of Phase I. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. Furthermore, no sensitive receptors (e.g. residential uses) exist along these roadway segments. Phase II of the project would have the same, or lower, noise level increases during the peak construction period as Phase I. Because the Proposed Action and Alternative 3 are anticipated to have very similar off-site construction traffic noise, the result of the modeling would also apply to Alternative 3. Therefore, no direct or indirect construction equipment noise impacts would occur in association with Alternative 3.

On-Site Construction Equipment Noise

Most of the construction activities for both Phase I and II will consist of clearing and grubbing the site and the trenching of utilities for the preparation of the PV panels. These same activities would occur for both the Proposed Action and Alternative 3, although 11 fewer towers would be developed as part of Alternative 3.

Noise modeling of on-site construction equipment for the Proposed Action appears in **Table 4.8-5** and also applies to Alternative 3**.** As shown, if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the

spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Therefore, no direct or indirect construction equipment noise impacts would occur in association with Alternative 3.

PV Panel Installation Noise

Installation of PV panels would generate noise that could potentially affect neighboring uses. Noise modeling prepared for the Proposed Action identified a worst-case eight-hour average combined noise level of 75 dBA at the property line based on a distance as close as 175 feet from the point source. This modeling also applies to Alternative 3 because the same property lines used to determine impacts for the Proposed Action are identical to the project boundaries of Alternative 3. Noise attenuation from the site preparation activities and the nearest property line is -10.9 dBA. Likewise, at a distance of 130 feet, noise associated with PV panel installation would also reach a noise level of 75 dBA. Site preparation, trenching and PV installation equipment are anticipated to be an average of more than 500 feet from the nearest property line. Based on this distance, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with the Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, no direct or indirect noise impacts resulting from PV panel installation are anticipated for Alternative 3.

Operations and Maintenance

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

Identical to the Proposed Action, Alternative 3 includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. The worst-case property line noise levels will occur where a transformer/inverter and array tracker motor are approximately 75 to 100 feet from the property along Brockman Road (**Figure 4.8-3**). While adjacent properties are zoned for agricultural uses (A-2, A-2-R and A-3), residential uses are allowed within these agricultural zoning designations. Therefore, to be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. In using this standard any future residence or residential development constructed on adjacent property would still be in compliance with the County standards.

The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq. This noise level would be below the 45 dBA Leq property line standard (**Table 4.8-7**). In fact, at a distance of 65 feet or more, the transformers/inverters and array tracker motors, unshielded, would still comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**). Therefore, Alternative 3 would not exceed Imperial County property line noise standards or expose individuals to

substantial permanent noise increases in association with operation of transformers/inverters and trackers. No direct or indirect noise impacts from transformer/inverter and tracker noise are anticipated. In fact, at a distance of 65 feet or more the transformers/inverters and array tracker motors, unshielded, would comply with the County's most restrictive property line standard of 45 dBA Leq (refer to **Table 4.8-1**).

Substation Noise Levels

The proposed onsite substation for Alternative 3 will be in the same location as the Proposed Project: south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). The transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). No direct or indirect noise impacts would occur in association with the proposed substation as part of Alternative 3.

Water Treatment Facility Noise

Alternative 3 would have a water treatment facility identical to the Proposed Action which would be 2,000 feet or more from the nearest property line. The unshielded noise from a similar water treatment facility was 77 dBA at 25 feet. The reduction in the noise level at a distance of 2,000 feet is -38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility. Therefore, the proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Therefore, the water treatment plant would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. No direct or indirect noise impacts would occur in association with operation of the water treatment facility for Alternative 3.

Corona Affect Noise Levels

The Gen-tie Line for the Proposed Action and Alternative 3 would be identical. To determine the Corona Affect of the proposed Gen-tie line, representative noise measurements from an existing SDG&E transmission line in the Borrego Springs were considered (**Table 4.8-8**). Measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. Therefore, the Corona Affect from Gen-tie Line proposed as part of Alternative 3 would be within acceptable limits during both wet and dry conditions. No direct or indirect noise impacts from the Corona Affect are anticipated from Gen-tie Line during both wet and dry conditions.

Decommissioning

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. Thus, a short-term direct impact would occur from on-site noise associated with decommissioning Alternative 3. No indirect noise impacts would occur.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities would likely be similar to traffic volumes associated with construction activities. However, because decommissioning would occur at least 30 years in the future, it is likely that vehicle engine technology would be different from current technology. Engine technologies that do not rely on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 3 would likely be similar to noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, short-term direct impacts would occur from traffic noise associated with decommissioning Alternative 3. No indirect noise impacts would occur.

B. CEQA Significance Determinations

Construction

Noise Levels In Excess of Standards/Temporary Increase in Noise

1) 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.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-Term Construction Noise

Several sources of noise would occur during the course of project construction including traffic on area roadways, on-site construction equipment operations and PV panel installation activities.

Off-Site Traffic Noise

Off-site traffic-related noise was modeled for the Proposed Action to determine the change in noise levels resulting from construction traffic. Construction of the Proposed Action and Alternative 3 would be similar. Thus the results for the Proposed Action also apply to Alternative 3. Traffic noise levels were modeled for year 2011-2012 without the project (**Table 4.8-2**), year 2011-2012 with the project (**Table 4.8-3**). The resulting noise levels were then compared side-by-side to determine if the noise level increases resulting from construction traffic exceeded County threshold of 5 dBA (**Table 4.8-4**). Four roadway segments were identified as exceeding the County threshold during construction of Phase I: Fisher Road from Drew Road to Wormwood Road; Kubler Road from Pulliam Road to Brockman Road; Pulliam Road from Fisher Road to Kubler Road; and Pulliam Road from Kubler Road to SR 98. The increase of more than 5 dBA CNEL falls in the "normally acceptable" category of the Noise/Land Use Compatibility Guidelines of the Imperial County General Plan Noise Element. Furthermore, no sensitive

receptors (e.g. residential uses) exist along these roadway segments. Phase II would have the same, or lower, noise level increases during the peak construction period as Phase I and therefore no impacts are anticipated during the construction of Phase II. Because no sensitive uses would be affected by the increase in off-site traffic noise, and the increase is considered "normally acceptable", off-site construction traffic noise is considered a less than significant impact under CEQA for Alternative 3.

On-Site Construction Equipment Noise

Noise modeling of on-site construction equipment for the Proposed Action is shown in **Table 4.8-5.** Because the Proposed Action and Alternative 3 would are anticipated to use identical construction equipment, the modeling for the Proposed Action also applies to Alternative 3. As shown in **Table 4.8-5** if all the equipment was operating in the same location (which is physically impossible), at a distance as close as 175 feet from the nearest property line, the point source noise attenuation from construction activities is -10.9 dBA. This would result in an anticipated worst-case eight-hour average combined noise level of less than 75 dBA at the property line. Given this and the spatial separation of the equipment, construction noise levels would comply with Imperial County's Property Line Noise Level Limits of 75 dBA (**Table 4.8-1**) at all project property lines for both Phase I and Phase II of project construction. Because the project would meet the County's standard, short-term on-site construction noise impacts are considered less than significant under CEQA for Alternative 3.

PV Panel Installation Noise

Installation of PV panels for Alternative 3 would be identical to the Proposed Action but involve installation of 11 fewer tower structures on BLM land. Based on a distance of 130 feet or more from the noise source, and the spatial separation of the equipment over the large site area, the noise levels of the site preparation and PV panel installation for both Phase I and Phase II are anticipated to comply with the Imperial County's Property Line Noise Level Limits of 75 dBA at all project property lines for both Phase I and Phase II construction. Furthermore, no sensitive receptors would be affected. Therefore, the short-term construction noise resulting from PV panel installation is considered a less than significant impact under CEQA for Alternative 3.

Operations and Maintenance

Noise Levels In Excess of Standards/Permanent Increase in Noise

1) 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.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

Long-Term Operational Noise Levels

This section examines the potential operational noise source impacts associated with the CSE Facility and Gen-tie Line. Operational noise occurring on the CSE Facility site would be generated by on site small-scale inverter/transformer buildings, substation equipment, and components of the wastewater treatment facility. Gen-tie Line may increase a phenomenon referred to as the Corona Affect along its proposed alignment. Each of these noise sources is analyzed separately.

Transformer/Inverter and Array Tracker Noise Levels

The Proposed Action includes up to 275 small-scale, above ground-structures to shade inverter/distributor transformers and switching gear in the solar panel fields. The same number and configuration of these structures is anticipated as part of Alternative 3. To be conservative, the most restrictive residential nighttime property line standard of 45 dBA was used. By using this standard, any future residence or residential development constructed on adjacent property would still be in compliance with the County standards. The likelihood of this happening may be slightly higher in association with Alternative 3 because more lands would remain under agricultural designations adjacent to the project site (refer to Figure 2.0-37 in Chapter 2.0).

The noise levels of 58 dBA for the transformer, 65 dBA for the inverter and 61 dBA for the array tracker motor were combined and extrapolated out to the property line without any shielding. The combination of these noise sources at the nearest property line was projected to be 43.5 dBA Leq which would be below the 45 dBA Leq property line standard (**Table 4.8-7**). Therefore, Alternative 3 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of transformers/inverters and trackers. This is considered a less than significant impact under CEQA.

Substation Noise Levels

A substation is proposed as part of both the Proposed Action and Alternative 3. The proposed onsite substation will be south of SR 98 between Brockman Road and Carpenter Canal No. 1, 2,000 feet or more from the nearest property line (**Figure 4.8-3**). As previously noted, the larger transformer at the substation would have a noise level of 71 dBA at a distance of 5 feet. The reduction in the noise level at a distance of 2,000 feet is -52.0 dBA resulting in a noise level below 20 dBA (71 dBA - 52.0 dBA = 19 dBA) at the nearest property line from the substation. Therefore, the proposed substation will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**). Likewise, Alternative 3 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the onsite substation. This is considered a less than significant impact under CEQA.

Water Treatment Facility Noise

A water treatment plant with the same design features and location is proposed as part of both the Proposed Action and Alternative 3. The water treatment facility is proposed next to the substation south of SR 98 between Brockman Road and Carpenter Canal No. 1. A worst-case noise level of 77 dBA for the water treatment plant was analyzed to the nearest property line to the east across Brockman Road as can be seen in **Figure 4.8-3**. The proposed water treatment facility will comply with the County's most restrictive property line standard of 45 dBA Leq (**Table 4.8-1**) based on the reduction in the noise level that would occur at a distance of 2,000 feet (-38.1 dBA resulting in a noise level below 39 dBA at the nearest property line from the water treatment facility). Therefore, Alternative 3 would not exceed Imperial County property line noise standards or expose individuals to substantial permanent noise increases in association with operation of the water treatment plant. This is considered a less than significant impact under CEQA for Alternative 3.

Corona Affect Noise Levels

Measured Corona Affect noise levels shown in **Table 4.8-8** were found to be below the County's most restrictive nighttime standard of 45 dBA. Therefore, the Corona Affect from the Gen-tie Line proposed

as part of Alternative 3 would be within acceptable limits during both wet and dry conditions. Noise associated with the Corona Affect is considered a less than significant under CEQA for Alternative 3.

Decommissioning

Temporary Increase in Noise

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Short-term Decommissioning Noise

The expected life of the Centinela Solar Energy Project is approximately 30+ years. The Applicant intends to submit an Agricultural Reclamation Plan to Imperial County Department of Planning and Development Services in order to return the CSE Facility site to a condition capable of supporting agricultural production at the end of the useful life or the expiration of the Conditional Use Permit. All equipment, buildings, concrete foundations, etc. would be removed from the site during decommissioning of Alternative 3.

Noise from On-Site Decommissioning Activities

Equipment used during decommissioning activities would be similar to that used during construction including: crane, excavator, and air hammer (to break up concrete foundations). As such, decommissioning activities would generate a temporary, localized increase in ambient noise levels. These noise levels would be similar to, but less than, those generated during construction because decommissioning activities would be less intense and for a shorter duration of time. Also, Alternative 3 would require dismantling of 11 fewer tower structures on BLM land compared to the Proposed Action. On-site noise impacts in association with decommissioning of Alternative 3 would be temporary and are anticipated to be similar to construction noise levels which were all determined to be within thresholds or "normally acceptable" limits. Therefore, noise from on-site decommissioning activities for Alternative 3 is considered a less than significant impact under CEQA.

Traffic Noise Associated with Decommissioning

Traffic volumes associated with decommissioning activities are anticipated to be slightly less than traffic volumes associated with construction activities. This is because Alternative 3 is would require dismantling of 11 fewer tower structures along the Gen-tie Line segment on BLM land. In addition, decommissioning is anticipated to occur at a slower pace than construction. Engine technologies 30 years in the future are anticipated to rely less on internal combustion engines would likely generate lower noise levels than those produced by current vehicles. Reduced noise levels are already apparent with hybrid vehicles. Consequently, noise impacts from traffic associated with decommissioning Alternative 3 would likely be less than the noise levels estimated for construction-related traffic which was determined to be below thresholds. Therefore, traffic noise associated with decommissioning activities for Alternative 3 is considered a less than significant impact under CEQA.

4.8.3.5 Alternative 4- No Action/No Project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this alternative, the proposed project would not be constructed. It would not be necessary for BLM to grant a right-of-way on BLM land and no CUP or variance would be required from Imperial County. Construction noise impacts would not occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts from noise generated by operations and maintenance of the Proposed Action would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would not require decommissioning activities. No noise impacts associated with decommissioning activities would occur.

B. CEQA Significance Determinations

Construction

Under Alternative 4, no construction noise would be generated. Short-term construction noise impacts would be completely avoided. Thus, no impact with regard to construction noise would occur under CEQA in association with Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site. Ambient noise levels are not expected to change from existing conditions associated with farming operations (trucks, tractors, etc). Thus, no impact with regard to operations and maintenance noise would occur under CEQA in association with Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. No impacts to noise under CEQA would occur.

4.8.4 MITIGATION MEASURES

No mitigation measure is proposed, as no significant noise impact has been identified for the Proposed Action, Alternative 1 – Double Circuit Gen-tie Line Structures, Alternative 2 – Reduced CSE Facility Site, Alternative 3 – Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 – No Action/No Project.

4.8.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the Proposed Action, Alternative 1 – Double Circuit Gen-tie Line Structures, and Alternative 2 – Reduced CSE Facility Site, Alternative 3 – Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 – No Action/No Project would not result in a significant noise impact under CEQA; therefore, no mitigation is required.

SECTION 4.9
AGRICULTURAL RESOURCES

4.9 AGRICULTURAL RESOURCES

The purpose of this section is to disclose and analyze the potential impacts on agricultural resources associated with the implementation of the proposed CSE Facility and Gen-tie Line (Proposed Action). The following discussion addresses existing environmental conditions in the affected areas, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts associated with the Proposed Action. This section is based on the following resources: Imperial County General Plan Agriculture Element; Imperial County General Plan Environmental Impact Report; soil classifications designated by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS); California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) data; the County's online GIS mapping to determine important farmlands and lands subject to Agricultural Land Conservation (i.e., Williamson Act) contracts; and aerial photography.

4.9.1 METHODOLOGY FOR ANALYSIS

Baseline conditions described in Chapter 3.9 have been evaluated with regard to their potential to be affected by project construction, operations, and maintenance activities. These activities were identified using the Plan of Development (POD), prepared for the Proposed Action by Centinela Solar Energy, LLC and other supporting information provided to Imperial County. (The POD is included in **Appendix B** of the Technical Appendices of this EIR/EA on the attached CD). Impacts to agricultural resources have been identified based on the predicted interactions between construction, operation, and maintenance activities and the affected environment.

The following subsections discuss impacts and mitigation measures for the Proposed Action, which includes the Centinela Solar Energy (CSE) facility and the Gen-Tie Line, as described in Chapter 2.0 (Proposed Actions and Alternatives). Four alternatives to the Proposed Action, each described in Chapter 2.0, are also addressed. Design features and Best Management Practices (BMPs) that may reduce or avoid environmental impacts have been incorporated into the project design by the Applicant and are summarized in Table 2.0-5 (Design Features and Best Management Practices - CSE Facility and Gen-tie Line) and Table 2.0-6 (Design Features and Best Management Practices for the Gen-tie Line on Federal [BLM] Land) in Chapter 2.0 and discussed in detail in the POD (**Appendix B**).

The California Agricultural Land Evaluation and Site Assessment (LESA) Model was used to assess impacts on agriculture and farmland. The LESA Model is an approach for rating the relative quality of land resources using specific measurable features. The LESA system is a point-based method composed of six different factors. The two Land Evaluation factors (Land Use Capability Classification and Store Index) are based on measures of soil resource quality. The four Site Assessment factors address a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. The LESA Model was prepared for the proposed Centinela Solar Energy Project by Ericsson-Grant, Inc. in 2011 (The LESA Model is included in **Appendix L** of the Technical Appendices of this EIR/EA on the attached CD).

4.9.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water

Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to removal of agricultural lands from production. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.9.2.1 CEQA Significance Criteria

For the purposes of this EIR/EA, a significant agricultural resources impact would occur if implementation of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, or Alternative 4-No Action/No Project Alternative would:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

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.

4.9.2.2 Issues Scoped Out as Part of the Initial Study

Appendix G of the CEQA Guidelines provides three additional criteria for evaluating impacts to agricultural resources. These three criteria relate to forest lands, timber production areas, or lands zoned for Timberland Production. Because there are no forest lands, timber production areas, or lands zoned for Timberland Production on or in the vicinity of the project site, these criteria have been eliminated from further review.

4.9.2.3 NEPA Requirements

The BLM land affected by the proposed project is not farmland or other agricultural resource land. All agricultural resources are located on the private lands (CSE Facility and a portion of the Gen-tie Line). However, the Gen-tie Line on BLM land is a connected action for which NEPA analysis must include indirect impacts from the connected action. The NEPA evaluation herein provides an analysis of potential direct and indirect effects on agricultural resources provided within the same context of the CEQA Significance Criteria previously described in subsection 4.9.2.1.

4.9.3 ENVIRONMENTAL CONSEQUENCES

4.9.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Construction activities associated with the Proposed Action would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,927 acres), and Unique Farmland (two acres) to a nonagricultural use. Additionally, the construction activities would directly require the termination of Williamson Act contracts on three parcels totaling 335 acres. The construction activities associated with the Proposed Action would result in the reclassification of the project site to a nonagricultural use during the operational life of the alternative, and it would be ineligible for a Williamson Act Contract during that time.

Operations and Maintenance

During the operations and maintenance phase of the Proposed Action, the project site would be reclassified to a nonagricultural use. There would be no new direct impacts above those described during the construction phase. Indirect impacts could include nuisance conditions associated with pests and weeds that affect adjacent agricultural lands.

Decommissioning

Decommissioning activities would involve the implementation of an Agricultural Reclamation Plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the Proposed Action. The implementation of the Agricultural Reclamation Plan would make the project site eligible for reclassification to the original Important Farmland classifications and cause the project site to be re-eligible for a Williamson Act Contract.

Implementation of the Proposed Action would not directly result in a conflict with zoning for agricultural uses.

B. CEQA Significance Determinations

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Construction and operation of the Proposed Action would result in the conversion of important farmlands to non-agricultural uses. While the Proposed Action would convert the project site to agricultural land at the end of the operational life of the CSE Facility, the removal of the project lands from important farmlands classifications for the construction and operation phases has been evaluated for significance under CEQA based on the LESA Model. Appendix G of the CEQA Guidelines identifies the California Agricultural LESA Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland for CEQA purposes. As such, a LESA analysis was prepared for the Proposed Action and is provided as **Appendix L** 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** presents a summary of the LESA analysis for the Proposed Action.

TABLE 4.9-1
FINAL LESA SCORE SHEET SUMMARY

	Factor Rating (0 – 100 Points)	Factor Weighting (Total = 100)	Weighted Factor Rating1
Land Evaluation (LE)			
Land Capability Classification (LCC Rating)	60.66	0.25	15.17
Storie Index Rating	31.70	0.25	7.93
		Land Evaluation Subscore	**23.1**
Site Assessment (SA)			
Project Size Rating	100	0.15	15
Water Resource Availability Rating	100	0.15	15
Surrounding Agricultural Land Rating	80	0.15	12
Surrounding Protected Resource Lands Rating	0	0.05	0
		Site Assessment Subscore	**42.0**
		TOTAL	**65.1**

Source: Ericsson-Grant, Inc., 2011.
Notes: Weighted Factor Rating calculated by multiplying Factoring Rating Points X Factory Weighting

A final LESA score between 60 to 79 is considered potentially significant under CEQA unless either the Land Evaluation or the Site Assessment subscore is less than 20 points. As shown in **Table 4.9-1**, the Land Evaluation subscore is 23.1, while the Site Assessment subscore is 42.0. The final LESA score is 65.1. With both subscores (Land Evaluation and Site Assessment) above 20, implementation of the Proposed Action would result in a potentially significant impact for conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance under CEQA. With the implementation of Mitigation Measures AR-1 and AR-3, conservation easements on comparable agricultural lands could be provided during the construction and operational phases and the project site would be returned to agricultural lands at the end of the operational phase, reducing the impact to a less than significant level under CEQA.

Conflicts with Zoning or Williamson Act Contract

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

Zoning

The private lands on which the CSE Facility and a portion of the Gen-tie are proposed are zoned A-2 - General Agriculture, A-2-R - General Agriculture, Rural Zone, and A-3 - Heavy Agriculture. Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in agricultural zones. In keeping with the provisions of the zoning designations, the Applicant is seeking a Conditional Use Permit (CUP).

The BLM land on which a portion of the Gen-tie is proposed is not zoned for agricultural uses. These lands are located entirely within California Desert Conservation Area (CDCA) Plan Utility Corridor N. Additionally a portion of the Gen-tie Line on BLM land is within the Westwide Energy Corridor Segment 115-238, which is designated as a multi-modal transmission corridor.

With implementation of the Proposed Action, land zoned for agriculture uses would be converted to non-agricultural uses. However, the uses under the Proposed Action are allowed as a conditional uses in Agricultural zones and with the issuance of a conditional use permit, the proposed uses would be consistent with zoning. Implementation of the Proposed Action would result in a less than significant impact associated with zoning conflicts under CEQA.

Williamson Act

Within the footprint of the Proposed Action, three parcels (APNs 052-170-076, 052-170-078 and 052-170-035) totaling approximately 335 acres, are currently under Williamson Act contract. The owner of these parcels has filed a notice of non-renewal with the County, but early termination of the Williamson Act contracts is being requested to facilitate development of the project. This is considered a potentially significant impact under CEQA. With the implementation of Mitigation Measures AR-1 and AR-2, comparable agricultural lands could be conserved for the construction and operational phases of the Proposed Action and the three Williamson Act contracts would be terminated prior to activities on the affected parcels, reducing this impact to a less than significant level under CEQA.

Conversion of Farmland

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.

Conversion of Adjacent Farmland

Agricultural land uses surround the private lands portion of the Proposed Action, while native desert surrounds the portion on BLM land. The Proposed Action would not have an impact related to the conversion of off-site farmlands to non-agricultural uses due to growth inducement in the project site or vicinity.

The Proposed Action could result in an increase in pests and nuisance conditions to adjacent agricultural operations, depending on the site management and maintenance of the project site. Such conditions could adversely affect agricultural operations on adjacent lands. However, nuisance issues typically associated with farming, such as noise, dust, odor, and pesticide application, are not expected to be a nuisance to the Proposed Action because of the absence of residences. Nevertheless, 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. Implementation of the Proposed Action could result in a potentially significant impact to adjacent agricultural lands associated with potential pest and weed nuisance conditions for conversion of farmland under CEQA. Implementation of mitigation measure AR-

4 would require preparation and implementation of a Weed and Pest Management Plan that would reduce this impact to less than significant.

4.9.3.2 ALTERNATIVE 1- DOUBLE CIRCUIT GEN-TIE LINE STRUCTURES

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The Gen-Tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of Gen-Tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Construction activities associated with Alternative 1 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,927 acres), and Unique Farmland (two acres) to a nonagricultural use. Additionally, the construction activities would directly require the termination of Williamson Act contracts on three parcels totaling 335 acres. The construction activities associated with Alternative 1 would result in the reclassification of the project site to a nonagricultural use during the operational life of the alternative, and it would be ineligible for a Williamson Act Contract during that time.

Operations and Maintenance

During the operations and maintenance phase of Alternative 1, the project site would continue as a nonagricultural use. There would be no new direct impacts above those described during the construction phase. Indirect impacts could include nuisance conditions associated with pests and weeds that affect adjacent agricultural lands.

Decommissioning

Decommissioning activities would involve the implementation of an Agricultural Reclamation Plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the Agricultural Reclamation Plan would make the project site eligible for reclassification to the original Important Farmland classifications and cause the project site to be re-eligible for a Williamson Act Contract.

Implementation of Alternative 1 would not directly result in a conflict with zoning for agricultural uses.

B. CEQA Significance Determinations

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Alternative 1 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,927 acres), and Unique Farmland (two acres) to a nonagricultural use during the construction and operational phases of Alternative 1. During such time periods, the project site would not be classified as

farmland. A LESA Model was prepared for the Proposed Action to evaluate its impact on agricultural resources. Alternative 1 would affect the same acreages of farmland in the same manner as the Proposed Action. A final LESA score between 60 to 79 is considered potentially significant under CEQA unless either the Land Evaluation or the Site Assessment subscore is less than 20 points. As shown in **Table 4.9-1**, the Land Evaluation subscore is 23.1, while the Site Assessment subscore is 42.0. The final LESA score is 65.1. Implementation of Alternative 1 would have a potentially significant impact with regard to conversion of Prime Farmland, Unique Farmland and Farmland of Statewide Importance under CEQA. With the implementation of Mitigation Measures AR-1 and AR-3, conservation easements on comparable agricultural lands could be provided during the construction and operational phases and the project site would be returned to agricultural lands at the end of the operational phase, reducing the impact to a less than significant level under CEQA.

Conflicts with Zoning or Williamson Act Contract

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

Zoning

Implementation of Alternative 1 would result in the conversion of land zoned for agricultural use to a non-agricultural use. However, the uses under Alternative 1 are allowed as conditional uses in agricultural zones and with the issuance of a conditional use permit, the proposed uses would be consistent with zoning. Implementation of Alternative 1 would result in a less than significant impact associated with zoning conflicts under CEQA.

Williamson Act

Within the footprint of Alternative 1, three parcels (052-170-076, 052-170-078 and 052-170-035) totaling approximately 335 acres, are currently under Williamson Act contract. The owner of these parcels has filed a notice of non-renewal with the County, but early termination of the Williamson Act contracts is being requested to facilitate development of the project. This is considered a potentially significant impact under CEQA. With the implementation of Mitigation Measures AR-1 and AR-2, comparable agricultural lands could be conserved for the construction and operational phases of Alternative 1 and the three Williamson Act contracts would be terminated prior to activities on the affected parcels, reducing this impact to a less than significant level under CEQA.

Conversion of Farmland

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.

Conversion of Adjacent Farmland

Agricultural land uses surround the private lands portion of Alternative 1, while native desert surrounds the portion of the project site located on BLM land. Like the Proposed Action, Alternative 1 would not have a growth-inducing impact related to the conversion of off-site farmlands to non-agricultural uses. Alternative 1 does not induce growth to the project site or vicinity.

Alternative 1 could result in an increase in pests and nuisance conditions to adjacent agricultural operations, depending on the site management and maintenance of the project site. Such conditions could adversely affect agricultural operations on adjacent lands. However, nuisance issues typically associated with farming such as noise, dust, odor, and pesticide application, are not expected to be a nuisance to Alternative 1 because of the absence of residences. Nevertheless, 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. Implementation of Alternative 1 could result in a potentially significant impact for conversion of farmland under CEQA. Implementation of mitigation measure AR-4 would require preparation and implementation of a Weed and Pest Management Plan that would reduce this impact to less than significant.

4.9.3.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Construction activities associated with Alternative 2 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,592 acres), and Unique Farmland (two acres) to a nonagricultural use. In comparison to the Proposed Action, Alternative 2 would result in a reduction of direct impacts to 335 acres of Farmland of Statewide Importance. The construction activities associated with Alternative 2 would result in the reclassification of the project site to a nonagricultural use during the operational life of the alternative.

Operations and Maintenance

During the operations and maintenance phase of Alternative 2, the project site would be reclassified to a nonagricultural use. There would be no new direct impacts above those described during the construction phase. Indirect impacts could include nuisance conditions associated with pests and weeds that affect adjacent agricultural lands.

Decommissioning

Decommissioning activities would involve the implementation of an Agricultural Reclamation Plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the Agricultural Reclamation Plan would make the project site eligible for reclassification to the original Important Farmland classifications.

The three parcels (335 acres) of land under Williamson Act Contract that fall within the footprint of the Proposed Action are eliminated from Alternative 2. As such, implementation of Alternative 2 would not directly result in a conflict with Williamson Act Contracts. Implementation of Alternative 2 would not directly result in a conflict with zoning for agricultural uses.

A. CEQA Significance Determinations

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Alternative 2 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,592 acres), and Unique Farmland (two acres) to a nonagricultural use. While the LESA score for Alternative 2 would be lower than that for the Proposed Action due to the reduction in Farmlands of Statewide Importance and associated soils affected under Alternative 2, the conversion of 1,732 acres of important farmlands is considered a potentially significant impact under CEQA. With the implementation of Mitigation Measures AR-1 and AR-3, conservation easements on comparable agricultural lands could be provided during the construction and operational phases and the project site would be returned to agricultural lands at the end of the operational phase, reducing the impact to conversion of Prime Farmland, Unique Farmland and Farmland of Statewide Importance to a less than significant level under CEQA.

Conflicts with Zoning or Williamson Act Contract

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

Zoning

Implementation of Alternative 2 would result in the conversion of land zoned for agricultural use to a non-agricultural use. However, the uses under Alternative 2 are allowed as conditional uses in Agricultural zones and with the issuance of a conditional use permit, the proposed uses would be consistent with zoning. Implementation of Alternative 2 would result in a less than significant impact associated with zoning conflicts under CEQA.

Williamson Act

Within the footprint of Alternative 2 there are no parcels under a Williamson Act Contract. The three parcels (052-170-076, 052-170-078 and 052-170-035) totaling approximately 335 acres that are within the Proposed Action footprint have been excluded from this alternative. As such, Alternative 2 would have no impact to a Williamson Act Contract under CEQA.

Conversion of Farmland

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.

Conversion of Adjacent Farmland

Agricultural land uses surround the private lands portion of Alternative 2, while native desert surrounds the portion on BLM land. Alternative 2 would not induce growth to the project site or vicinity and result in the related conversion of agricultural lands to non-agricultural uses.

Alternative 2 could result in an increase in pests and nuisance conditions to adjacent agricultural operations, depending on the site management and maintenance of the project site. Such conditions could adversely affect agricultural operations on adjacent lands. However, nuisance issues typically associated with farming such as noise, dust, odor, and pesticide application, are not expected to be a

nuisance to Alternative 2 because of the absence of residences. Nevertheless, 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. Implementation of Alternative 2 could result in a potentially significant impact for conversion of farmland under CEQA. Implementation of mitigation measure AR-4 would require preparation and implementation of a Weed and Pest Management Plan that would reduce this impact to less than significant.

4.9.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Construction activities associated with Alternative 3 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,927 acres), and Unique Farmland (two acres) to a nonagricultural use. Additionally, the construction activities would directly require the termination of Williamson Act contracts on three parcels totaling 335 acres. The construction activities associated with Alternative 3 would result in the reclassification of the project site to a nonagricultural use during the operational life of the alternative, and it would be ineligible for a Williamson Act Contract during that time.

Operations and Maintenance

During the operations and maintenance phase of Alternative 3, the project site would be reclassified to a nonagricultural use. There would be no new direct impacts above those described during the construction phase. Indirect impacts could include nuisance conditions associated with pests and weeds that affect adjacent agricultural lands.

Decommissioning

Decommissioning activities would involve the implementation of an Agricultural Reclamation Plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the Agricultural Reclamation Plan would make the project site eligible for reclassification to the original Important Farmland classifications and cause the project site to be re-eligible for a Williamson Act Contract.

Implementation of Alternative 3 would not directly result in a conflict with zoning for agricultural uses.

B. CEQA Significance Determinations

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Alternative 3 would directly convert Prime Farmland (138 acres), Farmland of Statewide Importance (1,927 acres), and Unique Farmland (two acres) to a nonagricultural use during the construction and operational phases of Alternative 3. During such time periods, the project site would not be classified as farmland. A LESA Model was prepared for the Proposed Action to evaluate its impact on agricultural resources. Alternative 3 would affect the same acreages of farmland in the same manner as the Proposed Action. A final LESA score between 60 to 79 is considered potentially significant under CEQA unless either the Land Evaluation or the Site Assessment subscore is less than 20 points. As shown in **Table 4.9-1**, the Land Evaluation subscore is 23.1, while the Site Assessment subscore is 42.0. The final LESA score is 65.1. Implementation of Alternative 3 would have a potentially significant impact under CEQA. With the implementation of Mitigation Measures AR-1 and AR-3, conservation easements on comparable agricultural lands could be provided during the construction and operational phases and the project site would be returned to agricultural lands at the end of the operational phase. These actions would reduce impacts conversion of Prime Farmland, Unique Farmland or Farmland of Statewide Importance to a less than significant level under CEQA.

Conflicts with Zoning or Williamson Act Contract

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

Zoning

Implementation of Alternative 3 would result in the conversion of land zoned for agricultural use to a non-agricultural use. However, the uses under Alternative 3 are allowed as conditional uses in Agricultural zones and with the issuance of a conditional use permit, the proposed uses would be consistent with zoning. Implementation of Alternative 3 would result in a less than significant impact for conflicts with existing zoning for agricultural use under CEQA.

Williamson Act

Within the footprint of Alternative 3, three parcels (052-170-076, 052-170-078 and 052-170-035) totaling approximately 335-acres, are currently under Williamson Act contract. The owner of these parcels has filed a notice of non-renewal with the County, but early termination of the Williamson Act contracts is being requested to facilitate development of the project. With the implementation of Mitigation Measures AR-1 and AR-2, comparable agricultural lands could be conserved for the construction and operational phases of Alternative 3 and the three Williamson Act contracts would be terminated prior to activities on the affected parcels, reducing impacts to a Williamson Act Contract to a less than significant level under CEQA.

Conversion of Farmland

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.

Conversion of Adjacent Farmland

Agricultural land uses surround the private lands portion of Alternative 3, while native desert surrounds the portion on BLM land. Alternative 3 would not have a growth-inducing impact related to the conversion of off-site farmlands to non-agricultural uses. Alternative 3 does not induce growth to the project site or vicinity.

Alternative 3 could result in an increase in pests and nuisance conditions to adjacent agricultural operations, depending on the site management and maintenance of the project site. Such conditions could adversely affect agricultural operations on adjacent lands. However, nuisance issues typically associated with farming such as noise, dust, odor, and pesticide application, are not expected to be a nuisance to Alternative 3 because of the absence of residences. Nevertheless, 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. Implementation of Alternative 3 could result in a potentially significant impact for conversion of farmland under CEQA. Implementation of mitigation measure AR-4 would require preparation and implementation of a Weed and Pest Management Plan that would reduce this impact to less than significant.

4.9.3.5 ALTERNATIVE 4 - NO ACTION/NO PROJECT

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 4 there would be no construction, operation, maintenance, or decommissioning activities. Agricultural operations could continue in the same manner as under existing conditions.

B. CEQA Significance Determinations

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.

Alternative 4 would not result in a direct or indirect conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. There would be no impact associated with conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance under CEQA.

Conflicts with Zoning or Williamson Act Contract

2) Conflict with existing zoning for agricultural use, or a Williamson Act Contract.

Alternative 4 would not result in a in a direct or indirect conflict with existing zoning for agricultural use or a Williamson Act Contract. There would be no impact associated with existing zoning for agricultural use or a Williamson Act Contract under CEQA.

Conversion of Farmland

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.

Alternative 4 would not result in other changes in the existing environment which, due to their location or nature, could result in a direct or indirect conversion of Farmland, to non-agricultural use. There would be no impact associated with conversion of farmland under CEQA.

4.9.4 MITIGATION MEASURES

AR-1 Prior to the issuance of a grading permit or building permit (whichever is issued first) for the Proposed Action, the mitigation of impacts to agricultural lands shall be accomplished via one of the following options:

- **Option 1**: The Permittee shall procure Agricultural Conservation Easements on a 2 to 1 basis for all prime agricultural land converted to a non-agricultural use, and on a 1 to 1 basis for the net amount of all non-prime agricultural land converted to a non-agricultural use less any agricultural land conserved under mitigation measure BIO-3. The land procured shall be 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 percent of the fair market value per acre, based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, for the net amount of all agricultural land converted to a non-agricultural use less any agricultural land conserved under mitigation measure BIO-3. The Agricultural In-Lieu Mitigation Fee shall also include program administrative costs on a cost recovery/time and material basis. Any fees paid for cancellation of Williamson Act fees under AR-2 shall be deducted from the fees due under this option. Fair market value per acre shall be 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 Imperial County Agricultural Commissioner's office and will be used for such purposes as the acquisition, stewardship, preservation, and enhancement of agricultural lands within Imperial County.

AR-2 Prior to the issuance of a grading permit or building permit (whichever is issued first) for grading or improvement activities on parcels 052-170-076, 052-170-078 and 052-170-035, conflicts with Williamson Act contracts shall be accomplished via one of the following options:

- **Option 1**: Allow the Williamson Act contract to expire under the notice of non-renewal that has been filed by the property owner of the three parcels (052-170-076, 052-170-078 and 052-170-035) that are under contract; or

- **Option 2:** Obtain a Cancellation of the Williamson Act contract of the three parcels (052-170-076, 052-170-078 and 052-170-035) from the County by demonstrating that the cancellation is consistent with the purposes of the Act and that it is in the public interest. The grounds for cancellation are codified in Government Code section 51282, and cancellation is subject to discretionary approval of the County. Under this option the

landowner of the three parcels who cancel Williamson Act contracts will be required to pay a fee of 12.5 percent of the unrestricted value of the property.

AR-3 The Applicant shall develop an Agricultural Reclamation Plan that details the restoration of the project site at the end of the operational life of the project. The Plan shall include the removal of all facilities installed and restoration to a condition such that the land would be in a condition similar to pre-project conditions and suitable for irrigated, agricultural use. The Agricultural Reclamation Plan shall include a site restoration cost estimate prepared by a California-licensed general contractor or civil engineer. The Permittee shall provide financial assurance/bonding in the amount equal to the site restoration cost estimate to return the land to its current agricultural condition after the solar facility ceases operations and closes.

AR-4 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Weed and Pest Control Plan shall be developed by the Project Applicant and approved by the County of Imperial Agricultural Commissioner. The Plan shall provide the following:

1) Monitoring, preventative, and management strategies for weed and pest control during construction activities at the CSE Facility and portions of the Gen-Tie line that are adjacent agricultural lands;

2) Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation; and,

3) A long-term strategy for weed and pest control and management during the operation of the CSE Facility and portions of the Gen-Tie line that are adjacent agricultural lands. Such strategies may include, but are not limited to:

    a. Use of specific types of ground cover and maintenance (mowing, replacement, etc.) of such ground cover;

    b. Use of specific types of herbicides and pesticides on a scheduled basis; and

    c. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on adjacent agricultural lands.

Mitigation Measures AR-1, AR-2, AR-3, and AR-4 identified above for the Proposed Action will also be implemented for Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, or Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

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

4.9.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the Proposed Action, Alternative 1, 2, and 3 will result in a potentially significant impact related to the loss of Important Farmland. Implementation of the Proposed Action, Alternative 1, 2, and 3 will result in a potentially significant impact related to the introduction of nuisance pests and weeds that may affect neighboring agricultural uses. In addition, the Proposed Action, Alternative 1 and 3 would result in conflicts with Williamson Act contracts. Implementation of Mitigation Measure AR-1, AR-3, and AR-4 would reduce the impact to Important Farmlands to a level of less than significant under

CEQA. Implementation of Mitigation Measure AR-2 would reduce the impact that would result from conflicts with Williamson Act contracts to a level of less than significant under CEQA. Implementation of AR-4 would reduce the potential for nuisances associated with pests and weeds to a less than significant level for the Proposed Action, Alternative 1, 2, and 3.

Alternative 4 would not cause impacts to agricultural resources; therefore, no mitigation is required.

SECTION 4.10
HAZARDS AND HAZARDOUS MATERIALS

4.10 HAZARDS AND HAZARDOUS MATERIALS

This section describes potential exposure to hazardous materials and/or creation of hazards that could result from implementation of the proposed Centinela Solar Energy Project and alternatives. It focuses on hazardous materials and hazards requiring remediation or mechanisms to prevent accidental release. Measures are identified to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the proposed project and alternatives. A discussion of cumulative impacts related to hazards and hazardous materials is also included in this section.

Various other hazards associated with the project, such as exposure to electromagnetic fields, interference with radio-frequency communications, hazardous shocks, fire hazards (non-wildland/operational), and valley fever are briefly discussed. These hazards are acknowledged as potential areas of concern, but no criterion is available to evaluate them against.

This analysis does not address the potential exposure of workers to hazardous materials used at the proposed project site. Employers must inform employees of hazards associated with their work and provide those employees with special protective equipment and training to reduce the potential for health impacts from the handling of hazardous materials.

Seismic hazards, flood hazards and exposure to noise are discussed in Section 3.6 and 4.6, Geology and Soils, Section 3.11 and 4.11, Hydrology and Water Quality, and Section 3.8 and 4.8, Noise of this EIR/EA.

4.10.1 METHODOLOGY FOR ANALYSIS

The analysis of hazardous materials is twofold: those potentially existing on the site and those that would be used as part of project construction, operations and maintenance, and decommissioning.

Potential existing hazards were assessed based on information contained in the four Phase I Environmental Site Assessments prepared for the parcels comprising the project site. They include *Phase I ESA Report Centinela Solar Energy North of State Highway 98 Near Brockman Road, Calexico, California* (GS Lyon, 2010a); *Phase I ESA Report Centinela Solar Energy Site #2 North of State Highway 98 Near Brockman Road, Calexico, California* (GS Lyon, 2010b); *Phase I ESA Report West-Gro and Dessert Ranch Southwest of State Hwy 98 and Brockman Road* (GS Lyon, 2011a), *Phase I ESA Report Brundy Property Southwest of State Hwy 98 and Westside Main Canal West of Calexico, California* (GS Lyon, 2011b) and a letter "Response to Phase 1 ESA Comments Centinela Solar Energy Solar Energy Facility Imperial County, California" (Lyon, 2011). These documents are provided on the attached CD of Technical Appendices as **Appendix G** of this EIR/EA.

Some hazardous materials would be used on a short-term basis during construction and decommissioning. Others would be stored on-site for use during operations and maintenance. Therefore, this analysis was conducted by examining the choice and amount of chemicals to be used, the manner in which the Applicant would use the chemicals, the manner by which they would be transported to the facility, and the way in which the Applicant plans to store the materials on site.

The analysis of aircraft hazards was based on the *Corridor Conflict Analysis* prepared by Centinela Solar Energy (CSE, 2011f), as well as a staff report and minutes from the Airport Land Use Commission Meeting on May 4, 2011.The Corridor Conflict Analysis used the Department of Defense Preliminary Screening Tool (PST) to determine whether the project would conflict with military airspace. This document is provided on the attached CD of Technical Appendices as **Appendix G** of this EIR/EA.

4.10.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts would occur if individuals would be exposed to potential hazards and hazardous materials during construction, operations and maintenance, or decommissioning of the Proposed Action or an Alternative. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.10.2.1 CEQA SIGNIFICANCE CRITERIA

The criteria listed below were used to determine if the proposed project/Proposed Action would cause or be exposed to hazards on and in the vicinity of the project site. These criteria are the same as the significance criteria for Hazards and Hazardous Materials listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative would have a significant impact on hazards and hazardous materials if it would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

2) 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?

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

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

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 result in a safety hazard for people residing or working in the project area?

6) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

8) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

4.10.2.2 Issues Scoped Out as Part of the Initial Study

Several criteria were eliminated from further evaluation as part of the Initial Study. Criterion 3 was eliminated because the project site is not located within one-quarter mile of an existing or proposed school. Thus, no impact is identified for this issue area. Likewise, criterion 4 was eliminated because the project site is not listed as a hazardous materials site pursuant to Government Code, Section 65962.5. Again, no impact is identified for this issue area.

Criteria 5 and 6 address safety hazards with regard to public airports and private airstrips. The project site is not located within two miles of a public airport or a private airstrip. Thus, no impact is identified for these issue areas. However, due to the proximity of the project to the U.S. Naval Air Facility at El Centro (NAF/EC), the Applicant applied the Department of Defense Preliminary Screening Tool (PST) to determine whether the project would conflict with military airspace. The PST was used to screen several locations along the entire Gen-tie Line route. In all instances, the PST indicated that the Gen-tie Line would not be likely to create impacts to military airspace (CSE, 2011f). In addition to the PST, the Applicant used the FAA Notice Criteria Tool (FAA Tool) to determine if it was necessary to notify the FAA regarding height of the proposed Gen-tie Lie tower structures. The FAA Tool takes into account the coordinates of the proposed structure, the height of the structure and the location of all public use airports in the vicinity. The Applicant evaluated several locations along the entire Gen-tie Line using the FAA Tool. The outputs of the FAA Tool indicated that it is not necessary to notice the FAA regarding the Gen-tie line towers (CSE, 2011f) (refer to **Appendix I** Corridor Conflict Analysis). Thus, no direct or indirect impacts are anticipated in association with FAA height requirements or military airspace.

Criterion 7 addresses potential for the project to interfere with an adopted emergency response plan or emergency evacuation plan. As identified in the Seismic and Public Safety Element of the Imperial County General Plan, the "Imperial County Emergency Plan" addressed Imperial County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed project's circulation plan includes access roads throughout the site which would accommodate emergency vehicles. Likewise, emergency services will have 24-hour access to enter through gates at each access point. In addition, applicable building codes would be followed to minimize seismic, and fire hazards. Thus, the proposed project would not impair the implementation or physically interfere with any adopted emergency response plans or emergency evacuation plans. No impact is identified for this issue area.

Criterion 8 deals with exposure to wildland fire. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (CDF, 2000), the project site is not located in 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. The project site is not characterized as an area of urban/wildland interface. The areas surrounding the project site consist of agricultural fields and desert. The closest wildland area prone forest fire risk and hazard is located is

approximately 19 miles northwest of the project site. Moreover, the proposed project would not contain features susceptible to fire. The PV modules are typically Class C fire rated and the remainder of the equipment is of nonflammable material (aluminum, steel, and glass). The solar field would be maintained with a minimum of vegetation and other combustible materials. Up to nine, 10,000-gallon firewater tanks will be distributed throughout the solar field to provide water in the event of a fire. Thus, the project would not expose people or structures to significant risk of loss, injury or death involving wildland fire. No impact is identified relative to urban/wildland interface and this issue is not discussed further in this EIR/EA.

4.10.2.3 NEPA Requirements

NEPA does not have any requirements specific to hazards or hazardous materials which would apply to the proposed project. The context and intensity of the environmental effects (40 CFR Part 1508.27) of the Proposed Action and alternatives with regard to creation of hazards and use of hazardous materials, as well as with regard to exposure to any existing or potential hazards or hazardous materials, are assessed with regard to the applicable CEQA Significance Criteria identified above.

4.10.2.4 Issues of Concern with No Applicable Criteria

Several hazards of potential concern to the public with no corresponding criteria are briefly discussed below. These hazards are acknowledged and discussed to the extent that they would result from the proposed project.

A. Electromagnetic Fields

Potential impacts from the proposed project to public health for residents of Imperial County with respect to electromagnetic fields are briefly acknowledged here. Both electric and magnetic fields occur together whenever electricity flows (BLM/CEC, 2010). Electric voltage (electric field) and electric current (magnetic field) from the proposed Gen-tie Line would create the potential for EMF exposure. The available evidence as evaluated by the California Public Utilities Commission and other regulatory agencies has not established that such fields pose a significant health hazard to exposed humans (BLM/CEC, 2010). To date, there are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. Likewise, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities (BLM/CEC, 2010).

The potential for the Gen-tie Line on BLM land to impact human health is minimal because it would be located within Utility Corridor N of the California Desert Conservation Plan. Currently, there are three high voltage transmission lines located in Utility Corridor N (Sempra, Intergen, and SDG&E). No residential uses are allowed within this corridor. In addition to the 230-kV Gen-tie Line, the project also includes an electrical collection system that will primarily be installed underground. Based on the undeveloped and unpopulated nature of the setting for the project overall (Gen-tie Line and PV solar field), long-term exposure to EMFs related to the Gen-tie Line is not expected and no impact would occur.

B. Interference with Radio-Frequency Communications

Gen-tie Line related radio-frequency interference is one of the indirect effects of project operation. Interference may be produced by the physical interactions of line electric fields. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as “corona discharge” (also discussed in Sections 3.8 and 4.8,

Noise), but is referred to as "spark gap electric discharge" when it occurs within gaps between the conductor and insulators or metal fittings (BLM/CEC, 2010). When generated, spark gap electric discharge manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio communication. The level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions. As a result, maximum interference levels are not specified as design criteria for modern transmission lines. The level of any such interference usually depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts is minimized by reducing the line electric fields and locating the line away from inhabited areas. The proposed Gen-tie Line is proposed within CDCA Corridor N in an unpopulated portion of the county.

The proposed Gen-tie Line would be built and maintained in keeping with all applicable standards and regulations, including those prescribed by the California Public Utilities Commission and State of California Rules for Overhead Electric Line Construction, General Order No. 95 (GO-95). The potential for spark gap electric discharge interference is usually of concern for lines of 345-kV and above, not for 230-kV lines. Since the proposed Gen-tie Line would be located in rural and uninhabited desert open space, no direct (at the time of construction) or indirect (during operation of the Gen-tie Line) impacts to radio-frequency interference would occur.

C. Hazardous Shocks

Hazardous shocks are those that could result from direct or indirect contact between an individual and an energized line. No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines (BLM/CEC, 2010). Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. The proposed Gen-tie Line would be located in rural and uninhabited desert open space making it highly unlikely that the public would come in contact with the line. Moreover, the Gen-tie Line would be located in a designated utility corridor (Corridor N) within the California Desert Conservation Area (CDCA). The Applicant has indicated that the project would be designed, constructed, and operated to meet or exceed the requirements of GO-95 (CSE, 2011e). The project includes a grounding system dissipation current created by lightning and ground faults. Additionally, the project would comply with the applicable U.S. Department of Labor, Occupational Safety and Health Standards.

The solar energy facility inverters and transformers would be placed on concrete foundations. Inverters would be housed in brick enclosures while transformers would be housed in metal cabinets designed to meet National Electric Manufacturers Association (NEMA) NEMA 3R IP44 standards for electrical enclosures. Additionally, the all electrical equipment is subject to the product safety standard requirements of the Underwriters Laboratory (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. Therefore, no direct (during construction) or indirect (during operations and maintenance) impacts associated with hazardous shocks are anticipated to occur.

D. Fire Hazard (Non-Wildland/Operational)

Standard fire prevention and suppression measures would be implemented for the proposed project. Buildings in the common services areas of the CSE Facility will be designed with fire protection systems based on applicable Imperial County requirements. Systems where pressurized firewater is used will

have electric pumps. Portable fire extinguishers of appropriate sizes and types would be located throughout the CSE Facility site. Class C (electrical) rated fire extinguishers will be mounted at each inverter.

The PV modules are typically Class C fire-rated and the remainder of the equipment is of nonflammable material (aluminum, steel, and glass). The solar field will be maintained with a minimum of vegetation and other combustible materials. Up to nine, 10,000-gallon firewater tanks will be distributed throughout the solar field (refer to Figure 2.0-6 in Chapter 2.0). Access roads will provide emergency access throughout the solar field. In addition, the Applicant has indicated that the project would be designed, constructed, and operated to meet or exceed the requirements of GO-95 (CSE, 2011e). Compliance with GO-95 includes clearance-related aspects which would apply to the Gen-tie Line to ensure adequate emergency access in the event of a fire. Based on compliance with applicable requirements and design features incorporated as part of the project, no direct impacts relative to fire hazards are anticipated during operation of the proposed project.

E. Valley Fever

Construction of the proposed project would occur in an area favorable to the growth of Valley Fever, a fungus (*Coccidioides immitis*) that grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. However, Imperial County is not considered a high incidence county for incidences of Valley Fever (BLM, 2011). Most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. While the potential for a direct impact could occur during construction in association with exposure of workers to Valley Fever spores, implementation of mitigation measures AQ-1 and AQ-2 identified to reduce PM_{10} in Section 4.4, Air Quality would be effective in reducing airborne dust. Implementation of these mitigation measures, as well as a dust control plan as required by the Imperial County Air Pollution Control District, would minimize the spread of fungal spores thereby reducing potential for contracting Valley Fever during construction. No direct or indirect impacts associated with exposure to Valley Fever would occur during operations and maintenance.

4.10.3 ENVIRONMENTAL CONSEQUENCES

4.10.3.1 PROPOSED PROJECT

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsection 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Pesticide Residue

The CSE Facility portion of the project site and the three parcels south of SR 98 through which the Gen-tie Line would align are all in agricultural production. Lands on parcels that comprise the project site have been in agricultural use as far back as 1949. The Phase I ESAs noted that typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and application of chemical fertilizers to both ground and irrigation water (GS Lyon, 2010a, 2010b, 2011a, 2011b). Although no spills or accidental releases of agricultural chemicals were noted as part of the Phase I ESAs, pesticide residues on farm lands in Imperial County are typically at 25 to 50 percent of regulatory action levels (based on field tests) (Lyon, 2011). As a result, there is a potential for residual, low-level concentrations of pesticides and other agricultural chemicals to be present in soil and/or groundwater (refer to Section 4.11, Hydrology and Groundwater). The Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the project site is not anticipated to be at hazardous levels. Furthermore, the proposed project does not contain a residential or commercial component that would expose people to potential pesticides/herbicides. Therefore, no direct impact (exposure during construction) or indirect impact (exposure following construction during operations and maintenance) would occur relative to pesticide residue in association with construction of the Proposed Action.

On-site Hazards

Small hydrocarbon stains were observed on soils surfaces throughout an area used for vehicle parking and repair on the southeast corner of parcel 052-170-018. The oil stains on the soil originated from leakage from parked vehicles or repair of vehicles and are not believed to affect more than 6- to 12-inches of the surface oils at the stain locations. Unauthorized solid waste piles including a computer monitor, used oil filters, a water heater and other items are also located on parcel 052-170-018 (GS Lyon, 2010a). Several 55-gallon drums, some partially filled with an unknown liquid, are also present. The presence of these materials represents a direct impact (currently present hazard) and indirect impact (potential for further contamination through leakage). Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, direct and indirect impacts associated with on-site hazards would be eliminated during construction of the Proposed Action.

Hazardous Materials on Adjacent Properties

No hazardous materials sites were found within a 1-mile radii database searches conducted on federal, state, and local environmental records pertaining to the project site and vicinity. The area surrounding the site is largely undeveloped, rural land used for agriculture with desert to the west. No direct (currently existing) or indirect (future hazards or contamination) impacts are anticipated in association with hazardous materials on adjacent properties during construction of the Proposed Action.

Herbicide Use

During the construction period (22 to 28 months for Phase I and 15 to 18 months for Phase II), herbicide would be applied to control weed growth. Use of herbicides would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no direct (during construction) or indirect (in the future during operations and maintenance) impact is anticipated to occur in association with herbicide use during construction of the Proposed Action.

Hazardous Materials Use

Transport

Some hazardous materials would be required during construction of the proposed project which will be transported to the site. These include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. Large quantities of these materials are not anticipated to be transported. However, all hazardous materials transported to the site will be managed in compliance with applicable laws and regulations. Should a vehicle such as a gasoline tank be required, transport would occur in compliance with Department of Toxic Substances Control (DTSC) regulations. Thus, no direct (accidental release during transport) or indirect (residual contamination following accidental release) impacts associated with transport of hazardous materials would occur as part of construction of the Proposed Action.

Use and Storage

A variety of hazardous materials would be used during construction of the proposed project. Typical materials associated with construction include gasoline, diesel fuel, oils and lubricants for operation and maintenance of heavy equipment. Solvents, detergents, degreasers, are also used in association with heavy equipment. Other materials such as paints, ethylene glycol, and welding materials may all be used to varying extents as the Project is constructed. No acutely toxic hazardous materials would be used during construction. Further, none of the materials are anticipated to pose a significant potential for off-site impacts as a result of the quantities used, their relative toxicity, physical states (e.g. liquid vs. gas), and/or environmental mobility (e.g. ability to travel through soil or water). The Applicant has identified Design Features and Best Management Practices (BMPs) (refer to Table 2.0-5 in Chapter 2.0) that address handling of hazardous materials. For, example use of chemicals, fuels, lubricants, or biocides will be in compliance with all local, state and federal regulations; all fuels, fluids, components with hazardous materials/wastes will be handled in accordance with applicable regulations. All such materials will be kept in segregated storage with secondary containment as required. Therefore, no direct (spill during construction) or indirect (contamination remaining after construction) impact resulting from accidental release of hazardous materials used or stored on-site would occur during construction of the Proposed Action.

Disposal

Left-over or spent materials would be generated during construction of the project. These materials could include empty containers, used oil filters, used batteries, used hydraulic fluid, oils, and grease. The Applicant has identified BMPs to prevent improper handling and disposal of materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, all construction waste, including petroleum products, and other potentially hazardous materials, will be required to be removed to a disposal facility authorized to accept such materials (refer to Table 2.0-5 in

Chapter 2.0). Hazardous wastes generated during construction (such as spent oil) or remaining from construction activities will be disposed of in an approved landfill. All hazardous wastes shipped off-site for disposal will be transported by a licensed and permitted hazardous waste hauler. Compliance with these BMPs and haul methods would be effective to ensure proper disposal of hazardous materials. Therefore, no direct (during disposal) or indirect (residual contamination remaining after construction) impact would occur in association with release of hazardous materials disposal during construction of the Proposed Action.

Operation and Maintenance

Herbicides

A long-term strategy for weed control and management would be implemented during operation of the CSE Facility. A BMP identified by the Applicant calls for a Weed Management Plan to be prepared and approved by the BLM prior to ground-disturbing activities, and implemented during operations and maintenance of the Gen-tie Line. The Weed Management Plan will describe specific on-going measures to remove weedy plant species from the ROW and encourage 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 should be approved by the BLM (refer to Table 2.0-6 in Chapter 2.0). If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. Weed abatement on BLM lands will be based on compliance with the Habitat Restoration Plan. Thus, no direct (during application of herbicides) or indirect (residual contamination from spill or misuse) impact would occur with regard to use of herbicides during operation and maintenance of the Proposed Action.

Transport, Use and Storage, Disposal of Hazardous Materials

Small quantities of hazardous materials would be transported to the site (in accordance with DTSC regulations, as applicable) and used and stored on-site for miscellaneous, general maintenance activities. Hazardous materials are expected to include consumer-sized containers of oils, grease, paints and solvents. Small quantities of diesel fuel and gasoline may also be stored at the facility for use in off-road service vehicles and generators. Dielectric insulating oil would be used in some electrical equipment, such as the on-site transformer(s). Oil containing equipment would be installed with a spill containment system designed to contain all the oil in the event of a leak. If diesel-fueled back-up pumps are required for fire protection, appropriate secondary containment would be provided for the diesel fuel tank. If pre-treatment, such as softening, is necessary for on-site water treatment, water treatment chemicals needed for that process would be used and stored at the facility.

The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. Hazardous materials will be stored in appropriate storage containers in the maintenance building, garage, and water treatment building, as needed to support facility operations. All hazardous materials will be managed in compliance with applicable laws and regulations regarding transport, use, disposal and storage.

The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials will be required to be kept in segregated storage with secondary containment (refer to Table 2.0-5 in Chapter 2.0). Compliance with applicable laws, the requirements of

the HMMP and the Design Features and BMPs would be adequate to address storage and handling of hazardous materials on the project site.

In addition, several agencies impose regulations regarding storage and management of hazardous materials. The Imperial County Fire Department, Imperial County Office of Emergency Services, the Department of Toxic Substances Control (DTSC), and Certified United Program Agencies (CUPA) all regulate storage of hazardous materials. Compliance with the standards of these agencies must be followed. The Applicant will prepare a HMMP or other similar plans, as applicable, prior to using or storing hazardous materials on the project site. As with construction, any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, no direct (accidental release of hazardous materials during transport, storage and use or disposal) or indirect (residual contamination remaining after storage and use) impacts would occur during operations and maintenance of the Proposed Action.

Airport Land Use Compatibility Plan

A Variance for height exceedance of the proposed transmission towers was submitted to Imperial County for approval. The Airport Land Use Commissioners determined that the Variance to install a 230-kV transmission line extending from the proposed PV solar field was consistent with the 1996 Airport Land Use Compatibility Plan (ALUCP) (Villa, 2011b). However, the Airport Land Use Commission (ALUC) did recommend that the segments of the Gen-tie Line that span the Westside Main Canal and SR 98 include lighting and marker balls to improve visibility and serve as a safety feature for aircraft. Mitigation measure HM-3 would reduce potential direct impacts associated with this hazard during operations and maintenance of the Proposed Action.

Decommissioning

During decommissioning, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) could result from dismantling of the Proposed Action. Large quantities of broken concrete from tower and building foundations, water treatment pond liners, and rock or gravel from on-site roads or electrical substations would be generated in addition to metal from fencing, tower structures, wiring and water storage tanks. Transformers, inverters, and the substation as well as the septic system would all require removal and disposal. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed.

Gravel from roads will be removed either used on site for fill or removed. The Applicant has indicated that commercially reasonable efforts will be made to recycle or reuse materials from the decommissioning. All other materials will be disposed of at a licensed facility.

It is anticipated that the Applicant would apply BMPs to reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) impact would occur during decommissioning of the Proposed Action. After decommissioning activities, the use of hazardous materials associated with the Proposed Action would no longer exist.

B. CEQA Significance Determinations

Hazardous Materials Transport, Use, Disposal and Accidental Release

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

2) 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?

Construction

Pesticide Residue

Lands on the project site have been in agricultural use as far back as 1949. Based on field tests, pesticide residues on farm lands in Imperial County have been found to be typically at 25 to 50 percent of regulatory action levels (Lyon, 2011). The Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the project site is considered less than significant. Furthermore, the Proposed Action does not contain a residential or commercial component that would expose people to potential pesticides.

Potential air dispersion of pesticide residues in dust during grading activities would be addressed through Imperial County Air Pollution Control District (ICAPCD) regulations mandated to reduce dust during construction. Specifically, watering disturbed soils during grading and earthmoving would minimize dust and any associated air dispersal of pesticide residues (refer to mitigation measure AQ-1 in Section 4.4, Air Quality). In comparison, typical agricultural operations often result in uncontrolled soil disturbance multiple times per year by either mechanical equipment or prescribed burning (Lyon, 2011). Therefore, impacts associated with exposure to pesticide residue during construction are considered less than significant under CEQA for the Proposed Action.

On-site Hazards

The presence of oil stained soils, unauthorized solid waste piles and 55-gallon drums on the project site is considered a potentially significant impact under CEQA. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, impacts associated with exposure to on-site hazards during construction would be less than significant under CEQA for the Proposed Action.

Hazardous Materials on Adjacent Properties

The area surrounding the project site is largely undeveloped, rural land used for agriculture with desert to the west. A review of federal, state, and local databases containing environmental records pertaining to the project site and vicinity was conducted. No hazardous materials sites were identified within 1-mile radii searches conducted of the project parcels (GS Lyon, 2010a, 2010b, 2011a, 2011b). Therefore, no impacts under CEQA are anticipated with regard to the presence of hazardous materials on adjacent properties during construction of the Proposed Action.

Herbicide Use

Use of herbicides during construction would occur in accordance with all recommended application procedures as identified on product labels and in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no impact under CEQA is anticipated to occur in association with herbicide use during construction of the Proposed Action.

Hazardous Materials Use

Transport

All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the site during construction would occur in compliance with Department of Toxic Substances Control (DTSC) regulations. Thus, less than significant impacts under CEQA are anticipated in association with transport of hazardous materials during construction of the Proposed Action.

Use and Storage

A variety of hazardous materials would be used during construction of the proposed project. However, no acutely toxic hazardous materials would used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. The Applicant has identified Design Features and Best Management Practices (BMPs) that address handling of hazardous materials in a manner which would avoid potential for leaks and spills (refer to Table 2.0-5 in Chapter 2.0). Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered a less than significant impact under CEQA for the Proposed Action.

Disposal

Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during project construction. The Applicant has identified BMPs to prevent improper handling and disposal of materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, all construction waste, including petroleum products, and other potentially hazardous materials, will be required to be removed to a disposal facility authorized to accept such materials (refer to Table 2.0-5 in Chapter 2.0). Therefore, less than significant impacts under CEQA would occur in association with release of hazardous materials disposal during construction of the Proposed Action.

<u>Operation and Maintenance</u>

Herbicides

A long-term strategy for weed control and management would be implemented during operation of the CSE Facility. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. Thus, a less than significant impact with regard to herbicide use would occur under CEQA during operations and maintenance of the Proposed Action.

Transport, Use and Storage, Disposal of Hazardous Materials

Small quantities of hazardous materials would be transported to the site (in accordance with DTSC regulations, as applicable) and used and stored on-site for miscellaneous, general maintenance activities. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials will be required to be kept in segregated storage with secondary containment (refer to Table 2.0-5 in Chapter 2.0). Compliance with applicable laws, regulations imposed by management agencies (such as DTSC), the requirements of the HMMP, and the Design Features and BMPs, would be adequate to address storage and handling of hazardous materials on the project site. Any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, potential for accident conditions involving the release of hazardous materials during operations and maintenance is considered a less than significant impact under CEQA for the Proposed Action.

Decommissioning

At the time of decommissioning 30+ years in the future, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) would be generated from dismantling of the Proposed Action. Some items will require removal and disposal (such as the transformers and inverters) while others can be used onsite for fill (concrete from foundations) as needed. The Applicant has indicated that commercially reasonable efforts will be made to recycle or reuse materials from the decommissioning. All other materials will be disposed of at a licensed facility.

The Applicant would likely apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) would occur during decommissioning of the Proposed Action. After decommissioning activities, the use of hazardous materials associated with the Proposed Action would no longer exist.

4.10.3.2 Alternative 1- Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Pesticide Residue

The project site for Alternative 1 is comprised of the exact same parcels as the Proposed Action. As a result, there is a potential for residual, low-level concentrations of pesticides and other agricultural chemicals to be present in soil and/or groundwater (refer to Section 4.11, Hydrology and Groundwater) for Alternative 1. The potential presence of low concentrations are anticipated to be at 25 to 50 percent of regulatory action levels based on field testing of numerous farm lands in Imperial County (Lyon, 2011). In addition, no residential or commercial component that would expose people to potential pesticides/herbicides is proposed as part of Alternative 1. Therefore, no direct impact (exposure during construction) or indirect impact (exposure following construction during operations and maintenance) would occur relative to pesticide residue in association with construction of Alternative 1.

On-site Hazards

As with the site of the Proposed Action, identical sources of hazardous materials are present for Alternative 1 (oil stained soil, unauthorized solid waste piles, and 55-gallon drums). The presence of these materials represents a direct impact (currently present hazard) and indirect impact (potential for further contamination through leakage). Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, direct (existing contamination) and indirect (worsening of contamination in the future) impacts associated with on-site hazards would be eliminated during construction of Alternative 1.

Hazardous Materials on Adjacent Properties

No hazardous materials sites were found within 1-mile radii searches conducted for the project parcels (GS Lyon, 2010a, 2010b, 2011a, and 2011b). The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. The area surrounding the site is largely undeveloped, rural land used for agriculture with desert to the west. No direct (currently existing) or indirect (future hazards or contamination) impacts are anticipated in association with hazardous materials on adjacent properties during construction of Alternative 1.

Herbicide Use

Use of herbicides during construction of Alternative 1 would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no direct (during construction) or indirect (in the future during operations and maintenance) impact is anticipated to occur in association with herbicide use during construction of Alternative 1.

Hazardous Materials Use

Transport

Some hazardous materials transport would be required during construction of Alternative 1. All hazardous materials transported to the site will be managed in compliance with applicable laws and regulations. No direct (accidental release during transport) or indirect (residual contamination following accidental release) impacts associated with transport of hazardous materials would occur as part of construction of Alternative 1.

Use and Storage

A variety of hazardous materials would be used during construction of Alternative 1 including gasoline, diesel fuel, oils and lubricants for operation and maintenance of heavy equipment. No acutely toxic hazardous materials would be used nor are any materials anticipated to pose a significant potential for off-site impacts. The Applicant has identified Design Features and Best Management Practices (BMPs) (refer to Table 2.0-5 in Chapter 2.0) that address safe handling and storage of hazardous materials. Therefore, no direct (spill during construction) or indirect (contamination remaining after construction) impact resulting from accidental release of hazardous materials used or stored on-site would occur during construction of Alternative 1.

Disposal

As with the Proposed Action, Alternative 1 would generate left-over or spent materials during construction. The Applicant has identified BMPs to prevent improper handling and disposal of spent materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, removal of hazardous materials to a disposal facility authorized to accept such materials would be required (refer to Table 2.0-5 in Chapter 2.0). Compliance with these BMPs and haul methods would be effective to ensure proper disposal of hazardous materials. Therefore, no direct (during disposal) or indirect (residual contamination remaining after construction) impact would occur in association with release of hazardous materials disposal during construction of Alternative 1.

Operation and Maintenance

Herbicides

Identical to the Proposed Action, Alternative 1 would require a long-term strategy for weed control and management. The Applicant identified a BMP calling for a Weed Management Plan to be prepared and approved by the BLM prior to ground-disturbing activities, and implemented during operations and maintenance of the Gen-tie Line. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. Weed abatement on BLM lands will be based on compliance with the Habitat Restoration Plan. Thus, no direct (during application of herbicides) or indirect (residual contamination from spill or miss-use) impact would occur with regard to use of herbicides during operation and maintenance of Alternative 1.

Transport, Use and Storage, Disposal of Hazardous Materials

As with the Proposed Action, Alternative 1 would require small quantities of hazardous materials to be transported to the site (in accordance with DTSC regulations, as applicable). Likewise, these materials would be used and stored on-site for miscellaneous, general maintenance activities. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous

materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. In addition, several agencies (such as the Imperial County Fire Department, Imperial County Office of Emergency Services, the Department of Toxic Substances Control) impose regulations regarding storage and management of hazardous materials. Compliance with the standards of these agencies must be followed. The Applicant will prepare a HMMP or other similar plans, as applicable, prior to using or storing hazardous materials on the project site. As with construction, any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, no direct (accidental release of hazardous materials during transport, storage and use or disposal) or indirect (residual contamination remaining after storage and use) impacts would occur during operations and maintenance of Alternative 1.

Airport Land Use Compatibility Plan

A Variance for potential height exceedance of the proposed transmission towers was submitted to Imperial County for approval. The Airport Land Use Commissioners determined that the Variance for to install a 230-kV transmission line extending from the proposed PV solar field was consistent with the 1996 ALUCP (Villa, 2011b). However, the ALUC did recommend that the segments of the Gen-tie Line that span the Westside Main Canal and SR 98 include lighting and marker balls to improve visibility and serve as a safety feature for aircraft. The proposed Gen-tie Line included as part of Alternative 1 would follow the same route as the Proposed Action but would include an additional 230-kV circuit. Based on its alignment, the Gen-tie Line would also include spans across the Westside Main Canal and SR 98. Mitigation measure HM-3 would reduce potential direct impacts associated with this hazard during operations and maintenance of Alternative 1.

Decommissioning

During decommissioning, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) could result from dismantling of Alternative 1. The amount of wiring generated during decommissioning would be larger for Alternative 1 based on the additional 230-kV line that it would accommodate compared to the Proposed Action. As with the Proposed Action, some materials such as concrete would be re-used on-site (for fill as needed) while others (water tanks) would be recycled. All other materials will be disposed of at a licensed facility.

It is anticipated that the Applicant would apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) impact would occur during decommissioning of Alternative 1. After decommissioning activities, the use of hazardous materials associated with Alternative 1 would no longer exist.

B. CEQA Significance Determinations

Hazardous Materials Transport, Use, Disposal and Accidental Release

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

2) 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?

Construction

Pesticide Residue

The lands comprising the project site of the Proposed Action are identical to those included as part of Alternative 1. Although the project parcels have been used for agriculture for decades, the potential presence of low concentrations of agricultural chemicals on the project site is anticipated to be at 25 to 50 percent of regulatory action levels (based on testing of numerous farm lands in Imperial County) (Lyon, 2011). This is because the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the project site is considered less than significant. As with the Proposed Action, Alternative 1 does not contain a residential or commercial component that would expose people to potential pesticides.

Potential air dispersion of pesticide residues in dust during grading activities would be addressed through ICAPCD regulations mandated to reduce dust during construction. Specifically, watering disturbed soils during grading and earthmoving would minimize dust and any associated air dispersal of pesticide residues (refer to mitigation measure AQ-1 in Section 4.4, Air Quality). In comparison, typical agricultural operations often result in uncontrolled soil disturbance multiple times per year by either mechanical equipment or prescribed burning (Lyon, 20110). Therefore, impacts associated with exposure to pesticide residue during construction are considered less than significant under CEQA for Alternative 1.

On-site Hazards

The presence of oil stained soils, unauthorized solid waste piles and 55-gallon drums on the project site is considered a potentially significant impact under CEQA. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, impacts associated with exposure to on-site hazards during construction would be less than significant under CEQA for Alternative 1.

Hazardous Materials on Adjacent Properties

The area surrounding the project site is largely undeveloped, rural land used for agriculture with desert to the west. A review of federal, state, and local databases containing environmental records pertaining to the project site and vicinity was conducted and revealed no hazardous materials sites within a 1-mile radius of the project site (GS Lyon, 2010a, 2010b, 2011a, 2011b). Therefore, no impacts under CEQA are anticipated with regard to the presence of hazardous materials on adjacent properties during construction of Alternative 1.

Herbicide Use

Use of herbicides during construction would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural

Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no impact under CEQA is anticipated to occur in association with herbicide use during construction of Alternative 1.

Hazardous Materials Use

Transport

All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the site during construction would occur in compliance with Department of Toxic Substances Control (DTSC) regulations. Thus, less than significant impacts under CEQA are anticipated in association with transport of hazardous materials during construction of Alternative 1.

Use and Storage

A variety of hazardous materials such as diesel fuel and lubricants for heavy equipment would be used during construction. However, no acutely toxic hazardous materials would used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. The Applicant has identified Design Features and Best Management Practices (BMPs) that address handling of hazardous materials in a manner which would avoid potential for leaks and spills (refer to Table 2.0-5 in Chapter 2.0). Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered a less than significant impact under CEQA for Alternative 1.

Disposal

Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during construction of Alternative 1. The Applicant has identified BMPs to prevent improper handling and disposal of materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, all construction waste, including petroleum products, and other potentially hazardous materials, will be required to be removed to a disposal facility authorized to accept such materials (refer to Table 2.0-5 in Chapter 2.0). Therefore, less than significant impacts under CEQA would occur in association with release of hazardous materials disposal during construction of Alternative 1.

Operation and Maintenance

Herbicides

A long-term strategy for weed control and management would be implemented during operation of the CSE Facility. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. Thus, a less than significant impact with regard to herbicide use would occur under CEQA during operations and maintenance of Alternative 1.

Transport, Use and Storage, Disposal of Hazardous Materials

Small quantities of hazardous materials would be transported to the site (in accordance with DTSC regulations, as applicable) and used and stored on-site for miscellaneous, general maintenance activities. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features

and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials will be required to be kept in segregated storage with secondary containment (refer to Table 2.0-5 in Chapter 2.0). Compliance with applicable laws, regulations imposed by management agencies (such as DTSC), the requirements of the HMMP, and the Design Features and BMPs, would be adequate to address storage and handling of hazardous materials on the project site. Any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, potential for accident conditions involving the release of hazardous materials during operations and maintenance is considered a less than significant impact under CEQA for Alternative 1.

Decommissioning

At the time of decommissioning 30+ years in the future, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) would be generated from dismantling of Alternative 1. More wire would be associated with decommissioning Alternative 1 because it includes an additional 230-kV compared to the Proposed Action. Some items will require removal and disposal (such as the transformers and inverters) while others can be used onsite for fill (concrete from foundations) as needed. The Applicant has indicated that commercially reasonable efforts will be made to recycle or reuse materials from the decommissioning. All other materials will be disposed of at a licensed facility.

The Applicant would likely apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) would occur during decommissioning of Alternative 1. After decommissioning activities, the use of hazardous materials associated with Alternative 1 would no longer exist.

4.10.3.3 Alternative 2 – Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Pesticide Residue

The project site for Alternative 2 is comprised of three fewer parcels (APN 052-170-035, 052-170-076 and 052-170-078) than the Proposed Action. However, the potential for residual, low-level concentrations of pesticides and other agricultural chemicals to be present in soil and/or groundwater

(refer to Section 4.11, Hydrology and Groundwater) is identical to the Proposed Action. The potential presence of low concentrations of agricultural chemicals on the project site is anticipated to be at 25 to 50 percent of regulatory action levels based on field testing of numerous farm lands in Imperial County (Lyon, 2011). In addition, no residential or commercial component that would expose people to potential pesticides/herbicides is proposed as part of Alternative 2. Therefore, no direct impact (exposure during construction) or indirect impact (exposure following construction during operations and maintenance) would occur relative to pesticide residue in association with construction of Alternative2.

On-site Hazards

Although Alternative 2 contains three fewer parcels than the Proposed Action, the same sources of hazardous materials are present for both. This is because Alternative 2 includes the affected parcels containing oil stained soil, unauthorized solid waste piles, and 55-gallon drums. As with the Proposed Action, the presence of these materials represents a direct impact (currently present hazard) and indirect impact (potential for further contamination through leakage) for Alternative 2. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, direct (existing contamination) and indirect (worsening of contamination in the future) impacts associated with on-site hazards would be eliminated during construction of Alternative 2.

Hazardous Materials on Adjacent Properties

No hazardous materials sites were found within 1-mile radii searches conducted for the project parcels comprising the site of the Proposed Action (GS Lyon, 2010a, 2010b, 2011a, 2011b) which is inclusive of the parcels comprising the project site for Alternative 2. The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. The area surrounding the site is largely undeveloped, rural land used for agriculture with desert to the west. No direct (currently existing) or indirect (future hazards or contamination) impacts are anticipated in association with hazardous materials on adjacent properties during construction of Alternative 2.

Herbicide Use

Use of herbicides during construction of Alternative 2 would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no direct (during construction) or indirect (in the future during operations and maintenance) impact is anticipated to occur in association with herbicide use during construction of Alternative 2.

Hazardous Materials Use

Transport

Some hazardous materials transport would be required during construction of Alternative 2. All hazardous materials transported to the site will be managed in compliance with applicable laws and regulations. No direct (accidental release during transport) or indirect (residual contamination following accidental release) impacts associated with transport of hazardous materials would occur as part of construction of Alternative 2.

Use and Storage

A variety of hazardous materials would be used during construction of Alternative 2 including gasoline, diesel fuel, oils and lubricants for operation and maintenance of heavy equipment. No acutely toxic hazardous materials would be used nor are any materials anticipated to pose a significant potential for off-site impacts. The Applicant has identified Design Features and Best Management Practices (BMPs) (refer to Table 2.0-5 in Chapter 2.0) that address safe handling and storage of hazardous materials. Therefore, no direct (spill during construction) or indirect (contamination remaining after construction) impact resulting from accidental release of hazardous materials used or stored on-site would occur during construction of Alternative 2.

Disposal

As with the Proposed Action, Alternative 2 would generate left-over or spent materials during construction, though slightly less based on approximately 335 fewer acres being developed with PV solar fields. The Applicant has identified BMPs to prevent improper handling and disposal of spent materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, removal of hazardous materials to a disposal facility authorized to accept such materials would be required (refer to Table 2.0-5 in Chapter 2.0). Compliance with these BMPs and haul methods would be effective to ensure proper disposal of hazardous materials. Therefore, no direct (during disposal) or indirect (residual contamination remaining after construction) impact would occur in association with release of hazardous materials disposal during construction of Alternative 2.

Operation and Maintenance

Herbicides

Identical to the Proposed Action, Alternative 2 would require a long-term strategy for weed control and management. The Applicant identified a BMP calling for a Weed Management Plan to be prepared and approved by the BLM prior to ground-disturbing activities, and implemented during operations and maintenance of the Gen-tie Line. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. Weed abatement on BLM lands will be based on compliance with the Habitat Restoration Plan. Thus, no direct (during application of herbicides) or indirect (residual contamination from spill or miss-use) impact would occur with regard to use of herbicides during operation and maintenance of Alternative 2.

Transport, Use and Storage, Disposal of Hazardous Materials

As with the Proposed Action, Alternative 2 would require small quantities of hazardous materials to be transported to the site (in accordance with DTSC regulations, as applicable). Likewise, these materials would be used and stored on-site for miscellaneous, general maintenance activities. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. In addition, several agencies (such as the Imperial County Fire Department, Imperial County Office of Emergency Services, the Department of Toxic Substances Control) impose regulations regarding storage and management of hazardous materials. Compliance with the standards of these agencies must be followed. The Applicant will prepare a HMMP or other similar plans, as applicable, prior to using or storing hazardous materials on the project site. As with

construction, any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, no direct (accidental release of hazardous materials during transport, storage and use or disposal) or indirect (residual contamination remaining after storage and use) impacts would occur during operations and maintenance of Alternative 2.

Airport Land Use Compatibility Plan

A Variance for potential height exceedance of the proposed transmission towers was submitted to Imperial County for approval. The Airport Land Use Commissioners determined that the Variance for to install a 230-kV transmission line extending from the proposed PV solar field was consistent with the 1996 ALUCP (Villa, 2011b). However, the ALUC did recommend that the segments of the Gen-tie Line that span the Westside Main Canal and SR 98 include lighting and marker balls to improve visibility and serve as a safety feature for aircraft. As with the Proposed Action, the Gen-tie Line proposed as part of Alternative 2 would include segments that span both the Westside Main Canal and SR 98. Mitigation measure HM-3 would reduce potential direct impacts associated with this hazard during operations and maintenance of Alternative 2.

Decommissioning

During decommissioning, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) could result from dismantling of Alternative 2. However, the quantity of materials would be slightly less than would occur for the Proposed Action because 335 fewer acres would require dismantling as part of Alternative 2. As with the Proposed Action, some materials such as concrete would be re-used on-site (for fill as needed) while others (water tanks) would be recycled. All other materials will be disposed of at a licensed facility.

It is anticipated that the Applicant would apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) impact would occur during decommissioning of Alternative 2. After decommissioning activities, the use of hazardous materials associated with Alternative 2 would no longer exist.

B. CEQA Significance Determinations

Hazardous Materials Transport, Use, Disposal and Accidental Release

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

2) 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?

Construction

Pesticide Residue

Three parcels totaling approximately 335 acres are excluded from Alternative 2. Although the remaining project parcels have been used for agriculture for decades, the potential presence of low concentrations

of agricultural chemicals on the project site is anticipated to be at 25 to 50 percent of regulatory action levels (based on testing of numerous farm lands in Imperial County) (Lyon, 2011).. This is because the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the project site is considered less than significant. As with the Proposed Action, Alternative 2 does not contain a residential or commercial component that would expose people to potential pesticides.

Potential air dispersion of pesticide residues in dust during grading activities would be addressed through ICAPCD regulations mandated to reduce dust during construction. Specifically, watering disturbed soils during grading and earthmoving would minimize dust and any associated air dispersal of pesticide residues (refer to mitigation measure AQ-1 in Section 4.4, Air Quality). In comparison, typical agricultural operations often result in uncontrolled soil disturbance multiple times per year by either mechanical equipment or prescribed burning (Lyon, 20110). Therefore, impacts associated with exposure to pesticide residue during construction are considered less than significant under CEQA for Alternative 2.

On-site Hazards

The presence of oil stained soils, unauthorized solid waste piles and 55-gallon drums on the parcels included as part of Alternative 2 is considered a potentially significant impact under CEQA. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, impacts associated with exposure to on-site hazards during construction would be less than significant under CEQA for Alternative 2.

Hazardous Materials on Adjacent Properties

The area surrounding the project site is largely undeveloped rural land used for agriculture with desert located to the west. A review of federal, state, and local databases containing environmental records pertaining to the project site and vicinity was conducted and revealed no hazardous materials sites within a 1-mile radius of the project site (GS Lyon, 2010a, 2010b, 2011a, 2011b). Therefore, no impacts under CEQA are anticipated with regard to the presence of hazardous materials on adjacent properties during construction of Alternative 2.

Herbicide Use

Use of herbicides during construction would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no impact under CEQA is anticipated to occur in association with herbicide use during construction of Alternative 2.

Hazardous Materials Use

Transport

All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the site during construction would occur in compliance with Department of Toxic Substances Control (DTSC)

regulations. Thus, less than significant impacts under CEQA are anticipated in association with transport of hazardous materials during construction of Alternative 2.

Use and Storage

A variety of hazardous materials such as diesel fuel and lubricants for heavy equipment would be used during construction of Alternative 2, though slightly less in quantity compared to the Proposed Action based on the reduced size of the project. No acutely toxic hazardous materials would used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. The Applicant has identified Design Features and Best Management Practices (BMPs) that address handling of hazardous materials in a manner which would avoid potential for leaks and spills (refer to Table 2.0-5 in Chapter 2.0). Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered a less than significant impact under CEQA for Alternative 2.

Disposal

Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during construction of Alternative 2, though slightly less than would be generated as part of the Proposed Action. The Applicant has identified BMPs to prevent improper handling and disposal of materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, all construction waste, including petroleum products, and other potentially hazardous materials, will be required to be removed to a disposal facility authorized to accept such materials (refer to Table 2.0-5 in Chapter 2.0). Therefore, less than significant impacts under CEQA would occur in association with release of hazardous materials disposal during construction of Alternative 2.

Operation and Maintenance

Herbicides

A long-term strategy for weed control and management would be implemented during operation of the CSE Facility. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. Thus, a less than significant impact with regard to herbicide use would occur under CEQA during operations and maintenance Alternative 2.

Transport, Use and Storage, Disposal of Hazardous Materials

Small quantities of hazardous materials would be transported to the site (in accordance with DTSC regulations, as applicable) and used and stored on-site for miscellaneous, general maintenance activities for Alternative 2. The amounts would be slightly less than required for the Proposed Action based on the reduced size on the project (335 fewer acres for Alternative 2). The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials will be required to be kept in segregated storage with secondary containment (refer to Table 2.0-5 in Chapter 2.0). Compliance with applicable laws, regulations imposed by management agencies (such as DTSC), the requirements of the HMMP, and the Design Features and BMPs, would be adequate to address storage and handling of hazardous materials

on the project site. Any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, potential for accident conditions involving the release of hazardous materials during operations and maintenance is considered a less than significant impact under CEQA for Alternative 2.

Decommissioning

At the time of decommissioning 30+ years in the future, substantial quantities of solid wastes (concrete, metal) and industrial wastes (dielectric insulating oil, diesel fuel) would be generated from dismantling of Alternative 2. Approximately 335 fewer acres would require decommissioning resulting in slightly less materials requiring disposal. As with the Proposed Action, some items dismantled as part of Alternative 2 will require removal and disposal (such as the transformers and inverters) while others can be used onsite for fill (concrete from foundations) as needed. The Applicant has indicated that commercially reasonable efforts will be made to recycle or reuse materials from the decommissioning. All other materials will be disposed of at a licensed facility.

The Applicant would likely apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) would occur during decommissioning of Alternative 2. After decommissioning activities, the use of hazardous materials associated with Alternative 2 would no longer exist.

4.10.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Pesticide Residue

The project site for Alternative 3 includes development of the CSE Facility site, including a 450 foot by 350 foot electric switch yard, on agricultural lands. As such, the potential for residual, low-level concentrations of pesticides and other agricultural chemicals to be present in soil and/or groundwater

(refer to Section 4.11, Hydrology and Groundwater) is identical to the Proposed Action. The potential presence of low concentrations of agricultural chemicals on the project site is anticipated to be at 25 to 50 percent of regulatory action levels based on field testing of numerous farm lands in Imperial County (Lyon, 2011). In addition, no residential or commercial component that would expose people to potential pesticides/herbicides is proposed as part of Alternative 3. Therefore, no direct impact (exposure during construction) or indirect impact (exposure following construction during operations and maintenance) would occur relative to pesticide residue in association with construction of Alternative3.

On-site Hazards

The same sources of hazardous materials are present for both the Proposed Action and Alternative 3. This is because Alternative 3 includes the exact same parcels as the Proposed Action (i.e. parcels containing oil stained soil, unauthorized solid waste piles, and 55-gallon drums). As with the Proposed Action, the presence of these materials represents a direct impact (currently present hazard) and indirect impact (potential for further contamination through leakage) for Alternative 3. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, direct (existing contamination) and indirect (worsening of contamination in the future) impacts associated with on-site hazards would be eliminated during construction of Alternative 3.

Hazardous Materials on Adjacent Properties

No hazardous materials sites were found within 1-mile radii searches conducted for the project parcels comprising the site of the Proposed Action (GS Lyon, 2010a, 2010b, 2011a, 2011b) which is inclusive of the parcels comprising the project site for Alternative 3. The databases that were reviewed include federal, state, and local environmental records pertaining to the project site and vicinity. The area surrounding the site is largely undeveloped, rural land used for agriculture with desert to the west. No direct (currently existing) or indirect (future hazards or contamination) impacts are anticipated in association with hazardous materials on adjacent properties during construction of Alternative 3.

Herbicide Use

Use of herbicides during construction of Alternative 3 would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no direct (during construction) or indirect (in the future during operations and maintenance) impact is anticipated to occur in association with herbicide use during construction of Alternative 3.

Hazardous Materials Use

Transport

Some hazardous materials transport would be required during construction of Alternative 3. All hazardous materials transported to the site will be managed in compliance with applicable laws and regulations. No direct (accidental release during transport) or indirect (residual contamination following accidental release) impacts associated with transport of hazardous materials would occur as part of construction of Alternative 3.

Use and Storage

A variety of hazardous materials would be used during construction of Alternative 3 including gasoline, diesel fuel, oils and lubricants for operation and maintenance of heavy equipment. No acutely toxic hazardous materials would be used nor are any materials anticipated to pose a significant potential for off-site impacts. The Applicant has identified Design Features and Best Management Practices (BMPs) (refer to Table 2.0-5 in Chapter 2.0) that address safe handling and storage of hazardous materials. Therefore, no direct (spill during construction) or indirect (contamination remaining after construction) impact resulting from accidental release of hazardous materials used or stored on-site would occur during construction of Alternative 3.

Disposal

As with the Proposed Action, Alternative 3 would generate left-over or spent materials during construction. The Applicant has identified BMPs to prevent improper handling and disposal of spent materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, removal of hazardous materials to a disposal facility authorized to accept such materials would be required (refer to Table 2.0-5 in Chapter 2.0). Compliance with these BMPs and haul methods would be effective to ensure proper disposal of hazardous materials. Therefore, no direct (during disposal) or indirect (residual contamination remaining after construction) impact would occur in association with release of hazardous materials disposal during construction of Alternative 3.

Operation and Maintenance

Herbicides

Identical to the Proposed Action, Alternative 3 would require a long-term strategy for weed control and management. Alternative 3 would include the additional component of the 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site which would require weed control as well. The Applicant identified a BMP calling for a Weed Management Plan to be prepared and approved by the BLM prior to ground-disturbing activities, and implemented during operations and maintenance of the Gen-tie Line. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner for application on County lands. Weed abatement on BLM lands will be based on compliance with the Habitat Restoration Plan. Thus, no direct (during application of herbicides) or indirect (residual contamination from spill or miss-use) impact would occur with regard to use of herbicides during operation and maintenance of Alternative 3.

Transport, Use and Storage, Disposal of Hazardous Materials

As with the Proposed Action, Alternative 3 would require small quantities of hazardous materials to be transported to the site (in accordance with DTSC regulations, as applicable). Likewise, these materials would be used and stored on-site for miscellaneous, general maintenance activities. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. In addition, several agencies (such as the Imperial County Fire Department, Imperial County Office of Emergency Services, the Department of Toxic Substances Control) impose regulations regarding storage and management of hazardous materials. Compliance with the standards of these agencies must be followed. The Applicant will prepare a HMMP or other

similar plans, as applicable, prior to using or storing hazardous materials on the project site. As with construction, any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, no direct (accidental release of hazardous materials during transport, storage and use or disposal) or indirect (residual contamination remaining after storage and use) impacts would occur during operations and maintenance of Alternative 3.

Airport Land Use Compatibility Plan

A Variance for potential height exceedance of the proposed transmission towers was submitted to Imperial County for approval. The Airport Land Use Commissioners determined that the Variance for to install a 230-kV transmission line extending from the proposed PV solar field was consistent with the 1996 ALUCP (Villa, 2011b). However, the ALUC did recommend that the segments of the Gen-tie Line that span the Westside Main Canal and SR 98 include lighting and marker balls to improve visibility and serve as a safety feature for aircraft. Similar to the Proposed Action, Alternative 3 would include a segment of the Gen-tie Line that would span both the Westside Main Canal and SR-98 prior to the loop-in connection. Mitigation measure HM-3 would reduce potential direct impacts associated with this hazard during operations and maintenance of Alternative 3.

Decommissioning

During decommissioning, substantial quantities of solid wastes (concrete, metal, wire) and industrial wastes (dielectric insulating oil, diesel fuel) could result from dismantling of Alternative 3. However, the quantity of materials would be slightly more than would occur for the Proposed Action because of the additional components associated with the Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house, communications systems) as well as five H-frame undercrossing structures and three 3-pole tubular structures associated with the Gen-tie Line. As with the Proposed Action, some materials such as concrete would be re-used on-site (for fill as needed) while others (water tanks) would be recycled. All other materials will be disposed of at a licensed facility.

It is anticipated that the Applicant would apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) impact would occur during decommissioning of Alternative 3. After decommissioning activities, the use of hazardous materials associated with Alternative 3 would no longer exist.

B. CEQA Significance Determinations

Hazardous Materials Transport, Use, Disposal and Accidental Release

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

2) 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?

Construction

Pesticide Residue

The parcels comprising the project site for the Proposed Action are identical to those included as part of Alternative 3. Although the project parcels have been used for agriculture for decades, the potential presence of low concentrations of agricultural chemicals on the project site is anticipated to be at 25 to 50 percent of regulatory action levels based on field testing of numerous farm lands in Imperial County (Lyon, 2011). This is because the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") authorizes the legitimate application of herbicides and pesticides used in accordance with manufacturer prescribed and labeled instructions. Therefore, the potential presence of low concentrations of agricultural chemicals on the project site is considered less than significant. As with the Proposed Action, Alternative 3 does not contain a residential or commercial component that would expose people to potential pesticides.

Potential air dispersion of pesticide residues in dust during grading activities would be addressed through ICAPCD regulations mandated to reduce dust during construction. Specifically, watering disturbed soils during grading and earthmoving would minimize dust and any associated air dispersal of pesticide residues (refer to mitigation measure AQ-1 in Section 4.4, Air Quality). In comparison, typical agricultural operations often result in uncontrolled soil disturbance multiple times per year by either mechanical equipment or prescribed burning (Lyon, 20110). Therefore, impacts associated with exposure to pesticide residue during construction are considered less than significant under CEQA for Alternative 3.

On-site Hazards

The presence of oil stained soils, unauthorized solid waste piles and 55-gallon drums on the parcels comprising the project site for Alternative 3 is considered a potentially significant impact under CEQA. Mitigation measure HM-1 addresses remediation activities necessary to remove residual hazards from the project site. In addition, mitigation measure HM-2 is included if any previously unidentified hazards are discovered during construction. Following implementation of mitigation measures HM-1 and HM-2, impacts associated with exposure to on-site hazards during construction would be less than significant under CEQA for Alternative 3.

Hazardous Materials on Adjacent Properties

The area surrounding the project site for Alternative 3 is largely undeveloped rural land used for agriculture with desert located to the west. A review of federal, state, and local databases containing environmental records pertaining to the project site and vicinity was conducted and revealed no hazardous materials sites within a 1-mile radius of the project site (GS Lyon, 2010a, 2010b, 2011a, and 2011b). Therefore, no impacts under CEQA are anticipated with regard to the presence of hazardous materials on adjacent properties during construction of Alternative 3.

Herbicide Use

Use of herbicides during construction would occur in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. In addition, the project includes a BMP requiring that a weed control plan be developed and approved by the County Agricultural Commissioner prior to the application of herbicides on the CSE Facility for weed management (refer to Table 2.0-5 in Chapter 2.0). Therefore, no impact under CEQA is anticipated to occur in association with herbicide use during construction of Alternative 3.

Hazardous Materials Use

Transport

All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the site during construction would occur in compliance with Department of Toxic Substances Control (DTSC) regulations. Thus, less than significant impacts under CEQA are anticipated in association with transport of hazardous materials during construction of Alternative 3.

Use and Storage

A variety of hazardous materials such as diesel fuel and lubricants for heavy equipment would be used during construction of Alternative 3. No acutely toxic hazardous materials would used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. The Applicant has identified Design Features and Best Management Practices (BMPs) that address handling of hazardous materials in a manner which would avoid potential for leaks and spills (refer to Table 2.0-5 in Chapter 2.0). Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered a less than significant impact under CEQA for Alternative 3.

Disposal

Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during construction of Alternative 3, though slightly less than would be generated as part of the Proposed Action. The Applicant has identified BMPs to prevent improper handling and disposal of materials by prohibiting hazardous materials from being drained onto the ground or into streams or drainage areas. Likewise, all construction waste, including petroleum products, and other potentially hazardous materials, will be required to be removed to a disposal facility authorized to accept such materials (refer to Table 2.0-5 in Chapter 2.0). Therefore, less than significant impacts under CEQA would occur in association with release of hazardous materials disposal during construction of Alternative 3.

Operation and Maintenance

Herbicides

A long-term strategy for weed control and management would be implemented during operation of the CSE Facility. If herbicides are used, they would be applied in accordance with all recommended application procedures as identified on product labels as well as in cooperation with the County Agricultural Commissioner. Thus, a less than significant impact with regard to herbicide use would occur under CEQA during operations and maintenance Alternative 3.

Transport, Use and Storage, Disposal of Hazardous Materials

Small quantities of hazardous materials would be transported to the site (in accordance with DTSC regulations, as applicable) and used and stored on-site for miscellaneous, general maintenance activities for Alternative 3. The Applicant intends to prepare a Hazardous Materials Management Plan (HMMP) prior to using or storing hazardous materials on the project site. The Applicant has also included Design Features and BMPs that would reduce impacts associated with hazardous materials storage and use during operations and maintenance by requiring that all fuels, fluids, components with hazardous materials/wastes be handled in accordance with applicable regulations. Likewise, all such materials will be required to be kept in segregated storage with secondary containment (refer to Table 2.0-5 in

Chapter 2.0). Compliance with applicable laws, regulations imposed by management agencies (such as DTSC), the requirements of the HMMP, and the Design Features and BMPs, would be adequate to address storage and handling of hazardous materials on the project site. Any hazardous materials requiring disposal will be disposed of in an approved landfill. Therefore, potential for accident conditions involving the release of hazardous materials during operations and maintenance is considered a less than significant impact under CEQA for Alternative 3.

Decommissioning

At the time of decommissioning 30+ years in the future, substantial quantities of solid wastes (concrete, metal, wire) and industrial wastes (dielectric insulating oil, diesel fuel) would be generated from dismantling of Alternative 3. In addition, materials associated with the Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house) as well as five H-frame undercrossing structures and three 3-pole tubular structures would require disposal. As with the Proposed Action, some items dismantled as part of Alternative 2 will require removal and disposal (such as the transformers and inverters) while others can be used onsite for fill (concrete from foundations) as needed. The Applicant has indicated that commercially reasonable efforts will be made to recycle or reuse materials from the decommissioning. All other materials will be disposed of at a licensed facility.

The Applicant would likely apply BMPs that would reduce impacts associated with hazardous materials storage and use during decommissioning similar to those applied during construction and operations and maintenance. Compliance with applicable laws, as well as standards enforced by the agencies including DTSC would reduce potential impacts from the use of hazardous materials at the project site such that no direct (spill or accidental release) or indirect (residual contamination after decommissioning) would occur during decommissioning of Alternative 3. After decommissioning activities, the use of hazardous materials associated with Alternative 2 would no longer exist.

4.10.3.5 Alternative 4 – No Action/No project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this Alternative, the proposed project would not be constructed. It would not be necessary for the BLM to grant a right-of-way and no CUP or variance would be required from Imperial County. While transport and use of hazardous materials would be avoided without construction, existing on-site hazardous materials would remain unchanged with no remediation required. Therefore, direct (existing hazardous materials on-site) and indirect (potential for further contamination if 55-gallon drums leak) impacts associated hazardous materials would occur for Alternative 4.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. Existing on-site hazardous materials would remain unchanged with no remediation required. The presence of these

materials is a direct impact on soils and could become an indirect impact if further contamination occurs in the future should the 55-gallon drums leak.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning and associated transport and use of hazardous materials to support decommissioning activities. However, existing on-site hazardous materials would remain "as is" with no call for remediation. Therefore, direct (existing hazardous materials on-site) and indirect (potential for further contamination if 55-gallon drums leak) impacts associated hazardous materials would occur for Alternative 4.

B. CEQA Significance Determinations

Construction

Under Alternative 4, existing on-site hazards in the form of oil staining, unauthorized solid waste piles and 55-gallon storage drums would remain on the project site. No development would occur and agricultural operations would continue on the site. Thus, existing on-site hazards would not be disturbed and impacts associated with hazardous materials are considered less than significant under CEQA in association with Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site and existing on-site hazards would remain as is with no remediation. Thus, less than significant hazardous materials impacts would occur under CEQA in association with Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. Existing on-site hazards would remain as is with no remediation. Thus, less than significant impacts to hazardous materials would occur under CEQA would occur.

4.10.4 MITIGATION MEASURES

HM-1 The Applicant shall implement the recommendations of the Phase I Environmental Site Assessments regarding remediation of on-site hazards prior to issuance of a grading permit by the Imperial County Planning and Development Services Department.

- The upper 12-inches of oil stained soils on parcel 052-170-018 shall be removed and properly disposed of prior to property transaction.
- Clean-up of illegal solid waste on parcel 052-170-018 shall be performed prior to property transfer.
- All 55-gallon drums shall be removed on parcel 052-170-018 and disposed of properly.

HM-2 If during grading or excavation work, the contractor observes visual or olfactory evidence of contamination or if soil contamination is otherwise suspected, work near the excavation site shall be terminated, the work area cordoned off, and appropriate health and safety procedures

implemented for the location by the contractor's Health & Safety Officer. Samples shall be collected by an Occupational Safety and Health Administration-trained individual with a minimum of 40-hours hazardous material site worker training. Laboratory data from suspected contaminated material shall be reviewed by the contractor's Health and Safety Officer. If the sample testing determines that contamination is not present, work may proceed at the site. However, if contamination is detected above regulatory limits, the Bureau of Land Management and the Imperial County Public Health Department shall be notified. All actions related to encountering unanticipated hazardous materials at the site shall be documented and submitted to the Bureau of Land Management for federal lands and the Imperial County Public Health Department for County lands.

HM-3 The Gen-tie tower structures on private land shall be lighted and marker balls shall be attached on all spans over the Westside Main Canal and SR 98 per the recommendations of the ALUC.

Mitigation measures HM-1, HM-2, and HM-3 would also apply to Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, and Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing. Continued agricultural operations and existing agricultural chemical applications would remain unchanged under Alternative 4 - No Action/No Project. No mitigation is required in association with Alternative 4.

4.10.5 Residual Impacts After Mitigation

Implementation of mitigation measure HM-2 would reduce the potential residual effects of oil stained soils, unauthorized solid waste piles and 55-gallon drums left on the project site. Implementation of HM-1 would ensure that potential hazards associated with these materials are eliminated through remediation activities. All materials would be removed and disposed of properly (i.e. in an appropriate landfill or recycling facility). Implementation of HM-2 would address any potential sources of contamination not identified as part of the Phase I Environmental Assessments. HM-3 would address ALUC concerns regarding visibility of towers and the segment of the Gen-tie Line spanning the Westside Main Canal and SR 98 Line related to aircraft safety. Impacts after mitigation would be reduced to less than significant for the Proposed Action, Alternative 1, Alternative 2 and Alternative 3. No residual impacts would occur as any hazardous materials removed from the site would be disposed of properly.

SECTION 4.11
HYDROLOGY AND WATER QUALITY

4.11 HYDROLOGY AND WATER QUALITY

Information contained in this section is summarized from the *Drainage Study Report for Centinela Solar Project, Imperial County, California* prepared by Nolte (Nolte, 2011). These documents are provided on the attached CD of Technical Appendices as **Appendix I** of this EIR/EA.

4.11.1 METHODOLOGY FOR ANALYSIS

4.11.1.1 CSE FACILITY SITE

This section describes effects on hydrology and water quality that would be caused by implementation of the proposed Centinela Solar Energy Facility (proposed project/Proposed Action) and alternatives. The focus of the analysis is on the CSE Facility portion of the project site rather than the Gen-tie Line corridor through private lands and BLM land (as explained in subsection 4.11.1.2, below). Likewise, a detailed analysis is not provided for the driveways and access roads as the area to be paved would be minimal, or these surfaces would remain pervious (e.g. gravel surfaces rather than asphalt).

Existing conditions relevant to the discussion of hydrology, drainage, and water quality were presented in Section 3.11 of this EIR/EA. These baseline conditions were evaluated based on their potential to be affected by construction activities, operation and maintenance activities, and decommissioning of the Proposed Action and/or an alternative to the Proposed Action. Construction, operation, and maintenance activities provided in the Applicant's Plan of Development (CSE, 2011e) were used in formulating the analysis. Impacts to hydrology and water quality were identified based on any adverse changes to these resources resulting from project construction, operation, and decommissioning activities. Hydrology and drainage impacts are analyzed based on the *Drainage Study Report for Centinela Solar Project, Imperial County, California* (Nolte, 2011). [Note: The general conceptual storm drainage detention requirements have been met by the project. A Final Hydrology Report will be prepared during the final grading and drainage plan design stage of the project.]

4.11.1.2 GEN-TIE LINE

A detailed analysis is not provided for the Gen-tie Line because this portion of the project site would result in minimal hydrology and water quality impacts for the following reasons:

- The proposed Gen-tie Line corridor would not require alteration of existing topography.
- The proposed Gen-tie Line corridor would result in a minimal impervious footprint due to the limited area required for transmission pole and tower footings (150 feet by 150 feet per structure). Total permanent disturbance is estimated to be 4.54 acres (refer to Table 2.0-3 in Chapter 2.0).
- Access roads will remain pervious through the use of gravel rather than asphalt.

Design Features and Best Management Practices (BMPs) for the portion of the Gen-tie Line on BLM land are identified in Table 2.0-6 in Chapter 2.0 and BMPs for the portion on private land are in Table 2.0-5. BMPs to address impacts to drainage and erosion include requiring all construction and maintenance activities to be conducted in a manner that would minimize disturbance to drainage channels and intermittent or perennial stream banks; minimizing the disturbance of native vegetation and soils (including grading); and where grading is necessary, stockpiling surface soils within temporary disturbance areas. Approximately 17.29 acres would be temporarily disturbed on BLM land during construction (CSE, 2011e). Potential soil erosion and sedimentation resulting from temporary

disturbance will be controlled in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2010-0014-DWQ; NPDES No. CAS000002, hereafter the "Construction General Permit").

4.11.2 CEQA Significance Criteria/NEPA Requirements

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts would occur if the Proposed Action or an alternative is exposed to flood hazards or if the Proposed Action or an alternative would alter the amount and quality of runoff from the project site during construction, operations and maintenance, or decommissioning. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.11.2.1 CEQA Significance Criteria

The criteria listed below were used to determine if the proposed project/Proposed Action would cause any impacts to hydrology and water quality. These criteria are the same as the significance criteria for Hydrology and Water Quality listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230--kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would cause a significant impact if the project would:

1) Violate any water quality standards or waste discharge requirements.

2) 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).

3) 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.

4) 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.

5) 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.

6) Otherwise substantially degrade water quality.

7) 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.

8) Place within a 100-year flood hazard area structures that will impede or redirect flood flows.

9) 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.

10) Inundation by seiche, tsunami, or mudflow.

4.11.2.2 Issues Scoped Out as Part of the Initial Study

Several criteria were scoped out as part of the Initial Study. Criterion 2 was scoped out because the proposed project does not intend to use groundwater. Water will continue to percolate through the ground as a majority of the surfaces on the project site will remain pervious following installation of the solar field and Gen-tie Line. No impact is identified for this issue area.

Criterion 7 and criterion 8 both deal with development within the 100-year floodplain. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the majority of the project site is in Zone X, which is an area determined to be outside of the 0.2% annual chance of a flood. A portion of the project site is in Zone A, which is an area subject to a 1% annual chance of a flood (refer to Figure 3.11-2 in Section 3.11). However, the project does not propose the placement of housing or structures within a 100-year flood hazard area. Thus, no impact is identified for these issue areas.

Criterion 9 was scoped out because no levees or dams are in the vicinity of the project site which would present a significant risk of flooding.

Criterion 10 was scoped out because no bays or lakes are within a two-mile radius of the project site and the project site is over 100 miles from the Pacific Ocean. Therefore, there is no potential for the project site to be inundated by seiches or tsunamis. In addition, the project site is relatively flat and level eliminating the potential for exposure to mudflows. Thus, no impact is identified for these issues and they are not discussed further in this EIR/EA.

4.11.2.3 NEPA Requirements

NEPA does not have any requirements specific to hydrology and water quality which would apply to the proposed project. The context and intensity of the environmental effects (40 CFR Part 1508.27) of the Proposed Action and alternatives with regard to alteration of drainage patterns or degradation of water

quality, as well as with regard to exposure to any existing or potential flood hazards, are assessed with regard to the applicable CEQA Significance Criteria identified above.

4.11.3 ENVIRONMENTAL CONSEQUENCES

4.11.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in Section 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Drainage and Flooding

The CSE Facility site comprises flat, flood-irrigated agricultural fields. Based on the site's topography, minimal grading would be necessary during construction of the CSE Facility to support the PV fields, internal roads, and foundations for equipment and buildings. Any remaining crop residues, weedy growth or miscellaneous vegetation requiring removal will be mowed if necessary. Excavation would be required to install underground wiring and cables, electric poles, equipment pads, and common service area facilities (O&M building, septic system, etc). The type of excavation needed to accommodate PV structures, if any, is dependent upon the type of panel chosen and the associated mounting foundation. Depth for mounting foundations can vary from 6 to 11 feet and foundation installation can involve either driven beams, pedestals or excavation to pour concrete footings (refer to Figure 2.0-7 in Chapter 2.0). The existing topography would be maintained and the site would remain largely pervious (e.g. no major paved surfaces or structures).

Approximately 4.25 miles of the Gen-tie Line extends through BLM land, first west then north, to connect with the Imperial Valley Substation. Two unnamed washes designated as Zone A (per the FEMA FIRM depicting this portion of Imperial County [community-panel number 06025C2050C, dated effective September 26, 2008]) traverse east-to-west beneath a segment of the proposed Gen-tie Line (**Figure 4.11-1**). Specifically the segment of the Gen-tie between tower structures 14 and 15 would span Zone A. Tower structure 13 is located just inside Zone A. No special engineering is required for the tower. The concrete foundation would be designed to ensure that steel components of the tower structure are above the floodplain (Crawford, 2011). Construction within the wash would be governed by the Construction General Permit (described below). No permits will be required from the United States Army Corps of Engineers (ACOE) or the Regional Water Quality Control Board (RWQCB). Therefore, no direct or indirect impacts would occur in association with drainage and flooding during construction of the Proposed Action.

Erosion, Sedimentation and Runoff Pollutants

Excavation will be used in activities such as trenching for underground wiring and cables, for placing electric poles, preparing equipment pads and for common services facilities. The type of excavation needed to accommodate PV structures, if any, is dependent upon the type of panel chosen and the associated mounting foundation. Depth for mounting foundations can vary from 6 to 11 feet and foundation installation can involve either driven beams or pedestals or excavation to pour concrete footings (refer to Figure 2.0-7 in Chapter 2.0).

Three new vehicular crossings are proposed over the IID canal and drain facilities, and one existing IID canal crossing would be widened. The crossings are proposed over the Woodbine Canal on the west side of Brockman Road south of Woodbine Lateral 7A; over the Wells Drain east of Brockman Road just south of its alignment east; and across Carpenter Drain No. 1, east of Pullam Road and south of State Route 98. The crossing proposed for widening is north of Kubler Road on the west side of the Mt. Signal Drain. The existing crossing over the Woodbine Canal would be widened from 22 feet to 24 feet.

IID design requirements specify that the new vehicular crossings be constructed as either bridge (span) or culvert crossings, avoid inhibiting flows and creating erosion or siltation once installed. The crossing lengths would vary depending on the dimensions of the canal or drain being crossed. Bridge widths would range from 24 feet to 35 feet. The crossing length would vary depending on the dimensions of the canal or drain being crossed. New bridge crossings could be constructed in several ways: cast-in-place reinforced concrete slab, precast concrete bridge, or prefabricated steel. Culvert crossings could be constructed as either pipe culvert (corrugated steel or concrete) or concrete box culverts (White, pers. com., 2011).

Approximately 17.29 acres of temporary disturbance would occur on BLM land for construction of the Gen-tie Line.

Because the site would require minimal earthwork associated with site preparation and installation of PV structures, the potential for erosion and sediment is limited. Moreover, the existing site grading and drainage, which will be retained or improved as part of the project, would control erosion and soil runoff by limiting drainage to one or two points within the existing drainage basins. During construction, runoff controlled at these points would prevent off-site transport of sediment and other potential pollutants.

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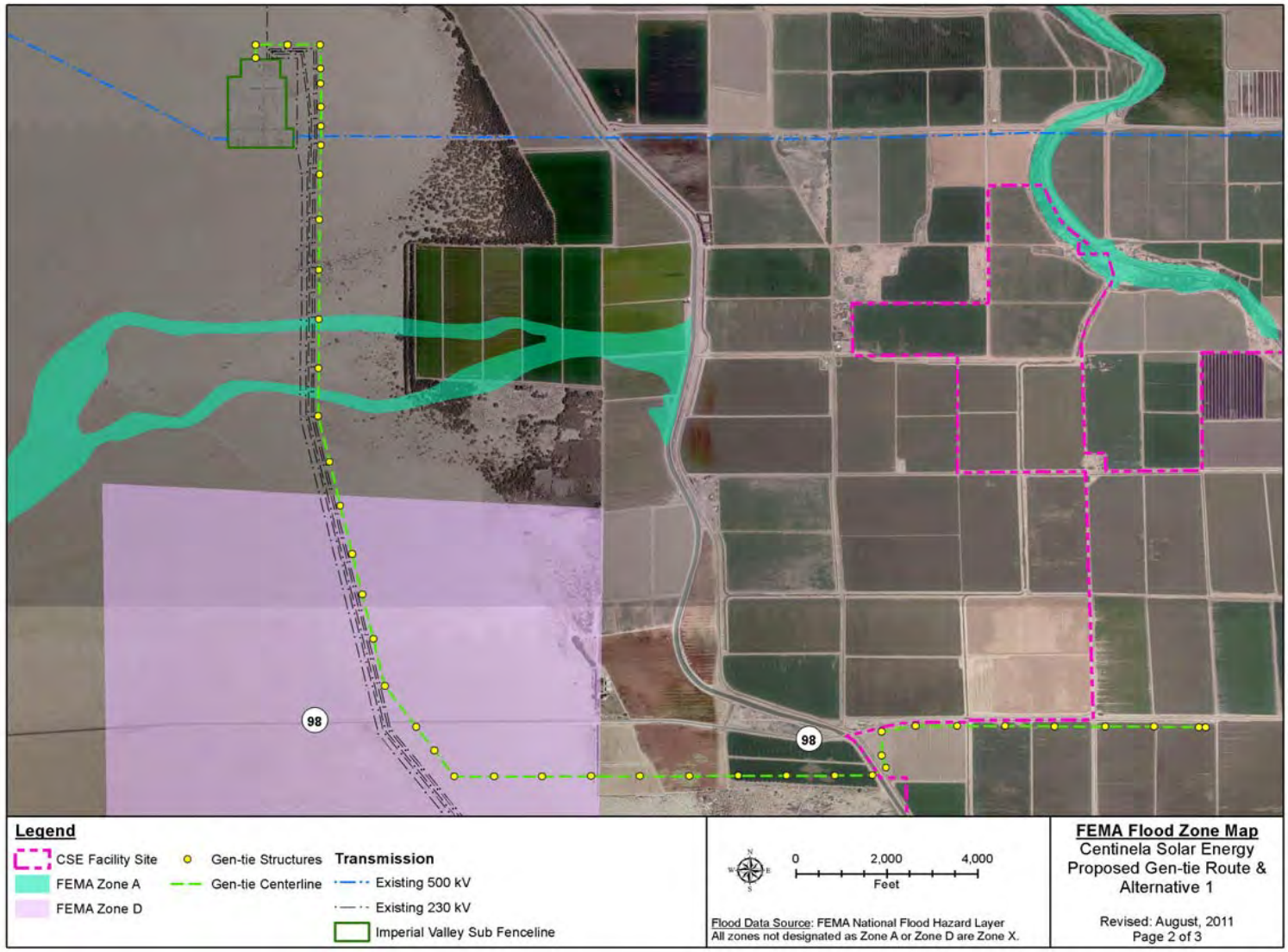

Source: CSE, 2011.

FIGURE 4.11-1
PROPOSED ACTION – GEN-TIE LINE ALIGNMENT THROUGH FEMA ZONE

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In addition, soil erosion and sedimentation during construction will be controlled in accordance with the Construction General Permit, which regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) from construction sites that disturb one or more acres of land. The Construction General Permit would also cover stormwater discharges associated with construction of IID crossings. The Construction General Permit requires preparation, implementation and maintenance of a Stormwater Pollution Prevention Plan (SWPPP) by a Qualified SWPPP Developer (QSD) which is in turn implemented by a Qualified SWPPP Practitioner (QSP). The SWPPP must be designed to ensure that the following requirements are met:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;
- Where not otherwise required to be under a Regional Water Quality Control Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;
- Site Best Management Practices (BMPs) are effective and result in the reduction or elimination of pollutants in storm water discharges from construction activity;
- Calculations and design details as well as BMP controls for site run-on are complete and correct, and;
- Stabilization BMPs installed to reduce or eliminate pollutants after construction is completed (White, 2011).

Typical soil erosion and sedimentation BMPs expected to be employed in the SWPPP include, but are not limited to, straw wattles, check dams, fabric blankets, and silt fencing. BMPs proposed by the Applicant (refer to Table 2.0-5 in Chapter 2.0) include allowing only trained personnel to refuel vehicles in designated areas and properly maintaining vehicles to minimize potential for leaks. These practices would help reduce likelihood for pollutants entering storm water runoff. Based on implementation of the requirements summarized above, construction of the Proposed Action would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Operations and Maintenance

Drainage and Flooding

The Conceptual Drainage Plan depicts the CSE Facility site as comprising 33 elevated drainage basins (Nolte, 2011, refer to Exhibit B in **Appendix I**). Each basin comprises its own tributary drainage area. A few basins have very minor contributions from beyond their individual tributary drainage areas. Most of the basins are agricultural fields bordered by an irrigation delivery and drainage system operated and maintained by IID (see **Photo 1**). The system includes canals, drains, dirt access roads, County roads, and earthen drainage swales all elevated at heights ranging from 18- to 60-inches above existing ground elevation as measured from inside the agricultural fields. These elevated features detain and keep storm water inside the agricultural fields during rain events (Nolte, 2011).

The proposed project intends to maintain the drainage pattern on each parcel as it currently exists. To accomplish this, grading activities for the PV fields, internal roads, and foundations for equipment and buildings would be minimal. Internal gravel roads are proposed as 20- and 24-feet in width. These roads would typically be comprised of a compacted 12-inch sub-grade layer of native material following the existing grade of the parcels along the proposed roadway alignment. The sub-grade layer would be followed by a compacted layer of either Class II Aggregate Base Material or ¾-inch gravel.

New 12-inch diameter culverts would allow storm water to cross under internal roads to reach the existing drainage conveyance to the IID discharge outlet structure.

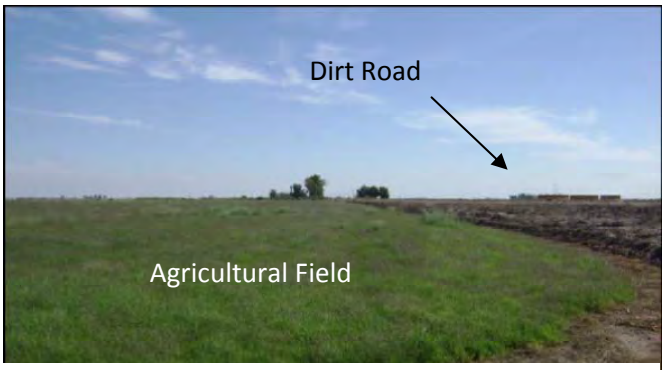


PHOTO 1

Photo of Basins 4 and 5 (APN 052-170-019) in the northwestern portion of the project site (looking east along southern boundary on north side of Kubler Road). One example of how the basins are formed by the adjacent above-grade dirt road at right of photo.

To determine capacity of the swales, a series of hydrologic calculations were conducted to determine the levels of inundation for each detention basin based on 100-year 24-hour event as a minimum. The incremental increase in flow for each of the 33 basins following construction is provided in **Table 4.11-1**. The far right column shows the increase in runoff resulting from implementation of the CSE Facility for each basin. The calculations demonstrate that each individual parcel/basin has the capacity to detain a 100-year 24-hour storm event as a minimum with implementation of the proposed project. Furthermore, each basin was demonstrated to hold many times more than the capacity required by Imperial County Drainage Improvement Requirements (3-inches) based on existing basin depths (18- to 60-inches). Storm water will flow primarily along the terrain surface (sheet flow) and concentrate at existing points of discharge structures owned by IID. Detention volumes would be achieved within each drainage basin with the use of a new flow control structure per IID standards at the outlet point of discharge into an IID drainage facility (open channel drains) (Nolte, 2011).

The project would add some impervious surfaces in association with the common services area (parking lot, buildings), inverter enclosures, PV panel foundations and structure bases for the Gen-tie Line. The area for the PV panels and structure bases will vary depending on the type of structure. In general, PV panel foundations would involve minimal change in impervious surface with one option requiring a 1 foot, 6-inch diameter concrete footing. Foundations for Gen-tie Line structures would range between 26 square-feet to 116 square-feet per structure.

TABLE 4.11-1
INCREASE IN STORM WATER FLOWS BY BASIN

Basin #	Assessor's Parcel Number	Total Drainage Tributary Acres Per Basin	Post-Project Impervious Surfaces (Acres)	Storm Water Contribution (Existing Per Basin without Project) (Cf)	Storm Water Contribution Increase Due to Construction of Impervious Areas Per Basin (Cf)	Percent Increase of Total (Existing Plus Project Contribution)
North of State Highway 98						
1	052-430-009	33.49	0.19	82,279	20,472	20%
2	052-170-050	60.21	0.34	147,914	25,320	15%
3	052-170-052	57.06	0.25	140,179	26,058	16%
4	052-170-019	33.14	0.35	81,406	23,158	22%
5		39.75	0.35	97,648	25,773	21%
6	052-170-180	70.72	0.36	173,747	39,762	19%
7	052-170-068	74.54	0.40	183,121	38,518	17%
8		67.63	0.33	166,144	34,028	17%
9	052-170-076	75.63	0.49	185,811	39,646	18%
10		81.66	0.47	200,632	45,626	19%
11	052-170-077	89.90	0.52	220,857	44,613	17%
12	052-170-074	80.17	0.52	196,949	40,895	17%
13	052-170-036	78.20	0.50	192,117	40,141	17%
14		85.22	0.52	209,379	46,172	18%
15	052-170-078	83.13	0.51	204,221	43,238	17%
16	052-170-035	81.79	0.50	200,932	48,282	19%
17	052-180-033	53.93	0.34	132,491	29,366	18%
18		57.81	0.35	142,031	33,809	19%
19	052-180-032	58.05	0.35	142,611	30,150	17%
20		59.29	0.36	145,658	34,265	19%
21	052-170-034	86.66	0.39	212,896	46,678	18%
29	052-170-058	3.91	0.00	9,608	15,762	62%
Subtotal North of SR 98				*3,468,631*	*771,732*	*18%*
South of SR 98						
22-1	052-190-007	16.55	0.00	40,653	3,309	8%
22-2		50.10	0.26	123,074	26,798	18%
22-3		53.71	0.27	131,942	27,094	17%
23	052-190-008	78.25	0.39	192,231	36,583	16%
24		80.98	0.39	198,948	41,434	17%
25	052-190-009	77.44	0.39	190,261	38,971	17%
26		79.48	0.38	195,255	43,541	18%
27	052-190-010	85.48	0.41	209,997	39,603	16%
27a		10.05	0.88	24,679	29,862	55%
27b		8.35	0.13	20,516	6,605	24%
28		51.72	0.25	127,055	27,192	18%
Subtotal South of SR 98				*1,454,611*	*320,991*	*18%*
Total North and South of SR 98				**4,923,242**	**1,092,723**	**18%**

Source: Nolte, 2011 compiled by Ericsson-Grant.
Shading denotes basins that would be omitted from development under Alternative 2 (approximately 322 drainage tributary acres).

Additional storm water runoff resulting from increased impervious surfaces on the CSE Facility site would be detained on-site in two basins proposed as part of the project. A retention basin would be constructed in the northwest corner of the parking/staging area at the northwest quadrant of the intersection of Kubler Road and Pulliam Road (refer to Figure 2.0-17 in Chapter 2.0). The retention basin

would be 190 feet wide, 100 feet long and 4 feet deep. The retention basin would be designed consistent with Imperial County standards, and drain within 72-hours into the IID drain system. A detention basin is proposed in the common services area, south of SR 98 and west of Brockman Road (refer to Figure 2.0-15 in Chapter 2.0). The detention basin would capture storm flows generated by the common services area, parking and staging area. The detention basin is estimated to be approximately 365-feet-long, 117-feet-wide and 3-feet-deep though actual design would not occur until the final engineering of the project. The inclusion of these two basins represents a design feature (refer to Table 2.0-5 in Chapter 2.0) that would provide additional storm water control on-site and dissipate flows via infiltration into the soils and evaporation to the atmosphere. Aside from the retention and detention basin, the proposed CSE Facility drainage features include existing facilities owned and maintained by IID, existing private drainage facilities, and new drainage facilities. Named canals (e.g. Westside Main Canal, Woodbine Canal) and drains (e.g. Carpenter Drain) are owned and maintained by IID and would remain in place (refer to Figures 2.0-18 and 2.0-20 in Chapter 2.0). Head ditches and tailwater ditches on the facility parcels will be incorporated as part of the facility drainage (if appropriate), removed and filled, or abandoned in place as specified in the final drainage and grading plans to be submitted to Imperial County prior to construction. Existing reinforced concrete pipes connecting to IID drains would be maintained at their current sizes and locations. Based on the provision of new infrastructure, and conclusions of the Drainage Study (Nolte, 2011) that there is adequate capacity in the existing configuration of the 33 basins on the CSE Facility site, no direct or indirect impacts to drainage or hydrology would occur during operations and maintenance of the Proposed Action.

Erosion, Sedimentation and Runoff Pollutants

During operation of the project, soil erosion and sedimentation would be controlled in accordance with the Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities (currently Order No. 97-03-DWQ; NPDES No. CAS000001, referred to herein as the "General Industrial Permit"). The General Industrial Permit applies to all new or existing storm water discharges and requires that a Stormwater Pollution Prevention Plan (SWPPP) be prepared, implemented, and maintained. The purpose of the SWPPP is to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges. In addition, the SWPPP includes site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges that must be implemented during operation. The project also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts (refer to Table 2.0-5 in Chapter 2.0). Based on implementation of the requirements summarized above, operation and maintenance of the Proposed Action would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Decommissioning

The proposed project's operating life, with appropriate maintenance, repair and component replacements, is expected to be 30+ years. When the project reaches the end of its operational life, the components will be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, will be removed to a depth of at least 4-feet below ground level and demolished and driven piles will be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, will be demolished and removed or used onsite for fill as needed. Gravel roads will be removed and the material either used on site for fill or removed. Excavation areas (e.g. road and foundation removal) will be backfilled and restored to an appropriate contour.

The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the right-of-way (ROW) grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, but beneficial as both pervious (gravel roads) and impervious (foundations, common services area) would be removed. Therefore, beneficial direct (removing existing structures) and indirect impacts (returning to agricultural uses with entirely pervious surfaces) to hydrology and water quality would result in association with decommissioning the Proposed Action.

A. CEQA Significance Determinations

Construction

Violate Water Quality Standards/Erosion/Degrade Water Quality

1) Violate any water quality standards or waste discharge requirements.

3) 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.

5) 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.

6) Otherwise substantially degrade water quality.

The project site is relatively flat and requires minimal grading to accommodate construction of the CSE Facility (the PV fields, internal roads, and foundations for equipment and buildings). Likewise, the existing site grading and drainage, which will be retained or improved as part of the project would control erosion and soil runoff by limiting drainage to one or two points within the existing drainage basins. Runoff controlled at these points would prevent off-site transport of sediment during construction. In addition, soil erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals) will be controlled during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs. The Applicant has also identified BMPs to reduce potential for fuel spills and transport of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during construction of the Proposed Action.

Operations and Maintenance

Violate Water Quality Standards/Degrade Water Quality

1) Violate any water quality standards or waste discharge requirements.

5) 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.

6) Otherwise substantially degrade water quality.

Solar Panel Washing

Either demineralized water from the on-site CSE Facility water treatment system, or water that is treated elsewhere and trucked to the site, will be used to remove dust and clean other light-blocking contaminants from the PV modules. A decision of whether to treat wash water onsite or have treated water trucked to the site will be made after the engineering, procurement and construction contractor has been selected. However, only one of these two options will be used. If water is treated onsite and the treatment system was to fail, panel washing could continue by using treated water from the storage tank. Alternatively PV panel washing would be discontinued until the on-site treatment system is repaired (Crawford, 2011).

Panel washing is expected to require approximately 18 acre-feet of water per year (White, 2011). The frequency of panel washing would be based on site-specific conditions such as rate of dust accumulation, frequency of rainfall, and operational benefit, but is anticipated to occur one to four times per year. Panel washing activities are not anticipated to generate runoff or contain pollutants (e.g. grease, heavy metals) other than dust and perhaps trace amounts of pesticide drift. Only demineralized water would be used to wash the panels. Any runoff from panel washing would percolate through the ground, as a majority of the surfaces in the solar field will remain pervious. Thus, the proposed project will not substantially alter the existing drainage pattern of the site, substantially increase the rate of runoff, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems during maintenance activities. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during operations and maintenance of the Proposed Action.

Erosion and Siltation

3) 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.

During operation of the project, soil erosion and sedimentation will be controlled in accordance with the NPDES General Industrial Permit and associated SWPPP and site-specific BMPs to reduce or prevent pollutants associated with industrial activities in storm water discharges. The project also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff; and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts; and (refer to Table 2.0-5 in Chapter 2.0). Vehicular crossings of IID infrastructure must meet IID design requirements (span bridge or culvert crossing) to avoid erosion or siltation once installed. Based on implementation of the requirements summarized above, operation and maintenance of the Proposed Action would result in less than significant impacts under CEQA with regard to soil erosion, sedimentation or runoff pollutants.

Alter Existing Drainage Pattern/On or Off-site Flooding

4) 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.

As previously described, the CSE Facility site comprises 33 elevated drainage basins. Elevated features (canals, drains, dirt access roads, County roads, and earthen drainage swales) detain and keep the storm water inside the agricultural fields during the rain events (Nolte, 2011). Each basin was demonstrated to

hold many times more than the capacity required by Imperial County Drainage Improvement Requirements (3-inches) based on existing basin depths (18- to 60-inches) (**Table 4.11-1**).

Provision of new infrastructure (e.g. detention and retention basins) and the findings of the drainage study provide evidence that there is adequate capacity in the existing configuration of the 33 basins on the CSE Facility site.

Tower structure 13 is proposed just inside Zone A on BLM land. FEMA defines Zone A as areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined" (Nolte, 2011). Thus, the probability of flooding is low. Existing 230-kV structures adjacent to proposed tower structure 13 are currently within Zone A. The concrete foundation to support the proposed tower would be designed with sufficient height to ensure that steel components of the structure are above the floodplain (Crawford, 2011). Thus, the proposed Gen-tie Line is not anticipated to substantially alter the existing drainage pattern or result in on-or off-site flooding. Therefore, less than significant impacts under CEQA would occur with regard to alteration of the existing drainage pattern and on- or off-site flooding for the Proposed Action.

Decommissioning

When the project reaches the end of its operational life 30+ years in the future, the components will be decommissioned and deconstructed. The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented before termination of the BLM ROW grant would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, and impacts to hydrology and water quality are anticipated to be less than significant under CEQA in association with decommissioning the Proposed Action.

411.3.2 Alternative 1- Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230--kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230--kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Drainage and Flooding

Alternative 1 would have similar impacts to hydrology and water quality as identified for the Proposed Action. Existing topography would be maintained and the site would remain largely pervious (e.g. no major paved surfaces or structures) on the CSE Facility site.

Alternative 1 would disturb slightly different amounts of temporary (17.57 acres) and permanent (4.13) acreages, but would be very similar (refer to Table 2.0-3 in Chapter 2.0). The segment of the Gen-tie

Line between tower structures 14 and 15 would span Zone A which FEMA defines as areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined." Tower structure 13 would be sited just inside Zone A. No special engineering is required for the tower. However, the concrete foundation would be designed to ensure that steel components of the tower structure are above the floodplain (Crawford, 2011). Construction within the wash would be governed by the Construction General Permit and no other permits from the USACOE or RWQCB would be required. Therefore, no direct or indirect impacts would occur in association with drainage and flooding during construction of Alternative 1.

Erosion, Sedimentation and Runoff Pollutants

Excavation activities to prepare the CSE Facility site and proposed vehicular crossings and widening of IID facilities would be identical for both the Proposed Action and Alternative 1. Minimal earthwork is anticipated as part of site preparation and installation of PV structures thereby limiting the potential for erosion and sediment. Approximately 17.57 acres of temporary disturbance would occur on BLM land during construction of Alternative 1, the same amount as would occur for the Proposed Action. In addition, the Construction General Permit, SWPPP and associated BMPs (e.g. straw wattles, check dams, fabric blankets, and silt fencing) as well as BMPs proposed by the Applicant (e.g. allowing only trained personnel to refuel vehicles in designated areas) would mitigate erosion, sedimentation, and pollutants entering storm water runoff during construction. Based on implementation of the requirements summarized above, construction of Alternative 1 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Operations and Maintenance

Drainage and Flooding

The Conceptual Drainage Plan prepared for the Proposed Action would also apply to Alternative 1. The CSE Facility site comprises 33 elevated drainage basins that were found to have sufficient capacity to accommodate the proposed project (refer to **Table 4.11-1**) (Nolte, 2011). Additional storm water runoff resulting from the increase of impervious surfaces on the CSE Facility site would also be detained on-site in two basins proposed as part of the project. The inclusion of these two basins represents a design feature (refer to Table 2.0-5 in Chapter 2.0) that would provide additional storm water control on-site and dissipate flows via infiltration into the soils and evaporation to the atmosphere. Based on the provision of new infrastructure, and evidence from the Drainage Study (Nolte, 2011) that there is adequate capacity in the existing configuration of the 33 basins on the CSE Facility site, no direct or indirect impacts to drainage or hydrology would occur in association with operations and maintenance of Alternative 1.

Erosion, Sedimentation and Runoff Pollutants

As with the Proposed Action, Alternative 1 would control soil erosion and sedimentation during operations in accordance with an NPDES General Industrial Permit, SWPPP and site-specific BMPs. These mechanisms would reduce or prevent pollutants generated by industrial activities from being discharged as part of storm water. The project also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts (refer to Table 2.0-5 in Chapter 2.0). Based on implementation of the requirements summarized above, operation and maintenance of Alternative 1 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Decommissioning

When the project reaches the end of its operational life 30+ years in the future, the components will be decommissioned and deconstructed. The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, but beneficial as both pervious (gravel roads) and impervious (foundations, common services area) would be removed. Therefore, beneficial direct (removing existing structures) and indirect impacts (returning to agricultural uses with entirely pervious surfaces) to hydrology and water quality would result in association with decommissioning Alternative 1.

B. CEQA Significance Determination

Construction

Violate Water Quality Standards/Erosion/Degrade Water Quality

2) Violate any water quality standards or waste discharge requirements.

3) 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.

5) 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.

6) Otherwise substantially degrade water quality.

The project site is relatively flat and requires minimal grading to accommodate construction of the CSE Facility (the PV fields, internal roads, and foundations for equipment and buildings). Likewise, the existing site grading and drainage, which would be retained or improved as part of the project would control erosion and soil runoff by limiting drainage to one or two points within each existing drainage basins. Runoff controlled at these points would prevent off-site transport of sediment during construction. In addition, soil erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals) would be controlled during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs. The Applicant has also identified BMPs to reduce potential for fuel spills and transport of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during construction of the Proposed Action.

Operations and Maintenance

Violate Water Quality Standards/Degrade Water Quality

1) Violate any water quality standards or waste discharge requirements.

5) 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.

6) Otherwise substantially degrade water quality.

Solar Panel Washing

As with the Proposed Action, demineralized water from the on-site CSE Facility water treatment system, or water that is treated elsewhere and trucked to the site, would be used to remove dust and clean other light-blocking contaminants from the PV modules included as part of Alternative 1. Panel washing activities are not anticipated to generate runoff or contain pollutants (e.g. grease, heavy metals) other than dust and perhaps trace amounts of pesticide drift. Only demineralized water would be used to wash the panels. Any runoff from panel washing would percolate into the ground, as a majority of the surfaces in the solar field would remain pervious. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during operations and maintenance of Alternative 1.

Erosion and Siltation

3) 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.

As with the Proposed Action, soil erosion and sedimentation associated with Alternative 1 would be controlled in accordance with the NPDES General Industrial Permit, SWPPP and site-specific BMPs to reduce or prevent pollutants in storm water discharges. As with the Proposed Action, Alternative 1 also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff; and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts (refer to Table 2.0-5 in Chapter 2.0). Vehicular crossings of IID infrastructure must meet IID design requirements (span bridge or culvert crossing) to avoid erosion or siltation once installed. Based on implementation of the requirements summarized above, operation of Alternative 1 would result in less than significant impacts under CEQA with regard to soil erosion, sedimentation or runoff pollutants.

Alter Existing Drainage Pattern/On or Off-site Flooding

4) 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.

Drainage features of the Proposed Action would be identical for Alternative 1. The CSE Facility site is comprised of 33 elevated drainage basins. The basins are formed by elevated canals, drains, dirt access roads, etc. which surround agricultural fields and detain storm water during the rain events (Nolte, 2011). Each basin was demonstrated to hold many times more than the capacity required by Imperial County Drainage Improvement Requirements (3-inches) based on existing basin depths (18- to 60-inches) (**Table 4.11-1**) (Nolte, 2011).

Provision of new infrastructure (e.g. detention and retention basins) combined with evidence in the drainage study indicate there is adequate capacity in the existing configuration of the 33 basins on the CSE Facility site.

Tower structure 13 is proposed just inside Zone A on BLM land. FEMA defines Zone A as areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined" (Nolte, 2011). Thus, the probability of flooding is low. Existing 230-kV structures adjacent to proposed tower structure 13 are currently within Zone A. The concrete foundation to support the proposed tower would be designed with sufficient height to ensure that steel components of the structure are above the floodplain (Crawford, 2011). Thus, the proposed Gen-tie Line is not anticipated to substantially alter the existing drainage pattern or result in on-or off-site flooding. Therefore, less than significant impacts under CEQA would occur with regard to alteration of the existing drainage pattern and on- or off-site flooding for Alternative 1.

Decommissioning

At the end of the project's operational life 30+ years in the future, the various on-site components would be decommissioned and deconstructed. The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal; and impacts to hydrology and water quality, including erosion and siltation, are anticipated to be less than significant under CEQA in association with decommissioning Alternative 1.

4.11.3.3 Alternative 2 - Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsection 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Drainage and Flooding

Alternative 2 would have similar impacts to hydrology and water quality as identified for the Proposed Action, but slightly reduced based on 335 fewer acres being disturbed or altered. Similar to the Proposed Action, existing topography and drainage patterns would be maintained as part of Alternative 2. However, 335 acres of the site would remain completely pervious and retained as agricultural lands.

The same amount of disturbance would occur on BLM land for both the Proposed Action and Alternative 2. Both the Proposed Action and Alternative 2 would have a segment of the Gen-tie Line span Zone A between tower structures 14 and 15. FEMA defines Zone A as areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined". Tower structure 13 would be sited just inside Zone A. No special engineering is required for the tower. However, the concrete

foundation would be designed to ensure that steel components of the tower structure are above the floodplain (Crawford, 2011). Construction within the wash would be governed by the Construction General Permit and no permits will be required from the USACOE or RWQCB. Thus, no direct or indirect impacts would occur in association with drainage and flooding for Alternative 2.

Erosion, Sedimentation and Runoff Pollutants

Excavation activities to prepare the CSE Facility site and proposed vehicular crossings and widening of IID facilities would be similar for both the Proposed Action and Alternative 2, the only difference being that 335 fewer acres would be developed in association with Alternative 2. As with the Proposed Action, minimal earthwork is anticipated as part of site preparation for Alternative 2. Between 17.29 and 10.18 acres of temporary disturbance (refer to Table 2.0-3 in Chapter 2.0) would occur on lands managed by the BLM during construction of Alternative 2 depending on which Gen-tie Line alignment is chosen. Potential for erosion and sedimentation would be further reduced as part of Alternative 2 compared to the Proposed Action based on 335 fewer acres being disturbed. The Construction General Permit, SWPPP and associated BMPs (e.g. straw wattles, check dams, fabric blankets, and silt fencing) as well as BMPs proposed by the Applicant (e.g. allowing only trained personnel to refuel vehicles in designated areas) would mitigate erosion, sedimentation, and pollutants entering storm water runoff during construction. Based on implementation of the requirements summarized above, construction of Alternative 2 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Operations and Maintenance

Drainage and Flooding

The Conceptual Drainage Plan prepared for the Proposed Action would also apply to Alternative 2 with the exception that four drainage basins (9, 10, 15 and 16) totaling approximately 322 acres would be omitted under Alternative 2 (refer to **Table 4.11-1**). Thus, the CSE Facility site would be comprised of 29 elevated drainage basins rather than 33. Nevertheless, all basins were found to have sufficient capacity to accommodate the proposed project (refer to **Table 4.11-1**) (Nolte, 2011). Two on-site basins are also proposed as part of Alternative 2. The inclusion of these two basins represents a design feature (refer to Table 2.0-5 in Chapter 2.0) that would provide additional storm water control on-site and dissipate flows via infiltration into the soils and evaporation to the atmosphere. Based on the reduction in acreage, provision of new infrastructure, and evidence from the Drainage Study (Nolte, 2011) that there is adequate capacity in the existing configuration of basins on the CSE Facility site, no direct or indirect impacts to drainage or hydrology would occur in association with operations and maintenance of Alternative 2.

Erosion, Sedimentation and Runoff Pollutants

As with the Proposed Action, Alternative 2 would control soil erosion and sedimentation during operations in accordance with an NPDES General Industrial Permit, SWPPP and site-specific BMPs. These mechanisms would reduce or prevent pollutants generated by industrial activities from being discharged as part of storm water. The project also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts (refer to Table 2.0-5 in Chapter 2.0). Based on implementation of the requirements summarized above, operation of Alternative 2 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Decommissioning

When the project reaches the end of its operational life 30+ years in the future, the components would be decommissioned and deconstructed. The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, but beneficial as both pervious (gravel roads) and impervious (foundations, common services area) would be removed. Therefore, beneficial direct (removing existing structures) and indirect impacts (returning to agricultural uses with entirely pervious surfaces) to hydrology and water quality would result in association with decommissioning Alternative 2.

B. CEQA Significance Determination

Construction

Violate Water Quality Standards/Erosion/Degrade Water Quality

3) Violate any water quality standards or waste discharge requirements.

3) 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.

5) 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.

6) Otherwise substantially degrade water quality.

The project site for Alternative 2 is relatively flat and would include 335 fewer acres than the Proposed Action. Minimal grading is required to accommodate construction of the CSE Facility (the PV fields, internal roads, and foundations for equipment and buildings) as part of Alternative 2. As with the Proposed Action, existing site grading and drainage would be retained or improved as part of Alternative 2. Existing drainage patterns control erosion and soil runoff by limiting drainage to one or two points within each drainage basin. Runoff controlled at these points would prevent off-site transport of sediment during construction of Alternative 2. In addition, soil erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals) would be controlled during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs. The Applicant has also identified BMPs to reduce potential for fuel spills and transport of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during construction of Alternative 2.

Operations and Maintenance

Violate Water Quality Standards/Degrade Water Quality

1) Violate any water quality standards or waste discharge requirements.

2) 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.

3) Otherwise substantially degrade water quality.

Solar Panel Washing

As with the Proposed Action, demineralized water from the on-site CSE Facility water treatment system, or water that is treated elsewhere and trucked to the site, would be used to remove dust and clean other light-blocking contaminants from the PV modules included as part of Alternative 2. Approximately 335 fewer acres of panels would require washing as part of Alternative 2. As with the Proposed Action, panel washing activities are not anticipated to generate runoff or contain pollutants (e.g. grease, heavy metals) other than dust and perhaps trace amounts of pesticide drift. Only demineralized water would be used to wash the panels. Any runoff from panel washing would percolate through the ground, as a majority of the surfaces in the solar field would remain pervious. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during operations and maintenance of Alternative 2.

Erosion and Siltation

3) 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.

Approximately 335 fewer acres would be subject to disturbance and potential erosion as part of Alternative 2. As with the Proposed Action, soil erosion and sedimentation associated with Alternative 2 would be controlled in accordance with the NPDES General Industrial Permit, SWPPP and site-specific BMPs to reduce or prevent pollutants in storm water discharges. As with the Proposed Action, Alternative 2 also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff; and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts; and (refer to Table 2.0-5 in Chapter 2.0). Vehicular crossings of IID infrastructure must meet IID design requirements (span bridge or culvert crossing) to avoid erosion or siltation once installed. Based on implementation of the requirements summarized above, operation of Alternative 2 would result in less than significant impacts under CEQA with regard to soil erosion, sedimentation or runoff pollutants.

Alter Existing Drainage Pattern/On or Off-site Flooding

4) 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.

Drainage features of the Alternative 2 would be similar to the Proposed Action. The CSE Facility site for Alternative 2 is comprised of 29 elevated drainage basins (refer to **Table 4.11-1**). Each basin was demonstrated to hold many times more than the capacity required by Imperial County Drainage Improvement Requirements (3-inches) based on existing basin depths (18- to 60-inches) (**Table 4.11-1**) (Nolte, 2011).

Based on the provision of new infrastructure (e.g. detention and retention basins) and evidence in the drainage study, adequate capacity is available in the existing configuration of the 29 basins on the CSE Facility site.

A similar amount of disturbance would occur on BLM land for both the Proposed Action and Alternative 2. Specifically the segment of the Gen-tie Line between tower structures 14 and 15 would span Zone A. Tower structure 13 is proposed just inside Zone A on BLM land. FEMA defines Zone A as areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined" (Nolte, 2011). Thus, the probability of flooding is low. Existing 230-kV structures adjacent to proposed tower structure 13 are currently within Zone A. The concrete foundation to support the proposed tower would be designed with sufficient height to ensure that steel components of the structure are above the floodplain (Crawford, 2011). Thus, the proposed Gen-tie Line is not anticipated to substantially alter the existing drainage pattern or result in on-or off-site flooding. Therefore, less than significant impacts under CEQA would occur with regard to alteration of the existing drainage pattern and on- or off-site flooding for Alternative 2.

Decommissioning

At the end of the project's operational life 30+ years in the future, the various on-site components would be decommissioned and deconstructed. Approximately 335 fewer acres of facilities would be decommissioned under Alternative 2. Nevertheless, the BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, and impacts to hydrology and water quality, including erosion and siltation, are anticipated to be less than significant under CEQA in association with decommissioning Alternative 2.

4.11.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

Construction

Drainage and Flooding

Alternative 3 would have similar impacts to hydrology and water quality as identified for the Proposed Action, but with slightly different drainage patterns on the 450-foot by 350-foot electric switch yard. The addition of this Ring Bus would result in development of an area which was previously agricultural land, but would not substantially alter drainage patterns through the addition of pervious surfaces. Similar to the Proposed Action, existing topography and drainage patterns would be maintained as part of Alternative 3. Thus, no direct or indirect impacts would occur in association with drainage and flooding for Alternative 3.

The Gen-tie Line alignment proposed as part of Alternative 3 would be approximately 1.25 miles (3 miles shorter than the Proposed Action) due to the elimination of approximately 11 tower structures on BLM lands. As a result, no portion of the Gen-tie Line would span the two unnamed washes oriented east-to-west through BLM (**Figure 4.11-2**). Further, No tower structure would be placed in Zone A (areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined"). Thus, no direct or indirect impacts would occur in association with drainage and flooding for Alternative 3.

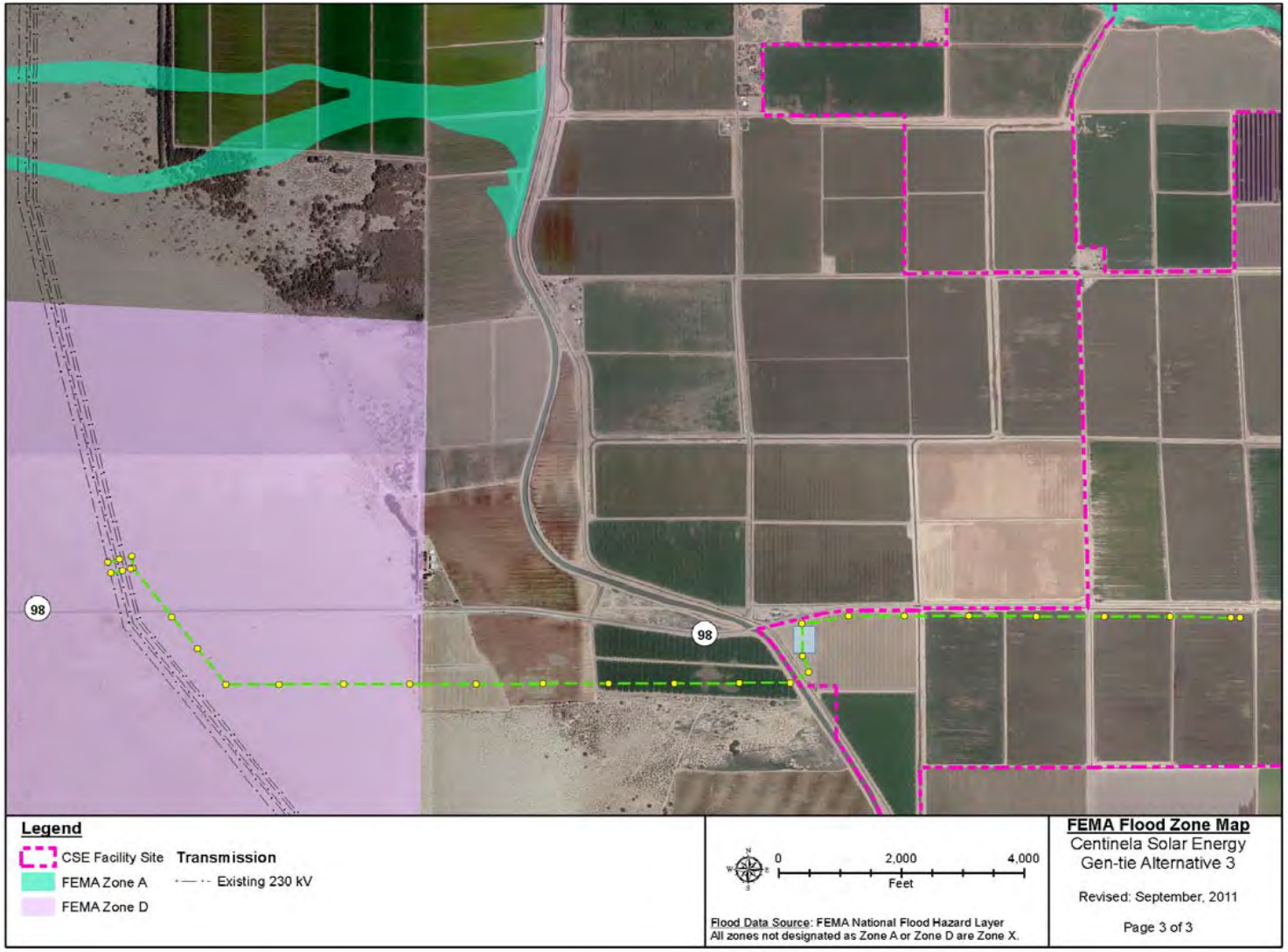
Erosion, Sedimentation and Runoff Pollutants

Excavation activities to prepare the CSE Facility site and proposed vehicular crossings and widening of IID facilities would be similar for both the Proposed Action and Alternative 3 with slightly more earthmoving activities associated with the 450-foot by 350-foot electric switch yard proposed as part of Alternative 3. Approximately 10.18 acres of temporary disturbance and 2.46 acres of permanent disturbance would occur on BLM land during construction of Alternative 3, which is less than would occur for the Proposed Action (refer to Table 2.0-3 in Chapter 2.0). Potential for erosion and sediment would be slightly increased as part of Alternative 3 based on more area being disturbed on the CSE Facility site to accommodate the switch yard. The Construction General Permit, SWPPP and associated BMPs (e.g. straw wattles, check dams, fabric blankets, and silt fencing) as well as BMPs proposed by the Applicant (e.g. allowing only trained personnel to refuel vehicles in designated areas) would mitigate erosion, sedimentation, and pollutants entering storm water runoff during construction. Based on implementation of the requirements summarized above, construction of Alternative 3 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Operations and Maintenance

Drainage and Flooding

The Conceptual Drainage Plan prepared for the Proposed Action would also apply to Alternative 3 with the 450-foot by 350-foot electric switch yard occupying drainage basin 22-1 which totals approximately 16.55 acres (refer to **Table 4.11-1**). As with the Proposed Action, the CSE Facility site for the Proposed Action would be comprised of 29 elevated drainage basins rather than 33. Nevertheless, all basins were found to have sufficient capacity to accommodate the proposed project (refer to **Table 4.11-1**) (Nolte, 2011). Two on-site basins are also proposed as part of Alternative 3. The inclusion of these two basins represents a design feature (refer to Table 2.0-5 in Chapter 2.0) that would provide additional storm water control on-site and dissipate flows via infiltration into the soils and evaporation to the atmosphere. Based on the reduction in acres, provision of new infrastructure, and evidence from the



Source: CSE, 2011.

FIGURE 4.11-2
ALTERNATIVE 3 – GEN-TIE LINE ALIGNMENT THROUGH FEMA ZONE A

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Drainage Study (Nolte, 2011) that there is adequate capacity in the existing configuration of basins on the CSE Facility site, no direct or indirect impacts to drainage or hydrology would occur in association with operations and maintenance of Alternative 3.

Erosion, Sedimentation and Runoff Pollutants

As with the Proposed Action, Alternative 3 would control soil erosion and sedimentation during operations in accordance with an NPDES General Industrial Permit, SWPPP and site-specific BMPs. These mechanisms would reduce or prevent pollutants generated by industrial activities from being discharged as part of storm water. The project also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts (refer to Table 2.0-5 in Chapter 2.0). Based on implementation of the requirements summarized above, operation of Alternative 3 would result in no direct or indirect impacts with regard to soil erosion, sedimentation or runoff pollutants.

Decommissioning

When Alternative 3 the end of its operational life 30+ years in the future, the components would be decommissioned and deconstructed. The BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, but beneficial as both pervious (gravel roads) and impervious (foundations, common services area) would be removed. Therefore, beneficial direct (removing existing structures) and indirect impacts (returning to agricultural uses with entirely pervious surfaces) to hydrology and water quality would result in association with decommissioning Alternative 3.

B. CEQA Significance Determination

Construction

Violate Water Quality Standards/Erosion/Degrade Water Quality

4) Violate any water quality standards or waste discharge requirements.

3) 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.

5) 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.

6) Otherwise substantially degrade water quality.

The project site for Alternative 3 is relatively flat, including the 450-foot by 350-foot electric switch yard on the western border of the CSE Facility site. Minimal grading is required to accommodate construction of the CSE Facility (the PV fields, internal roads, and foundations for equipment and buildings, Ring Bus) as part of Alternative 3. As with the Proposed Action, existing site grading and

drainage will be retained or improved as part of Alternative 3. Existing drainage patterns control erosion and soil runoff by limiting drainage to one or two points within the drainage basins. Runoff controlled at these points would prevent off-site transport of sediment during construction of Alternative 3. In addition, soil erosion, sedimentation and runoff (e.g. runoff containing grease, oils, sediment, and heavy metals) will be controlled during construction in accordance with an NPDES Construction General Permit, SWPPP and associated BMPs. The Applicant has also identified BMPs to reduce potential for fuel spills and transport of polluted runoff. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during construction of Alternative 2.

Operations and Maintenance

Violate Water Quality Standards/Degrade Water Quality

1) Violate any water quality standards or waste discharge requirements.

5) 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.

6) Otherwise substantially degrade water quality.

Solar Panel Washing

As with the Proposed Action, demineralized water from the on-site CSE Facility water treatment system, or water that is treated elsewhere and trucked to the site, will be used to remove dust and clean other light-blocking contaminants from the PV modules included as part of Alternative 3. As with the Proposed Action, panel washing activities are not anticipated to generate runoff or contain pollutants (e.g. grease, heavy metals) other than dust and perhaps trace amounts of pesticide drift. Only demineralized water would be used to wash the panels. Any runoff from panel washing would percolate through the ground, as a majority of the surfaces in the solar field will remain pervious. Therefore, less than significant impacts under CEQA would occur relative to violating water quality standards and degrading water quality during operations and maintenance of Alternative 3.

Erosion and Siltation

3) 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.

In addition to the areas disturbed as part of the Proposed Action, a 450-foot by 350-foot area would be subject to disturbance and potential erosion as part of Alternative 3. As with the Proposed Action, soil erosion and sedimentation associated with Alternative 3 will be controlled in accordance with the NPDES General Industrial Permit, SWPPP and site-specific BMPs to reduce or prevent pollutants in storm water discharges. As with the Proposed Action, Alternative 3 also includes design features such as permeable roads (e.g. aggregate for internal roads and turnaround areas) to minimize stormwater runoff; and retention/detention basins on the CSE Facility to minimize sedimentation and storm water runoff impacts; and (refer to Table 2.0-5 in Chapter 2.0). Vehicular crossings of IID infrastructure must meet IID design requirements (span bridge or culvert crossing) to avoid erosion or siltation once installed. Based on implementation of the requirements summarized above, operation of Alternative 3

would result in less than significant impacts under CEQA with regard to soil erosion, sedimentation or runoff pollutants.

Alter Existing Drainage Pattern/On or Off-site Flooding

4) 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.

Drainage features of the Alternative 3 would be similar to the Proposed Action. The CSE Facility site for Alternative 3 is comprised of 29 elevated drainage basins (refer to **Table 4.11-1**). Each basin was demonstrated to hold many times more than the capacity required by Imperial County Drainage Improvement Requirements (3-inches) based on existing basin depths (18- to 60-inches) (**Table 4.11-1**) (Nolte, 2011).

Based on the provision of new infrastructure (e.g. detention and retention basins) and evidence in the drainage study that there is adequate capacity in the existing configuration of the 29 basins on the CSE Facility site, less than significant impacts under CEQA would occur with regard to alteration of the existing drainage pattern and on- or off-site flooding for Alternative 3.

The Gen-tie Line alignment proposed as part of Alternative 3 would be substantially shorter (approximately 3 miles) due to the elimination of approximately 11 tower structures on BLM lands (**Figure 4.11-2**). As a result, no portion of the Gen-tie Line would span the two unnamed washes oriented east-to-west through BLM and no tower structures would be sited in Zone A (areas with a 1 percent annual chance of flooding and "areas where no flood elevations have been determined"). Thus, less than significant impacts under CEQA would occur with regard to alteration of the existing drainage pattern and on- or off-site flooding for Alternative 3.

Decommissioning

At the end of the operational life for Alternative 3 some 30+ years in the future, the various on-site components would be decommissioned and deconstructed. The 450-foot by 350-foot electric switch yard and associated Ring Bus equipment (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house, and communications systems) would be decommissioned under Alternative 3. Nevertheless, the BMPs and stipulations developed for construction activities to reduce erosion (refer to Table 2.0-6 in Chapter 2.0) would be applied to similar activities during the decommissioning phase. The decommissioning plan that would be implemented prior to the termination of the ROW grant from the BLM would include BMPs to address erosion. As such, erosion control measures would be implemented to avoid and/or minimize potential erosion or siltation on- or off-site that could result during decommissioning activities. Modification to the drainage pattern would be minimal, and impacts to hydrology and water quality, including erosion and siltation, are anticipated to be less than significant under CEQA in association with decommissioning Alternative 3.

4.11.3.5 Alternative 4- No Action/No Project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under this Alternative, the proposed project would not be constructed. It would not be necessary for the BLM to grant a ROW and no CUP or variance would be required from Imperial County. Existing drainage patterns would remain unchanged and no potential erosion would occur as a result of construction activities. Therefore, direct or indirect impact associated with hydrology and water quality would occur for Alternative 4.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. No permanent changes to drainage patterns or potential for operational erosion or stormwater runoff would occur. As a result, no direct or indirect impacts associated with hydrology and water quality would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct or indirect impacts associated with hydrology and water quality such as increased erosion would occur.

B. CEQA Significance Determinations

Construction

Under Alternative 4, the project would not be constructed thereby avoiding potential impacts such as violating a water quality standard, altering existing drainage patterns, causing potential for soil erosion or flooding. Thus, no impact associated with hydrology and water quality would occur under CEQA resulting from Alternative 4.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site. No changes in existing drainage patterns or potential to increase runoff or erosion would occur. Thus, no hydrology and water quality impacts would occur with regard to operations and maintenance under CEQA in association with Alternative 4.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed and therefore, would not require decommissioning. Potential impacts to hydrology and water quality associated with decommissioning, such as increased erosion or siltation, would be avoided. No impacts to hydrology and water quality would occur under CEQA.

4.11.4 MITIGATION MEASURES

No impacts to hydrology and water quality were identified for the Proposed Action, Alternative 1- Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 - No Action/No Project Alternative. As a result, no mitigation measures are required.

4.11.5 RESIDUAL IMPACTS AFTER MITIGATION

No mitigation measures were required for the Proposed Action or Alternatives 1, 2, 3 and 4. Therefore, there are no residual impacts after mitigation.

SECTION 4.12
BIOLOGICAL RESOURCES

4.12 BIOLOGICAL RESOURCES

Information contained in this section is summarized from two documents prepared by Heritage Environmental Consultants, LLC: the *Biological Technical Report for the Centinela Solar Energy Project* (Heritage, 2011a) and the "Centinela Solar Energy Project Biological Technical Report Addendum 1" (Heritage, 2011b). The Biological Technical Report (BTR) and Addendum are provided on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA.

4.12.1 METHODOLOGY FOR ANALYSIS

4.12.2.1 FIELD SURVEYS

The 5,418-acre survey area encompasses the entire solar field, the 125-foot wide Right-of-Ways (ROWs) along the proposed and alternative Gen-tie routes, and buffer areas that varied for several surveys based on the target species. Approximately 4,213 acres in survey area is on private lands approximately 1,205 acres of the survey area are on lands managed by BLM. Field surveys performed are described below.

A. General Biological Survey

Habitat assessments and general biological surveys of the proposed CSE Facility and associated linear facilities were conducted several times between February 26, 2009 and November 14, 2010. The focus of these surveys was twofold: 1) to document the botanical resources and potentially jurisdictional state and federal waters and wetlands, and 2) to document suitable threatened, endangered, and sensitive wildlife species habitats on the proposed CSE Facility and along the various Gen-tie Line corridors. The field surveys were conducted by hiking naturally vegetated areas with public access on foot and surveying the remainder of the area from public roads. High quality aerial photography was used to map habitats and other features in areas that couldn't be accessed from public roads. These areas were examined with binoculars and vegetation communities were interpreted and mapped on the aerials.

B. Focused Rare Plant Survey

Rare plant surveys were performed concurrently with the initial habitat assessment and general biological survey efforts in accordance with *Survey Protocols Required for NEPA/ESA Compliance for BLM Special Status Plant Species* (BLM 2009a). Botanists conducted the initial spring rare plant surveys for the project on March 17-20, 2009. Eight transects were surveyed, on foot, within a 1,000-foot corridor, approximately 125 feet apart. One private parcel at the intersection of State Route 98 and the Westside Main Canal with native vegetation was assessed from the road for its potential to support rare plants. The natural vegetation along the Westside Main Canal and the adjacent canals and drains was also surveyed to assess potential to support rare plants. Rare plant surveys of the remaining areas, which were mostly agricultural fields, were not conducted as these areas were determined to have no potential to support sensitive rare plants.

A database search using CNDDB RareFind indicated that five rare plant species are known from the project vicinity: brown turbans (*Malperia tenuis*) a CNPS List 2.3 species, hairy stickleaf (*Mentzelia hirsutissima*) a CNPS List 2.3 species, fairy duster (*Calliandra eriophylla*) a CNPS List 2.3 species, rock nettle (*Eucnide rupestris*) a CNPS List 2.2 species and Thurber's pilostyles (*Pilostyles thurberi*) a CNPS List 4.3 species. The survey coincided with the flowering period of all of these species, in some instances the start of the blooming season, with the exception of the Thurber's pilostyles. In addition, other sensitive species are known to potentially occur within the survey area and were included in the survey. Many

spring ephemeral desert species were blooming during the surveys, indicating the surveys were conducted at an appropriate time to observe these species.

In July 2010, Andrew Trouette, Natural Resource Specialist with the BLM El Centro Field Office, requested that this analysis use a more inclusive list of rare plant species known to occur in the greater Imperial Valley because few botanical surveys have been conducted in this portion of the Imperial Valley region.

There was sufficient rainfall from late September to early October 2010 to warrant fall rare plant surveys and a survey period of late-October to early November was determined to be appropriate (Pers. Comm. John Messina with Andrew Trouette, Natural Resource Specialist, BLM). Phenology of common species at the time of the survey was also used to verify that the survey was conducted within the period when rare plants would also be observable. The fall rare plant survey of the Gen-tie Line was conducted on November 6, 7, and 14, 2010. The survey was focused on the Gen-tie Line design provided in CSE's Plan of Development (POD) submitted to the BLM. Shape files depicting corridor boundaries and locations for each proposed structure and construction activity areas (e.g., pulling and tensioning or wire splicing sites) were uploaded onto Garmin GPS units. Transect locations were determined using UTMs. Track logs depicting transects were recorded on the GPS units.

Thirty-meter transects were oriented parallel to the corridor. For the fall surveys, a 500-foot wide corridor was designated for most of the corridor. Wider corridors (up to 1,100 feet) were surveyed along the portion south of State Route 98, a portion south of the Imperial Valley Substation, and east and north of the Imperial Valley Substation. Tighter transects were walked for areas at each structure location (estimated in field at approximately 160 feet x 160 feet), pulling and tensioning sites (estimated in field at approximately 500 feet x 160 feet), and wire splicing sites (estimated in field at approximately 400 feet x 160 feet), such that 100 percent coverage was obtained. Area dimensions of these features were based on the Centinela Solar Energy POD map set (November 2010).

As stated above, the fall surveys were conducted to coincide with the flowering period of fall blooming species. The target rare plant species for this survey was Abrams' spurge (*Chamaesyce abramsiana*), a CNPS List 2 species that blooms from September through November. Other rare plants that bloom at this time would have been observable if present, but most of these species are not expected to occur due to habitat preferences or restricted ranges.

C. Focused Burrowing Owl Surveys

Phase I and Phase II Surveys for Burrowing Owls were conducted simultaneously by qualified biologists on May 18 and 19, 2009 and March 21 and 22, 2011, according to the CBOC guidelines (CBOC 1993). The Phase I habitat assessment determined that the project contains suitable Burrowing Owl habitat, and a Phase II burrow survey was conducted.

The Phase II Survey consisted of a pedestrian and/or vehicular survey for the entire solar site while searching for potentially suitable burrows. Survey transects were concentrated on suitable habitats along canals, laterals, and drains. The Gen-tie Line was walked (30-meter spacing) to ensure that all suitable burrows were identified. The CBOC protocol includes a survey of a 150-meter buffer around the Project Area. Surveys included at least a 150-meter buffer area; in some cases, the buffer area extended up to ½-mile. Burrows that had the potential to be used by Burrowing Owls were marked using a handheld global positioning system (GPS) unit. Photos were taken of many potential burrows and all owl observations were noted. "Clusters" were recorded in areas that supported higher densities of burrows to minimize the number of observation points.

The Phase III survey was conducted during the breeding season. Burrowing Owl sightings were mapped, including occupied burrows and burrows with owl sign. Numbers of pairs and juveniles were recorded, as well as behavior such as courtship and copulation. Territory boundaries and foraging areas were not mapped, mainly because active nests were close together and the birds were foraging in adjacent cropland.

The Phase III survey included four site visits during 2009: May 18 – May 21; June 15 – June 17; July 22 – July 24; and August 17 – August 19; one site visit in January 2010; and one site visit in 2011: March 21 – March 25. Surveys were conducted in the morning and evening; ½-hour before to two hours after sunrise and two hours before to one hour after sunset. During the initial Phase III site visit, burrows were examined for owl sign and occupied burrows were mapped. Subsequent observations were conducted from fixed points that provided visual coverage of the site using spotting scopes or binoculars. Observers remained in the vehicle whenever possible to minimize disturbance to the birds.

D. Avian Use Surveys

Avian use surveys were performed by qualified biologists experienced in the identification of North American birds by sight and sound, according to *BLM's Solar Facility Point Count Protocol* (BLM 2009b). Point-count stations were along four transects placed throughout the proposed CSE Project Area. Transect locations were designed to sample all habitat types present within the Project Area with a focus on areas most likely to contain a high abundance and/or diversity of birds, while maintaining adequate spatial coverage of the entire Project Area and proposed Gen-tie Line corridor. Each transect was 1,750-meters in length with point-count locations spaced every 250-meters along transects. A total of 32 point-count stations were sampled during each survey event, with a total of four survey events during the winter survey season (December 2010 to January 2011) and four survey events during the spring season (March-April 2011).

At each point count station, biologists recorded all birds seen or heard within a 100-meter radius over a 10-minute sampling period. Pairs or groups of birds were recorded as single detections to avoid issues resulting from statistical dependence. Both detections and individuals are reported here. Birds seen or heard outside of the 100-meter radius were recorded as incidental observations and contributed to the overall project species list, but were excluded from analyses aimed at quantifying avian abundance. Birds that were seen or heard along transects, but between point-count stations, were also recorded as incidental observations. Point counts were generally performed within four hours of sunrise. Surveys were not performed during inclement weather conditions (e.g. more than light or intermittent rain, winds greater than 15 miles-per-hour).

E. Mountain Plover Surveys

Qualified biologists experienced in the identification of North American birds by sight and sound, including Mountain Plover detection and identification, performed the winter surveys according to the USFWS *Interim Survey Guidance for Wintering Mountain Plover (Charadrius montanus) in the Imperial Valley* (USFWS, 2011). Suitable habitat was identified in the survey area by driving to each field and assessing vegetation height. Observation points were set up so that each field could be sufficiently observed from one point (Heritage, 2011b). A total of 16 observation points were established. Two observers were at each observation point; one biologist observed a single field (never more than 80 acres) while the other biologist observed the opposite field. Spotting scopes and binoculars were used to scan each field for a minimum of 30 minutes per field per observer per field visit.

A total of three surveys were conducted between December 1 and February 28, separated by a minimum of five days. Surveys were conducted between the hours of 8 a.m. and 4 p.m. and avoided periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather. Surveys were not conducted if winds exceeded 10 miles per hour. No more than 600 acres were surveyed per biologist per day.

F. Jurisdictional Delineation

The CSE Project Area was evaluated for drainage features during field visits performed on September 30, 2010 and November 7, 2010. Additional information was gathered using a Geographic Information System (GIS) and aerial imagery. Initial determinations regarding the potential jurisdictional status of the various features within the CSE Project Area are based on the applicable regulations and associated guidance documents as well as on personal communications with Lanika Cervantes, Project Manager in the Regulatory Division of the ACOE and Magdalena Rodriguez, Wildlife Biologist, from the CDFG. Impact acreages to potential jurisdictional drainage features are estimated for analysis in this document since jurisdictional delineations prepared by the Applicant have not been approved or finalized by either ACOE or CDFG.

4.12.2.2 Literature Review

Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for the species (State of California 2009 and 2010a; CNPS 2001; Reiser 2001), species occurrence records from the California Natural Diversity Database (CNDDB; State of California 2010b), the BLM Special Status plant and wildlife species website (BLM, 2010), and species occurrence records from other sites in the vicinity of the survey area.

Additional resources that were consulted included the Biological Technical Report for the Imperial Solar Energy Center West, (RECON 2010a), and the *Draft Environmental Impact Statement for the SES Solar Two* (URS 2008).

4.12.2 CEQA Significance Criteria/NEPA Requirements

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct natural resource impacts from the Proposed Action or an alternative are related to disturbance or damage to sensitive habitats, wetlands and species during construction, operations and maintenance, and decommissioning.

Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.12.1.1 CEQA Significance Criteria

The significance criteria listed below were used to determine if the proposed project/Proposed Action would cause and impacts associated with biological resources. These criteria are the same as the significance criteria for Biological Resources listed in the CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines. Under CEQA, the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative would experience a significant impact if the project would:

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;

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;

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;

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;

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

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.

4.12.2.2 Issues Scoped Out as Part of the Initial Study

No biological resources issues were scoped out as part of the Initial Study. Impacts relevant to all six criteria are included in the discussion of environmental consequences

4.12.2.3 NEPA Requirements

Specific requirements regarding biological resources such as adverse effects to federally threatened and endangered species and federally protected wetlands are encompassed in the CEQA criteria listed above. Therefore, for the purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion 1, 2 and 3).

4.12.3 ENVIRONMENTAL CONSEQUENCES

The following provides an analysis of the potential biological impacts associated with construction and operation of the Proposed Action, Alternative 1-Double Circuit Gen-tie Line Structures, Alternative 2-Reduced CSE Facility Site, Alternative 3-Use Existing Electric Line Towers and 230-kV Line Looping, and Alternative 4-No Action/No Project. **Table 4.12-1** summarized the expected impacts to vegetation communities from the various project components.

The following impact sections describe the anticipated impacts on lands associated with the CSE Facility, the Gen-tie Line and associated buffer areas that are on private and BLM land.

TABLE 4.12-1
VEGETATION COMMUNITY IMPACTS BY ALTERNATIVE

Project Component	Proposed Action (Acres)			Alternative 1 Impacts (Acres)	Alternative 2 Impacts (Acres)	Alternative 3 Impacts (Acres)
	Solar Field Impacts (Acres)	Gen-Tie Line Impacts (Acres)	Total (Acres)			
CSE Site (PV Solar Field)						
Agriculture (Ag)	1,908.04		1,908.04	1,908.04	1,573.04	1,908.04
Arrow Weed Scrub (As)	0.09		0.09	0.09	0.09	0.09
Arrow Weed Scrub - Disturbed (As-D)	0.61		0.61	0.61	0.61	0.61
Arrow Weed Scrub / Tamarisk Scrub (As/Ts)	0.06		0.06	0.06	0.06	0.06
Arrow Weed Scrub / Tamarisk Scrub - Disturbed (As/Ts-S)	0.07		0.07	0.07	0.07	0.07
Big Salt Bush Scrub - Disturbed (Bss-D)	3.81		3.81	3.81	3.81	3.81
Developed / Disturbed (Dev)	3.65		3.65	3.65	3.65	3.65
Palo Verde Woodland (Possibly Planted) (Pvw)	0.38		0.38	0.38	0.38	0.38
Tamarisk Scrub - Disturbed (Ts-D)	3.38		3.38	3.38	3.38	3.38
CSE Site (PV Solar Field) Total	**1,920.10**	**0.00**	**1,920.10**	**1,920.10**	**1,585.09**	**1,920.10**
Ring Bus Switchyard						
Ring Bus Switchyard						
Agriculture (Ag)						3.62
Access Roads						
Agriculture (Ag)						1.27
Ring Bus Switchyard Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**4.88**
Transmission Line						
Access Roads						
Creosote Bush-White Bursage Scrub (Cbs)		**4.02**	**4.02**	**4.02**	**4.02**	**2.13**
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		**0.12**	**0.12**	**0.12**	**0.12**	**0.00**
Developed / Disturbed (Dev)		**0.13**	**0.13**	**0.13**	**0.13**	**0.00**
Encelia-White Bursage Wash Scrub (Ewbs)		**0.06**	**0.06**	**0.06**	**0.06**	**0.00**
Non-Vegetated Sandy Wash (Nvsw)		**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
Smoke Tree Wash Scrub (Stws)		**0.07**	**0.07**	**0.07**	**0.07**	**0.00**
White Bursage Scrub - Disturbed (Wbs-D)		**0.06**	**0.06**	**0.06**	**0.06**	**0.24**

TABLE 4.12-1
VEGETATION COMMUNITY IMPACTS BY ALTERNATIVE

Project Component	Proposed Action (Acres)			Alternative 1 Impacts (Acres)	Alternative 2 Impacts (Acres)	Alternative 3 Impacts (Acres)
	Solar Field Impacts (Acres)	Gen-Tie Line Impacts (Acres)	Total (Acres)			
Access Road Total		**4.49**	**4.49**	**4.49**	**4.49**	**2.40**
Structure Footings						
Agriculture (Ag)		**0.01**	**0.01**	**0.01**	**0.01**	**0.01**
Creosote Bush-White Bursage Scrub (Cbs)		**0.03**	**0.03**	**0.03**	**0.03**	**0.01**
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Desert Pavement (Dp)		**0.00**	**0.00**	**0.00**	**0.00**	**0.003**
Developed / Disturbed (Dev)		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Encelia-White Bursage Wash Scrub (Ewbs)		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Smoke Tree Wash Scrub (Stws)		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
White Bursage Scrub - Disturbed (Wbs-D)		**0.00**	**0.00**	**0.00**	**0.00**	**0.01**
Footings Total		**0.04**	**0.04**	**0.04**	**0.04**	**0.04**
Transmission Line Total		**4.54**	**4.54**	**4.54**	**4.54**	**2.44**
Permanent Impacts Total			**1,924.64**	**1,924.64**	**1,589.63**	**1,927.42**
Temporary Impacts						
Transmission Line						
Pulling & Tensioning Sites						
Creosote Bush-White Bursage Scrub (Cbs)		5.34	5.34	5.34	5.34	1.71
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		0.00	0.00	0.00	0.00	0.00
Creosote Bush White Bursage Scrub/Alkali Dep (Cbs/Ad)		0.00	0.00	0.00	0.00	0.00
Desert Pavement (Dp)		0.00	0.00	0.00	0.00	0.74
White Bursage Scrub - Disturbed (Wbs-D)		0.00	0.00	0.00	0.00	2.82
Wire Splicing Site						
Creosote Bush-White Bursage Scrub (Cbs)		0.96	0.96	0.96	0.96	0.00
Access Roads						
Creosote Bush-White Bursage Scrub (Cbs)		0.13	0.13	0.13	0.13	0.13
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		0.04	0.04	0.04	0.04	0.02

TABLE 4.12-1
VEGETATION COMMUNITY IMPACTS BY ALTERNATIVE

Project Component	Proposed Action (Acres)			Alternative 1 Impacts (Acres)	Alternative 2 Impacts (Acres)	Alternative 3 Impacts (Acres)
	Solar Field Impacts (Acres)	Gen-Tie Line Impacts (Acres)	Total (Acres)			
Guard Structures						
Agriculture (Ag)		0.07	0.07	0.07	0.07	0.07
Creosote Bush-White Bursage Scrub (Cbs)		0.28	0.28	0.28	0.28	0.04
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		0.22	0.22	0.22	0.22	0.30
Developed / Disturbed (Dev)		0.16	0.16	0.16	0.16	0.17
Tower Construction Pads						
Creosote Bush-White Bursage Scrub (Cbs)		7.75	7.75	7.75	7.75	2.46
Creosote Bush-White Bursage Scrub - Disturbed (Cbs-D)		0.81	0.81	0.81	0.81	0.00
Creosote Bush White Bursage Scrub/Alkali Dep (Cbs/Ad)		0.00	0.00	0.00	0.00	0.00
Desert Pavement (Dp)		0.00	0.00	0.00	0.00	0.27
Developed / Disturbed (Dev)		0.19	0.19	0.19	0.19	0.04
Encelia-White Bursage Wash Scrub (Ewbs)		0.40	0.40	0.40	0.40	0.00
Mesquite Bosque (Mb)		0.09	0.09	0.09	0.09	0.00
Smoke Tree Wash Scrub (Stws)		0.41	0.41	0.41	0.41	0.00
White Bursage Scrub - Disturbed (Wbs-D)		0.39	0.39	0.39	0.39	2.11
Temporary Impacts Total		**17.25**	**17.25**	**17.25**	**17.25**	**10.14**
Total Project Impacts			**1,941.89**	**1,941.89**	**1,606.88**	**1,937.56**

Source: Heritage, 2011a and 2011b.

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4.12.1.1 Proposed Action

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Vegetation Communities

The Proposed Action would result in approximately 1,924.64 acres of permanent impacts and an additional 17.25 acres of temporary impacts. **Table 4.12-1** summarized the expected impacts to vegetation communities from the various project components for the Proposed Action.

Special Status Plant Species

The ribbed cryptantha is the only priority plant species that occurs within the Project Area. This plant is a California Native Plant Society (CNPS) List 4.3 species (CNPS List 4.3 species are the least sensitive species in the ranking system – a species of limited distribution but is not very endangered in California). Some impacts to this species are within the Gen-tie corridor anticipated because of its diffuse pattern throughout the broad wash habitat present within the corridor. However, impacts are anticipated to be relatively minor based on the species diffuse pattern throughout the area in and around the Gen-tie corridor and the small size of anticipated disturbance within the Project Area. This species is in not expected within the private lands. Though considered a sensitive species, the ribbed cryptantha's relatively low ranking status means that any mitigation requirements would be satisfied with mitigation for this species' habitat (e.g., mitigation for the wash habitat would mitigate for impacts to the wash habitat as well as for the species). Species-specific mitigation requirements would not be necessary.

No other special status or priority plant species are expected to occur within the private lands, or on the Gen-tie corridor on BLM land. Therefore, no adverse impacts to special status or priority plant species are expected to occur as a result of Proposed Action.

Federally Listed Wildlife Species

Southwestern Willow Flycatcher (SWFL)

Construction of the Proposed Action is not likely to directly affect SWFL individuals, because there is no preferred nesting habitat on private or BLM land in the project area and no habitat used during migration is proposed to be removed. Specific protection measures, design features and the Avian and Bat Protection Plan (ABPP) will be implemented to minimize disturbance and avoid project related impacts to migration.

Light and noise from heavy equipment during construction may result in short-term avoidance of small areas of foraging habitat that are near construction activities. These would be short-term impacts given the brief amount of time (likely two weeks or less) this species may forage in the vicinity during migration. The following protection measure to avoid disturbance will be implemented adjacent to

SWFL habitat on private lands. Nighttime construction (work outside 7 AM - 7 PM time frames) shall be restricted during the spring (Mar 1 – June 15) and fall migration periods (August 1 – October 15), that no nighttime construction shall occur within 250-feet of potential southwestern willow flycatcher habitat during those periods. Work in the vicinity of potentially suitable SWFL habitat 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 CSE Facility or at the specific tower location being constructed to minimize effects. Noise from construction of the CSE Facility may exceed 60 dBA for a distance of up to 1,280 feet from the source. Minimization and avoidance measures to reduce potential noise effects to avian species will be implemented following the ABPP, design features integrated into the POD and BLM stipulations, including timing construction to minimize effects to avian species. Given the brief amount of time SWFL may be foraging within the action area during migration, and the implementation of impact avoidance and implementation of protection measures, any effects to SWFL from noise and lighting would be minimal and short-term.

With implementation of minimization measures, the operations and maintenance activities of the Proposed Action are unlikely to have more than a discountable effect on SWFL that may be foraging within the migration habitats (**Figure 3.12-2**) adjacent to the CSE Facility during migration. Noise and lighting during operations will be minimal and directed toward the interior of the CSE Facility toward the operations facilities and would be similar in nature to noise associated with current agricultural activities. Therefore, operations and maintenance activities are not expected to provide a significant source of disturbance to avian species, including SWFL, outside of the solar field.

Suitable migration habitat in the private land portion of the survey area occurs in Greeson Wash, along Mount Signal Drain, and along the Westside Main Canal and Wormwood Canal. The project will not directly disturb acreage inside these habitats. No project features will be built within, over or under Greeson Wash or its riparian habitat. The solar panels will be installed in areas actively farmed and fencing will be installed within the footprint of existing roadways or fields to prevent equipment from entering Greeson Wash or its riparian habitat during construction and operations. Similarly, the solar facility on private lands would be fenced and not encroach on the Westside Main Canal, the Mount Signal Drain, or riparian habitat associated with those features. However, the Gen-tie Line, a 230 kV overhead electric line, would span the Westside Main Canal and Mount Signal Drain.

Potential impacts to the SWFL would appear to be limited to daytime hours disturbance from construction adjacent to foraging habitat and the Gen-tie Line over the Westside Main Canal, Wormwood Canal, and Mount Signal Drain (if during the migration period), which may present a collision risk, and temporal displacement of migrant willow flycatchers if nearby construction activities temporarily deter foraging. Project electric lines spanning SWFL or YCR habitat shall be equipped with flight diverters for overhead crossings or be placed underground using directional boring or similar construction techniques to avoid surface disturbance.

The Proposed Action will include earthen stormwater retention and detention basins, with surface areas of approximately 1.0 and 0.4 acres, to manage stormwater flows, respectively. Drainage channels will drain run-off flows from the CSE Facility areas to these basins, where water will be allowed to percolate through the soil. The Proposed Action may also include a permanent on-site water treatment system to treat water for PV panel washing. Three evaporation ponds with a total surface area of approximately 1.25 acres would be constructed. The detention basins will be sized to meet county and RWQCB standards. Areas of the facility that may release contaminants, such as the operations and maintenance building and delivery areas will be provided with storm water containment designed to accommodate runoff in accordance with County guidelines. No indirect effects to SWFL foraging habitat along the

Westside Main Canal, Mount Signal Drain, or Greeson Wash are expected to occur resulting from run-off.

Agricultural dirt roads currently exist adjacent to the Westside Main Canal, Mount Signal Drain, and Greeson Wash. Therefore, no additional grading of solar field access roads adjacent to potentially suitable migration habitat (riparian or hydrophytic vegetation) will occur, resulting in no indirect or indirect impacts to these habitats from sedimentation.

Yuma Clapper Rail

Construction of the Proposed Action is not likely to have more than a discountable effect on YCR individuals, as the potential habitat area is small and somewhat isolated. This species is not expected to nest within the survey area. There is no suitable habitat for this species within the portion of the Gen-tie survey area on BLM land and occurrence is not expected. The ABPP will provide guidance on minimizing disturbance to all avian species during construction, and no potential foraging or wintering habitat will be removed during construction or grading.

Given the nearest known occurrence is 2.7 miles north of the survey area and YCR habitat is limited in the Project Area, there is a low potential for YCR to forage in the cattail marsh vegetation in Mount Signal Drain or find cover in the tamarisk thickets adjacent to the Westside Main Canal, Mount Signal Drain, and Greeson Wash. Given implementation of avoidance and minimization measures, light and noise from heavy equipment during construction has a low probability of temporarily impacting YCR while using riparian habitat adjacent to the CSE Facility. 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 field to minimize effects. The following protection measure to avoid disturbance will be implemented adjacent to Yuma clapper rail habitat on private lands. Nighttime construction (work outside 7 AM - 7 PM time frames) shall be restricted during the spring (Mar 1 – June 15) and fall SWFL migration periods (August 1 – October 15), that no nighttime construction shall occur within 250-feet of riparian habitat associated with named drainage features during those periods. Noise from construction of the solar field may exceed 60 dBA for a distance of up to 1,280 feet outside of the solar field perimeter. Minimization and avoidance measures to reduce potential noise effects to avian species, including YCR, will be implemented following the ABPP, including timing construction to minimize effects to avian species. Given the low likelihood that YCR forages or shelters in these small, isolated habitat patches within the project area and the implementation of impact avoidance and minimization measures, any effects to YCR from noise and lighting would be minimal and therefore considered discountable.

Any noise and lighting during operations will be minimal, and the level of human disturbance is not expected to increase significantly above the agricultural practices that are currently taking place and will continue to take place. Therefore, operations and maintenance activities are not expected to negatively affect YCR.

No new surface disturbance associated with the project will occur in existing riparian vegetated habitat Suitable rail habitat or vegetation will not be removed during construction, and no effects to YCR due to potential habitat loss will occur.

The Proposed Action will include earthen stormwater retention and detention basins, with surface areas of approximately 1.0 and 0.4 acres, to manage stormwater flows, respectively. Drainage channels will drain run-off flows from the solar fields to these basins, where water will be allowed to percolate through the soil. The Proposed Action may also include a permanent on-site water treatment system to

treat water for PV panel washing. Three evaporation ponds with a total surface area of approximately 1.25 acres would be constructed. The detention basins will be sized to meet county and RWQCB standards. Areas of the facility that may release contaminants, such as the operations and maintenance building and delivery areas will be provided with storm water containment designed to accommodate runoff in accordance with County guidelines. No indirect effects to YCR foraging habitat or wintering habitat along the Westside Main Canal, Mount Signal Drain, or Greeson Wash are expected to occur resulting from run-off.

Unpaved roads exist adjacent to the Westside Main Canal, Mount Signal Drain, and Greeson Wash. Therefore, no additional grading is anticipated beyond standard maintenance of solar field access roads adjacent to potential foraging habitat. Graveling of roadways will not be placed within SWFL or YCR habitat areas or alter flow rates to these habitats. Indirect impacts to these habitats resulting from sedimentation are not authorized. Fencing associated with project boundaries will not impact vegetation associated with natural drainage features such as Greeson Wash and will be placed in the existing footprint of disturbed areas such as unpaved roads.

All road crossings of canals and drains (if necessary) will be designed to provide for safe crossing of features as well as to maintain downstream flows. The design and construction of these crossings will be the responsibility of the Imperial Irrigation District. Downstream flow will be maintained at current levels avoiding effects to downstream SWFL habitat.

Peninsular Bighorn Sheep

No effects to Peninsular bighorn sheep are anticipated because there is no suitable habitat for the species in the Project Area. The closest known habitat is approximately 14 miles west of the Project Area, and the nearest known occurrence is 18 miles west of the Project Area.

State Listed Wildlife Species

State listed species that potentially occur within Project Area include: greater Sandhill Crane (Grus canadensis tabida), barefoot-banded gecko (Coleonyx switaki), Yuma clapper rail and Peninsular bighorn sheep. Yuma clapper rail and Peninsular bighorn sheep were both discussed above under the Federal Listed Wildlife Species; therefore they are not discussed again in this section. The barefoot-banded gecko was discussed in subsection 3.12.2.4, item B under the State Listed Wildlife Species, which concluded that barefoot banded geckos are not expected to occur within the survey area based on a lack of suitable habitat. Therefore, the barefoot-banded gecko is not discussed further in this document.

Greater Sandhill Crane

Greater Sandhill Cranes may forage during the winter in the active agricultural habitats present within the survey area. Approximately 1,908.04 acres of agricultural land would be removed under the Proposed Action. Given the large amount of potentially suitable foraging habitat in the immediate vicinity of the Project Area and the Imperial Valley, it is unlikely that the loss of this potentially suitable foraging habitat would adversely affect wintering Greater Sandhill Cranes. No impacts to this species are expected on BLM land because suitable habitat for these species is not present within the Gen-tie survey area and occurrence is not expected.

Light and noise from heavy equipment during construction is not expected to adversely modify the behavioral patterns of foraging Sandhill Cranes given the vast amount of foraging habitat in the immediate vicinity of the survey area. 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 CSE Facility to minimize effects to Sandhill Cranes that may be roosting in adjacent fields. However, the Sandhill Crane is a diurnal species and is not expected to be active at night. Noise from construction of the solar field may exceed 60 dBA for a distance of up to 1,280 feet outside of the CSE Facility perimeter. Minimization and avoidance measures to reduce potential noise effects to avian species, including Sandhill Crane, will be implemented as outlined in the ABPP, including worker education and timing construction to minimize effects to avian species. Because the Sandhill Crane is relatively tolerant of disturbance on its wintering grounds, the brief periods when they may forage within any given field in the vicinity of the action area, and the implementation of impact avoidance and minimization measures, disturbance to Sandhill Cranes from noise and lighting would be unlikely.

The operations and maintenance activities are unlikely to affect Sandhill Cranes that may be foraging adjacent to the CSE Facility during the winter. Noise and lighting during operations will be minimal and directed toward the interior of the solar field, where the operations facilities are located. General operations and maintenance activities that may be conducted within the CSE Facility include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Panel washing may also require a water truck access. These operations and maintenance activities are anticipated to be at the same level of intensity as the current agricultural operations and are not expected to affect the overall behavioral patterns of Sandhill Cranes within the survey area.

Being large birds, Sandhill cranes are susceptible to collision with transmission lines during windy conditions. However, Sandhill Cranes are active during daylight hours, and because structures are visible collisions with the proposed Gen-tie Line, solar panels, or other facility structures may be avoidable, if Sandhill Cranes are actively moving in and around the Project Area. In addition, Avian Power Line Interaction Committee (APLIC) measures to avoid and minimize potential collisions will be implemented as detailed in the ABPP. Therefore, operations and maintenance activities would not have an adverse effect on Greater Sandhill Cranes foraging within or adjacent to the survey area.

BLM Sensitive Wildlife Species

Burrowing Owl

The 1995 California Department of Fish and Game's Staff Report on Burrowing Owl Mitigation (CDFG 1995) defines impact to Burrowing Owl as:

- Disturbance within 50 meters (approx. 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).

As discussed in subsection 3.12.2.4, item B, 51 occupied Burrowing Owl burrows were observed within the survey area. While direct removal of these burrows are not anticipated as the result of project implementation, adjacent agricultural fields, which represent suitable foraging habitat for these burrows will be graded during construction activities.

Impacts to any Burrowing Owl individuals and/or active Burrowing Owl burrows could be adverse, and mitigation in the form of avoidance and impact minimization would be required to reduce the impact. In accordance with the CDFG Staff Report on Burrowing Owl Mitigation (1995), impacts to foraging habitat within 100 meters (approximately 300 feet) of each active burrow would be considered adverse and would require compensation for the loss of foraging habitat to reduce impacts to a level less than significant for CEQA compliance. Mitigation Measure B3 would be implemented to reduce impacts to Burrowing Owls to less than significant. These mitigation measures would include pre-construction clearance surveys and established disturbance buffers, relocation of owls whose burrows would be directly removed by construction activities and compensatory mitigation acreage for foraging habitat. The applicant is currently preparing a compensatory mitigation plan that includes on-site mitigation. Consultation with CDFG regarding on-site mitigation is ongoing and agency approval of the project Burrowing Owl Mitigation Plan would be required before the start of construction. If on-site mitigation is not possible, the applicant would mitigate for impacts to foraging habitat through the National Fish and Wildlife Foundation's Impact-Directed Environmental Accounts program. Exact mitigation acreages will be determined in consultation with CDFG in accordance with the CDFG Staff Report Guidelines on Burrowing Owl Mitigation (1995).

During phased construction or after construction is complete, Burrowing Owls may occur along the remaining earthen lined canals and drains in and around the Project Area forcing them to travel long distances to forage.

All permanent lighting within the CSE Facility will be low profile fixtures that point inward toward the CSE Facility with directional hoods or shades to reduce light from shining into the adjacent habitat. In addition, any lighting not required for security purposes will have motion sensor or temporary use capabilities. Adverse impacts on Burrowing Owls due to lighting are not expected to occur and no mitigation is required.

No equipment or components of the CSE Facility or Gen-Tie transmission lines are expected to produce noise that would exceed ambient noise in the vicinity. No adverse impact due to noise is expected to occur to this species, and no mitigation is required

Final mitigation measures and design criteria will be decided in consultation with the pertinent state agency.

Mountain Plover

There is a low risk of death or injury to Mountain Plover as a result of the Proposed Action. The Mountain Plover does not nest within the private or BLM lands or in the Imperial Valley; therefore, there is no risk of destroying nests or eggs, harming chicks, or discouraging parents from returning to the nest. Additionally, the species is naturally evasive and shy, and will readily move to avoid construction activities.

No impacts to this species are expected as the result on BLM land because suitable habitat for these species is not present within the Gen-tie survey area and occurrence is not expected. Lastly, foraging habitat would be removed permanently on the CSE Facility; therefore, Mountain Plovers would not attempt to forage on the site and there would be no risk of collision with solar panels and other components.

The Mountain Plover is protected under the MBTA. As such, it is unlawful to kill this species. Therefore, the Proposed Action must employ avoidance measures necessary to avoid killing or injuring any

Mountain Plover. The ABPP will include measures designed to minimize disturbance to all avian species during construction, including measures to prevent take of MBTA-protected birds during construction and operation of the Project.

Light and noise from heavy equipment during construction should not adversely modify the behavioral patterns of foraging Mountain Plover given the vast amount of foraging habitat in the immediate vicinity of the survey area. 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 CSE Facility to minimize effects to Mountain Plover that may be roosting in adjacent fields. However, Mountain Plover is a diurnal species and is not expected to be active at night. Generally, noise from the construction of solar facilities similar to the CSE Facility may exceed 60 dBA for a distance of up to 1,280 feet from the source. Minimization and avoidance measures to reduce potential noise effects to avian species, including Mountain Plover, will be implemented following the ABPP, including timing construction to minimize effects to avian species. Because the Mountain Plover is relatively tolerant of disturbance on its wintering grounds, the brief periods when plovers may forage within any given field in the vicinity of the action area, and the implementation of impact avoidance and minimization measures, disturbance to Mountain Plover from noise and lighting would be unlikely.

The operations and maintenance activities are unlikely to affect Mountain Plovers that may be foraging adjacent to the CSE Facility during the winter. Noise and lighting during operations will be minimal and directed toward the interior of the CSE Facility, where the operations facilities are located. General operations and maintenance activities that may be conducted within the CSE solar field include equipment inspection and/or repairs, solar panel washing, weed abatement activities, and security guard duties involving the use of motor vehicles. Panel washing may also require a water truck access. These operations and maintenance activities are anticipated to be at the same level of intensity as the current agricultural operations and are not expected to affect the overall behavioral patterns of Mountain Plovers within the survey area. Mountain Plover is only active during daylight hours, and no collisions with the proposed Gen-tie Line, solar panels, or other facility structures are anticipated, as they will be visible, and therefore avoidable, if Mountain Plovers are actively moving in and around the CSE Project. In addition, Avian Power Line Interaction Committee (APLIC) measures to avoid and minimize potential collisions will be detailed in the ABPP for implementation. Therefore, operations and maintenance activities would not have an adverse effect on Mountain Plover foraging within or adjacent to the survey area.

Approximately 1,908.04 acres of potential foraging habitat for Mountain Plover would be permanently removed. Conservatively assuming that entire acreage is suitable foraging habitat at any given time, this loss of foraging habitat would account for approximately 0.9 percent of the estimated foraging habitat (using the five-year average of 214,962 acres) available in the Imperial Valley. This does not take into account the likely significant acreage of suitable foraging habitat in Mexico, just across the border. The permanent loss of 0.9 percent of suitable foraging habitat in the Imperial Valley is a negligible loss of habitat in the Imperial Valley.

Large avian predators such as ravens (genus Corvus), Loggerhead Shrikes (*Lanius ludovicianus*), and Prairie Falcon (*Falco mexicanus*) may be drawn to the CSE Facility 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 CSE Facility, but this effect would be minimized by implementation of a Raven Control Plan.

No indirect effects to 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 CSE Project Weed Management Plan, which conforms to resource agency standards to minimize impacts to sensitive biological resources.

Pallid Bat and California Leaf-nosed Bat

These species may use all or portions of the Project Area for foraging, though neither is expected to roost within the Project Area or immediate vicinity. Project implementation would result in the permanent disturbance of approximately 1,886 acres of potentially suitable foraging habitat. This disturbance would reduce the quality of the foraging habitat, but is not expected to totally eliminate it. The potential for continued foraging following project implementation would be supported by the larger drains and canals within the CSE Facility that would remain undisturbed and could continue to support prey populations for both species. Given the large amount of suitable foraging habitat in the immediate vicinity of the project and the continued foraging opportunities following project implementation, the Proposed Action is not expected to significantly impact either the pallid bat or the California leaf-nosed bat.

Golden Eagle

Suitable nesting habitat is not present within the private land portion of the survey area, and the species is not expected to nest within or in the immediate vicinity of the survey area. As such, impacts to nesting golden eagles are not expected.

The proposed project would result in the permanent disturbance of approximately 1,886 acres of potentially suitable foraging habitat for golden eagles. This would not represent a significant impact to this species given the vast amounts of suitable foraging habitat in the surrounding vicinity and the relative infrequence with which the species has been observed in the survey area and vicinity.

The Gen-tie line would represent a potential impact to Golden Eagles by presenting a risk of collisions. Bird flight diverters will be installed on the Gen-tie Line along the segments that cross the Westside Main Canal and Mount Signal Drain, which would alleviate some of the risk. The impact to Golden Eagles from the construction of the Gen-tie line is expected to be minimal given the relative infrequency within which Golden Eagles use the Project Area, combined with the use of bird flight diverters, and the implementation of an ABPP.

Colorado Desert Fringe-toed Lizard

Direct impacts to Colorado desert fringe-toed lizard may occur during construction of the Gen-tie line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar facility components may result in the direct mortality, injury, or harassment of Colorado desert fringe-toed lizards. These impacts would be considered adverse and mitigation would be required, although mitigation for FTHL would also act as mitigation for this species, and no additional mitigation is anticipated.

The creosote bush–white bursage scrub vegetation within the Gen-tie corridor provides habitat for this species, and impacts to this habitat could be potentially adverse for the Colorado Desert fringe-toed lizard. Impacts to Colorado Desert fringe-toed lizard habitat would be reduced via the following measures.

The majority of the transmission line towers associated with the Gen-tie line will be adjacent to other existing transmission lines and new access roads will be limited to short spur roads extending from existing access roads.

Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner that is the least disturbing to resources.

Whenever possible, any removal of vegetation will be in the form of trimming instead of root rubbing, to allow shrubs to readily re-sprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

The Gen-tie line may permanently impact approximately 4.54 acres and temporarily impact approximately 17.25 acres of suitable Colorado Desert fringe-toed lizard habitat. Disturbance of soil and vegetation will take place during construction, which can encourage invasive, exotic plant species to encroach into Colorado Desert fringe-toed lizard 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 impact to Colorado Desert fringe-toed lizard due to construction of the proposed project and mitigation would be required.

General operations and maintenance activities that may be conducted along the transmission line include equipment inspection and/or repairs, transmission tower washing, and weed abatement activities. These operations and maintenance activities will require vehicles to occasionally drive the access roads along the transmission line.

Colorado Desert fringe-toed lizard injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the solar field, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. The anticipated frequency of travel along Gen-tie access roads is expected to represent a negligible increase in traffic compared to the ongoing traffic associated with construction and maintenance of the IV Substation, Border Patrol activity and OHV use of the area.

Flat-tailed Horned Lizard

Direct impacts to FTHL may occur during construction of the Gen-tie line. Construction activities such as the movement of construction vehicles or heavy equipment and the installation of transmission towers or solar facility components may result in the direct mortality, injury, or harassment of FTHLs. These impacts could be adverse and mitigation would be required.

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). The creosote bush–white bursage scrub vegetation within the Management Area provides habitat for this species, and impact to this habitat is considered potentially adverse. In accordance with the Flat-tailed Horned Lizard Rangewide Management Strategy, compensation would be required for impact to FTHL habitat. In accordance with the RMS, the proposed impacts to the MA are the minimum necessary to construct the project.

- The proposed CSE Facility site is outside of the Yuha MA, within active agricultural fields.

- The majority of the transmission line towers associated with the Gen-tie line will be adjacent to other existing transmission lines and new access roads will be limited to short spur roads extending from existing access roads
- Extensive resource surveys have been conducted to facilitate the siting of the transmission components to insure they are located in a manner the least disturbing to resources.
- Whenever possible, any removal of vegetation will be in the form of trimming, instead of root rubbing, to allow shrubs to readily re-sprout. The only soil removal necessary during transmission construction will be during excavation of tower footings and trenching.

The Proposed Alternative for the Gen-tie line may permanently impact approximately 4.54 acres and temporarily impact approximately 17.25 acres of FTHL habitat within the MA. 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 adverse impact to FTHL due to construction of the Proposed Action and mitigation would be required.

General operations and maintenance activities that may be conducted along the transmission line include equipment inspection and/or repairs, transmission tower washing, and weed abatement activities. These operations and maintenance activities will require vehicles to occasionally drive the access roads along the transmission line. FTHL injury or mortality could potentially occur due to occasional use of the transmission line access roads, or driving access roads within the solar field, weed abatement, or any other activities that may result in ground disturbance outside of the designated access roads. The anticipated frequency of travel along Gen-tie access roads is expected to represent a negligible increase in traffic compared to the ongoing traffic associated with construction and maintenance of the IV Substation, Border Patrol activity and OHV use of the area.

Sensitive Natural Communities

For purposes of this report, sensitive vegetation communities (i.e., natural communities) are those identified by the CDFG (State of California 2010b) and CEQA. Reasons for the designation as “sensitive” include restricted range, cumulative losses throughout the region, and a high number of endemic sensitive plant and wildlife species that occur in the vegetation communities.

Creosote Bush–White Bursage Scrub and Desert Wash Vegetation

As shown in **Table 4.12-1**, creosote bush–white bursage scrub, mesquite woodland, and desert wash vegetation are the three sensitive natural communities potentially affected by the proposed project. These communities are considered sensitive whether or not they have been disturbed. Impacts to creosote bush–white bursage scrub and desert wash vegetation are included in the Vegetation Mapbook which is provided on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA. Though very limited in extent, these impacts could be considered potentially adverse and may require mitigation to offset this impact to sensitive habitats to reduce levels to less than significant. Soil disturbed due to grading during construction and continued use of the solar field and access roads along the transmission line may result in the introduction or increased density of non-native invasive plant species. These species can undermine the habitat quality and integrity of the native plant communities. The risk of non-native invasive species establishment in sensitive natural communities will be addressed

as part of the Weed Risk Assessment, which is being prepared but has not yet been completed for the project.

Affected Waters and Riparian Habitat

The private land area of the project site consists of active agricultural lands that receive and drain IID water through gravity-flow systems. These waters form a cascading water management system that functions as one contiguous system connected by a series of upland-cut ditches, eventually draining into secondary or first order tributaries including a large partially channelized natural wash, Greeson Wash. Other major named conveyance canals such as the West-side Main canal or drains such as the Mount Signal drain bound the CSE Facility property or will be crossed with the Gen-Tie construction. Portions of these natural and man-made drainages support vegetated riparian or hydrophytic habitat. The Gen-tie Line areas on BLM land will cross alluvial ephemeral intermittent drainages typical of the arid west.

Values of the Affected Jurisdictional Waters

Chemical Values- Wetlands and other "waters" have been recognized for their functions and values for storage and filtration of rain derived runoff, nutrient storage and cycling and, therefore, have the potential to attenuate the effects of point source and nonpoint source pollutants. The loss of wetlands or vegetated waters can result in low dissolved oxygen levels in waters, leading to hypoxia. Agricultural irrigation systems provide beneficial storage and cycling functions, and serve as point sources for pollutants. Studies of water quality and sediments in the Salton Sea and its tributaries describe numerous pesticides and heavy metals at potentially toxic levels that are contributed primarily from agricultural irrigation practices. The EPA Impaired Waters table lists Selenium, toxic metals and organics, and other pollutants of concern that are degrading the Salton Sea watershed.

Physical values – With the exception of small seasonal rainfall events, flows to tributaries from wetlands and project site interior waters within this reach are mainly a result of agricultural practices within irrigation surface water systems and releases following infrequent rain events. Irrigation water drainage occurs on a frequent basis. It is through this unbroken surface water connection upstream and downstream that the relative reach has connections to TNW.

Biological Values – Waters and riparian habitat within and adjacent to the project site and TNW tributaries provide habitat and lifecycle support functions for fish and wildlife species -- such as feeding, shelter, nesting, spawning or rearing of young. Fish species in the agricultural drains include native and invasive species including: sailfin molly, red shiner, mosquito fish, longjaw mudsucker, and Mozambique tilapia hybrids. Fish species present in the New River include: blue tilapia, common carp, and channel catfish, threadfin shad, red shiner and largemouth bass. Other vertebrate species found in agricultural irrigation systems are spiny softshell turtles, checkered garter snake, bullfrogs, and Rio Grande leopard frogs. The food web supported through these irrigation systems and resulting crops supports diverse fish, insect and invertebrates populations, providing forage for birds and mammals. The unique conditions of Imperial Valley agricultural areas support the largest viable population of burrowing owls in California. Fifty-one burrows were reported within this proposed project site. The Salton Sea watershed has become one of the most important habitats for birds in North America and supports some of the highest levels of avian biodiversity in the southwestern United States. Long-billed curlew, white-faced ibis, black-necked stilt, great blue and night herons are among birds commonly seen foraging in agricultural fields near the project site. Avian species benefit from frequent flooding and draining of agricultural fields. The CSE Facility project site is approximately two miles south of Fig Lagoon, a major migratory and water dependent bird stopover and habitat within the Imperial Valley.

Predator species such as badger, coyote, bobcat and kit fox will venture into agricultural lands to prey upon this rich fauna, especially where they are close to desert habitat such as the project site.

The project site adds chemical, physical and biological value within the Salton Sea watershed. Agricultural activities also cumulatively contribute to the degradation of water quality through pollutant loading. Even though foraging habitat within crop areas will be lost if the project is approved, it is avoiding most riparian habitat and has proposed to only fill smaller irrigation drains and swales, mostly within the interior of the existing fields. Water dependent species using the larger conveyances and washes will not be affected by the project and will continue to contribute to the food web. Vast acreages of similarly situated agricultural lands within the Imperial Valley will remain and continue to contribute biological, chemical and physical functional values.

Jurisdictional Waters

ACOE Jurisdiction

The jurisdictional delineation indicates there are a maximum of 85 hydrologic features, 20 of which may be considered potential wetland, riparian and/or waters of United States within the boundaries of both the private and BLM lands. The amount of acreage considered jurisdictional that could be impacted by the Proposed Action or an alternative is identified in **Table 4.12-2**.

TABLE 4.12-2
ACRES OF JURISDICTIONAL WATERS IMPACTED BY THE PROPOSED PROJECT OR AN ALTERNATIVE

Project Component	CSE Facility Impacts (acres)	Gen-tie Line Impacts (acres)	Alternative 1 Impacts (acres)	Alternative 3 Impacts (acres)
Permanent Impacts				
CSE Facility (Private Lands)	0.06			
CSE Facility Total	**0.06**			
Gen-tie Line (BLM Lands)				
Access Roads		0.01	0.01	0.01
Transmission Line Total		**0.01**	**0.01**	**0.01**

CDFG Jurisdiction

As shown in **Table 4.12-2**, the preliminary estimated impacts to ACOE jurisdictional waters are not expected to exceed 0.06 acre of fill to manmade systems on private lands and 0.01 acre of impacts to jurisdictional habitat on public (BLM managed) lands. The final determination of impacts to ACOE jurisdictional waters is subject to a verification of the jurisdictional delineation and a formal jurisdictional determination by the ACOE.

As shown in **Table 4.12-3**, the preliminary estimated impacts to CDFG jurisdictional areas on private lands are not expected to exceed 6.14 acres of fill to manmade systems and 0.09 acre of permanent impacts and 0.04 acre of temporary disturbance to CDFG jurisdictional habitat on BLM managed lands.

TABLE 4.12-3
ACRES OF CDFG JURISDICTIONAL AREAS IMPACTED BY THE PROPOSED PROJECT OR AN ALTERNATIVE

Project Component	CSE Facility Impacts (acres)	Proposed Gen-tie Line Impacts (acres)	Alternative 1 Impacts (acres)	Alternative 3 Impacts (acres)
Permanent Impacts				
CSE Facility Total	6.14			
Gen-tie Line				
Access Roads		0.09	0.09	0.03
Structure Footings		0.001	0.001	0.00
Transmission Line Total		0.09	0.09	0.03
Temporary Impacts				
Gen-tie Line				
Tower Construction Pads		0.40	0.40	0.00
Ring Bus Switchyard Access Road				0.09
Transmission Line Total		0.40	0.40	0.09

Mitigation for impacts to jurisdictional areas is achieved through avoidance, minimization of resources impacts and compensation for loss of habitat values. Through avoidance of those jurisdictional areas with high functional values, the Applicant is reducing the potential detrimental effects of the project on wildlife and flood attenuation. The project is minimizing the effects of secondary disturbance to endangered species or migratory birds by implementing conservation measures for construction near riparian habitat. Final approval of mitigation will come in the form of an ACOE Section 404 permit and a Section 1600 Streambed Alteration Agreement for impact to CDFG resources.

Mitigation for losses under 0.10 acres of wetlands impacts may not be required by the ACOE to compensate for the loss of 0.07 acres of waters of the United States. Nevertheless, the Applicant anticipates offsetting these impacts through independent acquisition of compensatory lands or through a NFWF contribution for FTHL compensation as detailed in Mitigation Measure B5, or through compensation as detailed in Mitigation Measure B3 replacement for burrowing owl foraging habitat. Both compensation requirements involve higher ratios of habitat replacement than is required for jurisdictional waters. Although these analyses are conservative, final approval will come in the form of an ACOE Section 404 permit and a Section 1600 Streambed Alteration Agreement for impact to CDFG resources. The combination of avoidance, minimization and mitigation will render the proposed impacts less than significant.

Mitigation for compensation of permanent impacts to CDFG riparian habitat is typically at a 2:1 ratio, while mitigation for temporary impacts to CDFG riparian habitat is typically at a 1:1 ratio. Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure BIO-5. As the acreage for FTHL mitigation well exceeds the amount required for impacts to CDFG resources, additional mitigation may not 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.

Wildlife Movement and Nursery Sites

Wildlife movement corridors are considered sensitive by resource and conservation agencies. A chain link perimeter fence will surround the proposed CSE Facility on private lands, allowing small mammals and reptiles to move freely through the site. Although medium- and large- sized mammals will not be able to move through the CSE Facility, it should not inhibit their movement through the Yuha Basin.

The proposed Gen-tie line on BLM land would not inhibit the movement of wildlife in and around the Gen-tie survey area. No fencing or other terrestrial obstruction would be installed in this area. Moreover, the proposed Gen-tie line would be collocated with several other existing transmission lines and would not represent a novel feature on the landscape.

Thus, there is no anticipated impact to wildlife movement or nursery sites, and no additional mitigation would be required.

California Desert Conservation Area (CDCA)

The BLM manages all land uses within the CDCA to minimize impacts to this sensitive area. The proposed transmission lines are an allowable use under the CDCA, as the proposed right-of-way falls within the CDCA designated "Utility Corridor N", and within the West-wide Energy Corridor Segment 115-238, which is designated as a multi-modal transmission corridor. All proposed impacts to resources discussed this section are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

B. CEQA Significance Determinations

Impacts to Candidate, Sensitive, or Special Status Species

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.

The Proposed Action could adversely affect special federal and/or state listed species, as well as BLM sensitive wildlife species. These include: southwestern willow flycatcher, Yuma clapper, mountain plover, Sandhill crane, burrowing owl, pallid bat, California leaf-nosed bat, golden eagle, Colorado Desert fringe-toed lizard, and flat-tailed horned lizard. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. The potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to special status species is considered a less than significant impact pursuant to CEQA.

Impacts to Riparian Habitat or Sensitive Natural Community

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.

The Proposed Action potentially affects three sensitive natural communities including: creosote bush–white bursage scrub, mesquite woodland, and desert wash. Soil disturbance associated with

construction, and operations and maintenance could result in the introduction of non-native invasive plant species that would undermine the habitat quality and integrity of the native plant communities. Through avoidance of those jurisdictional areas with high functional values, CSE is reducing the potential detrimental effects of the project on wildlife and flood attenuation. The project is minimizing the effects of secondary disturbance to endangered species or migratory birds by implementing conservation measures for construction near riparian habitat. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to sensitive native plant communities is considered a less than significant impact pursuant to CEQA.

Impacts to Wetlands

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, filling, hydrological interruption, or other means.

The preliminary estimated impacts to ACOE jurisdictional waters on private lands are not expected to exceed 0.06 acre of fill to manmade systems and 0.01 acre of impacts to jurisdictional habitat on BLM managed lands. The preliminary estimated impacts to CDFG jurisdictional areas on private lands are not expected to exceed 6.14 acres of fill to manmade systems and 0.09 acre of permanent impacts and 0.04 acre of temporary disturbance to CDFG jurisdictional habitat on BLM managed lands. The final determination of impacts to is subject to the ACOE and CDFG during their permit review process.

Compensation for the loss of habitat function will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure BIO-5. The mitigation for permanent impacts is anticipated to be 2:1, and for temporary impacts is anticipated to be 1:1. The final mitigation requirements will ultimately be dictated by the ACOE and CDFG during the permit process. The combination of avoidance, minimization and compensation will render the proposed impacts insignificant. With the implementation of Mitigation Measures BIO-3, BIO-5 and BIO-8 the impact to protected wetlands/waters is considered a less than significant impact pursuant to CEQA.

Interfere with Movement of Native or Migratory Fish and Wildlife Species

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.

The proposed Gen-tie line on BLM land would not inhibit the movement of wildlife in and around the Gen-tie survey area. No fencing or other terrestrial obstruction would be installed in this area. The proposed CSE Facility on private lands will require the installation of a chain link perimeter fence, which would inhibit medium- and large- sized mammals from moving through the CSE Facility while small-sized mammals would not be inhibited from moving through the CSE Facility. However, the installation of the chain link fence would not inhibit any wildlife from their movement through the Yuha Basin. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to wildlife movement is considered a less than significant impact pursuant to CEQA.

Conflict with Local Policies and Ordinances

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Imperial County General Plan Open Space Conservation Policy requires detailed investigations to be conducted to determine the significance, location, extent, and condition of natural resources in the County, and to notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat. In accordance with this policy, the BTR and Addendum (Heritage, 2011a and 2011b) were prepared to determine project impacts on biological resources. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR/EA prior to the County's consideration of any project's approvals.

The Imperial County General Plan Land Use Element Policy notes that the majority of the privately owned land in the County is designated "Agriculture," which is also the predominate area where burrowing owls create habitats, typically in the brims and banks of agricultural fields. This Policy requires a biological survey to be prepared in accordance with the USFWS and CDFG prior to approval of development on such land. In accordance with this policy, the BTR and Addendum (Heritage, 2011a and 2011b) were prepared to determine project impacts on burrowing owl. Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR/EA prior to the County's consideration of any project's approvals.

Implementation of the Proposed Action does not conflict the any local policies or ordinances protecting biological resources. Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that the Proposed Action has a less than significant impact pursuant to CEQA.

Conflict with an Adopted Habitat Conservation Plan

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 Project Area is in an area designed as "Utility Corridor N" in the California Desert Conservation Area (CDCA). The Proposed Action is an allowable use under the CDCA. All proposed impacts to resources discussed in this section are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan. Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that the Proposed Action has a less than significant impact pursuant to CEQA.

4.12.1.2 Alternative 1 – Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 1 are the same as those that would be potentially impacted by the Proposed Action. Construction activities associated with Alternative 1 would impact 1941.89 acres of vegetation (total permanent and temporary), most of which is agricultural. Impacts to special status plants would be limited to potential impacts to the ribbed cryptantha, which is

a CNPS List 4.3 species with limited distribution but is not very endangered in California. Mitigation requirements would be satisfied with mitigation for the wash habitat.

Potential impacts to federal and state listed species include: southwestern willow flycatcher, Yuma clapper, mountain plover, and Sandhill crane. The potential impacts to these species include removal of foraging habitat, noise and lighting, and collision risks. Mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats.

Potential impacts to BLM sensitive wildlife species include: burrowing owl, pallid bat, California leaf-nosed bat, golden eagle, Colorado Desert fringe-toed lizard, and flat-tailed horned lizard. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. Mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats. Potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities. Mitigation is provided to minimize the impacts to the extent possible and compensate as necessary.

Potential impacts to riparian habitat or sensitive natural communities include: creosote bush–white bursage scrub, mesquite woodland, and desert wash vegetation. These communities are considered sensitive whether or not they have been disturbed. The potential impacts to these sensitive natural communities are limited; however, these impacts require mitigation to offset this impact to sensitive habitats.

Potential impacts to wildlife movement corridors would be limited to a chain link perimeter fence that will surround the proposed CSE Facility on private lands. The chain link fence will allow small mammals and reptiles to move freely through the site, although medium- and large- sized mammals will not be able to move through the CSE Facility, it should not inhibit their movement through the Yuha Basin. Wildlife movement would not be inhibited on BLM land.

The Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

Decommissioning activities would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the reclamation plan would convert the project site back to foraging habitat for special status wildlife species.

B. CEQA Significance Determinations

The impacts of this alternative are effectively the same as the Proposed Action.

Impacts to Candidate, Sensitive, or Special Status Species

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.

Like the Proposed Action, this alternative could adversely affect special status avian and reptile species. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. The potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to special status species is considered a less than significant impact pursuant to CEQA.

Impacts to Riparian Habitat or Sensitive Natural Community

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.

Like the Proposed Action, this alternative could potentially affect three sensitive natural communities With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to sensitive native plant communities is considered a less than significant impact pursuant to CEQA.

Impacts to Wetlands

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, filling, hydrological interruption, or other means.

Like the Proposed Action, this alternative could potentially impact federal and state protected wetlands/waters. Mitigation Measure BIO-5 requires compensatory mitigation for the permanent and temporary impacts. The final mitigation requirements will ultimately be dictated by the ACOE and CDFG during the permit process. With the implementation of Mitigation Measure BIO-5 the impact to protected wetlands/waters is considered a less than significant impact pursuant to CEQA.

Interfere with Movement of Native or Migratory Fish and Wildlife Species

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.

Like the Proposed Action, the potential for this alternative to interfere with wildlife movement is limited to the chain link perimeter fence that is proposed to be installed around the CSE Facility. The installation of the chain link fence would not inhibit any wildlife from their movement through the Yuha Basin. With the implementation of Measures BIO-1 through BIO-8 the impact to wildlife movement is considered a less than significant impact pursuant to CEQA.

Conflict with Local Policies and Ordinances

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Like the Proposed Action, this alternative does not conflict with local policies or ordinances protecting biological resources. Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

Conflict with an Adopted Habitat Conservation Plan

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.

Like the Proposed Action, this alternative does not conflict with the California Desert Conservation Area (CDCA). Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

4.12.1.3 ALTERNATIVE 2 - REDUCED CSE FACILITY SITE

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 2 are same as those that would be potentially impacted by the Proposed Action; however, this alternative would result in the loss of 1,606.88 acres of vegetation, as opposed to 1,941.89 acres under the Proposed Action. This is a reduction of 335 acres of impacted vegetation, all of which is agricultural land that serves as foraging habitat for wildlife.

Potential Impacts to special status plants would be limited to potential impacts to the ribbed cryptantha, which is a CNPS List 4.3 species with limited distribution but is not very endangered in California. Mitigation requirements would be satisfied with mitigation for the wash habitat.

Potential impacts to federal and state listed species include: southwestern willow flycatcher, Yuma clapper, mountain plover, and Sandhill crane. The potential impacts to these species include removal of foraging habitat, noise and lighting, and collision risks. The potential impacts under this alternative would be less compared to the Proposed Action; however, there will remain a potential for impacts and mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats.

Potential impacts to BLM sensitive wildlife species include: burrowing owl, pallid bat, California leaf-nosed bat, golden eagle, Colorado Desert fringe-toed lizard, and flat-tailed horned lizard. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. The potential impacts under this alternative would be less compared to the Proposed Action; however, there will remain a potential for impacts and mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats. Potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or

harassment of individuals during construction and operations and maintenance activities. Mitigation is provided to minimize the impacts to the extent possible and compensate as necessary.

Potential impacts to riparian habitat or sensitive natural communities include: creosote bush–white bursage scrub, mesquite woodland, and desert wash vegetation. These communities are considered sensitive whether or not they have been disturbed. The potential impacts to these sensitive natural communities are limited; however, these impacts require mitigation to offset this impact to sensitive habitats.

Potential impacts to wildlife movement corridors would be limited to a chain link perimeter fence that will surround the proposed CSE Facility on private lands. The chain link fence will allow small mammals and reptiles to move freely through the site, although medium- and large- sized mammals will not be able to move through the CSE Facility, it should not inhibit their movement through the Yuha Basin. The potential impacts under this alternative would be less compared to the Proposed Action. Wildlife movement would not be inhibited on BLM land.

The Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

Decommissioning activities would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the reclamation plan would convert the project site back to foraging habitat for special status wildlife species.

B. CEQA Significance Determinations

Impacts to Candidate, Sensitive, or Special Status Species

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.

Like the Proposed Action, this alternative could adversely affect special status avian and reptile species. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. Relative to the Proposed Action, this alternative would impact less foraging habitat for special status avian species as a result of eliminating 335 acres from the Project Area. The potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to special status species is considered a less than significant impact pursuant to CEQA.

Impacts to Riparian Habitat or Sensitive Natural Community

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.

Like the Proposed Action, this alternative could potentially affect three sensitive natural communities With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to sensitive native plant communities is considered a less than significant impact pursuant to CEQA.

Impacts to Wetlands

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.

Like the Proposed Action, this alternative could potentially impact federal and state protected wetlands/waters. Mitigation Measure BIO-5 requires compensatory mitigation for the permanent and temporary impacts. The final mitigation requirements will ultimately be dictated by the ACOE and CDFG during the permit process. With the implementation of Mitigation Measure BIO-5 the impact to protected wetlands/waters is considered a less than significant impact pursuant to CEQA.

Interfere with Movement of Native or Migratory Fish and Wildlife Species

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.

Like the Proposed Action, the potential for this alternative to interfere with wildlife movement is limited to the chain link perimeter fence that is proposed to be installed around the CSE Facility. Relative to the Proposed Action, this alternative would impact less wildlife movement as a result of eliminating 335 acres from the Project Area. However, the installation of the chain link fence would not inhibit any wildlife from their movement through the Yuha Basin. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to wildlife movement is considered a less than significant impact pursuant to CEQA.

Conflict with Local Policies and Ordinances

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Like the Proposed Action, this alternative does not conflict with local policies or ordinances protecting biological resources. Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

Conflict with an Adopted Habitat Conservation Plan

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.

Like the Proposed Action, this alternative does not conflict with the California Desert Conservation Area (CDCA). Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

4.12.3.3 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

The biological resources potentially affected by Alternative 3 are similar to those that would be potentially impacted by the Proposed Action; however, this alternative would result in the loss of 1,937.56 acres of vegetation, as opposed to 1,941.89 acres under the Proposed Action. This is a reduction of 4.33 acres of impacted vegetation, all of which is BLM land.

Potential Impacts to special status plants would be limited to potential impacts to the ribbed cryptantha, which is a CNPS List 4.3 species with limited distribution but is not very endangered in California. Mitigation requirements would be satisfied with mitigation for the wash habitat.

Potential impacts to federal and state listed species include: southwestern willow flycatcher, Yuma clapper, mountain plover, and Sandhill crane. The potential impacts to these species include removal of foraging habitat, noise and lighting, and collision risks. Mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats.

Potential impacts to BLM sensitive wildlife species include: burrowing owl, pallid bat, California leaf-nosed bat, golden eagle, Colorado Desert fringe-toed lizard, and flat-tailed horned lizard. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. Mitigation is provided to minimize the impacts. This includes he Avian and Bat Protection Plan, which will provide guidance designed to minimize disturbance and avoid project related impacts to migration and other important avian habitats. The potential impacts to the reptile species under this alternative would include the loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities; however, the impacts would be less compared to the Proposed Action because this alternative will result in less grading and eliminate the need for 11 transmission towers. As such, the potential for direct mortality, injury, or harassment of individuals during construction and operations and maintenance activities is reduced. There will remain a potential for impacts and mitigation is provided to minimize the impacts to the extent possible and compensate as necessary.

Potential impacts to riparian habitat or sensitive natural communities include: creosote bush–white bursage scrub, mesquite woodland, and desert wash vegetation. These communities are considered sensitive whether or not they have been disturbed. The potential impacts to these sensitive natural communities are limited; however, these impacts require mitigation to offset this impact to sensitive habitats.

Potential impacts to wildlife movement corridors would be limited to a chain link perimeter fence that will surround the proposed CSE Facility on private lands. The chain link fence will allow small mammals and reptiles to move freely through the site, although medium- and large- sized mammals will not be able to move through the CSE Facility, it should not inhibit their movement through the Yuha Basin. Wildlife movement would not be inhibited on BLM lands under this alternative.

The Potential impacts to resources under this alternative are in conformance with the CDCA and maintain the integrity and intent of the Conservation Plan.

Decommissioning activities would involve the implementation of a reclamation plan, which would involve activities for returning the project site to a condition that supports agricultural production at the end of the operational life of the alternative. The implementation of the reclamation plan would convert the project site back to foraging habitat for special status wildlife species.

B. CEQA Significance Determinations

Impacts to Candidate, Sensitive, or Special Status Species

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.

Like the Proposed Action, this alternative could adversely affect special status avian and reptile species. The potential impacts to the avian species include removal of foraging habitat, noise and lighting, and collision risks. The potential impacts to the reptile species include loss of habitat during construction, and direct mortality, injury or harassment of individuals during construction and operations and maintenance activities. Relative to the Proposed Action, this alternative would reduce the potential to impact special status reptile species because this alternative will result in less grading and eliminate the need for 11 transmission towers. As such, the potential for direct mortality, injury, or harassment of individuals during construction and operations and maintenance activities is reduced. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to special status species is considered a less than significant impact pursuant to CEQA.

Impacts to Riparian Habitat or Sensitive Natural Community

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.

Like the Proposed Action, this alternative could potentially affect three sensitive natural communities With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to sensitive native plant communities is considered a less than significant impact pursuant to CEQA.

Impacts to Wetlands

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.

Like the Proposed Action, this alternative could potentially impact federal and state protected wetlands/waters. Mitigation Measure BIO-5 requires compensatory mitigation for the permanent and temporary impacts. The final mitigation requirements will ultimately be dictated by the ACOE and CDFG during the permit process. With the implementation of Mitigation Measure BIO-5 the impact to protected wetlands/waters is considered a less than significant impact pursuant to CEQA.

Interfere with Movement of Native or Migratory Fish and Wildlife Species

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.

Like the Proposed Action, the potential for this alternative to interfere with wildlife movement is limited to the chain link perimeter fence that is proposed to be installed around the CSE Facility. The installation of the chain link fence would not inhibit any wildlife from their movement through the Yuha Basin. With the implementation of Mitigation Measures BIO-1 through BIO-8 the impact to wildlife movement is considered a less than significant impact pursuant to CEQA.

Conflict with Local Policies and Ordinances

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Like the Proposed Action, this alternative does not conflict with local policies or ordinances protecting biological resources. Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

Conflict with an Adopted Habitat Conservation Plan

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.

Like the Proposed Action, this alternative does not conflict with the California Desert Conservation Area (CDCA). Mitigation Measures BIO-1 through BIO-8 will ensure consistency and ensure that this alternative has a less than significant impact pursuant to CEQA.

4.12.3.4 Alternative 4 - No Action/No Project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Under Alternative 4 there would be no construction, operation, maintenance, or decommissioning activities under this alternative; therefore there would be no potential for direct or indirect impacts to biological resources.

B. CEQA Significance Determinations

Under Alternative 4 there would be no effect on biological resources.

4.12.4 MITIGATION MEASURES

A number of general measures, designed to reduce potential indirect impact to resources in the Project Area as well as restore and/or improve the quality of habitat in the Project Area, will be implemented after construction as standard operation and maintenance protocols. Similarly, mitigation measures for specific sensitive biological resources should be implemented to reduce the potential direct and indirect impacts of project implementation.

The following mitigation measures have been identified to reduce the biological resources impacts associated with the Proposed Action, Alternative 1- Double Circuit Gen-tie Line Structures, Alternative 2- Reduced CSE Facility Site, or Alternative 3- Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing.

BIO-1 Vegetation Communities

Mitigation for permanent and temporary impacts to creosote bush-white burr sage scrub, arrow weed scrub, arrow weed scrub/tamarisk scrub, tamarisk scrub, big salt bush scrub, bush seepweed scrub, palo verde woodland, mesquite woodland, mesquite-catclaw scrub, mesquite bosque, encelia-white bursage wash scrub, ephedra-encelia wash scrub, smoke tree wash scrub and white bursage scrub shall be accomplished through required mitigation acres. Table 7 from the BTR describes the proposed impacts to each vegetation community. (The BTR is provided on the attached CD of Technical Appendices as **Appendix J** of this EIR/EA). All native habitats in the project area are considered potentially suitable flat-tailed horned lizard habitat and are within a designated management area. As such, disturbance to these habitats will be mitigated at a 6:1 ratio (see BIO-5). Thus, disturbance to native vegetation communities will not require unique mitigation but will rely on the requirements of mitigation measure BIO-5.

BIO-2 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 gen-tie line 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). 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).

BIO-3 Burrowing Owl

Burrowing owls are known to occur in and along the active agricultural fields within the proposed CSE facility site. The following measures will avoid, minimize, or mitigate potential impact to burrowing owl during construction activities:

1) To the extent practicable, initial grading and clearing within the project footprint should take place between September 1 and January 31 to avoid impacts to any breeding burrowing owls. Occupied burrows shall not be removed during the nesting season (February 1 through August 31) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either (a) the birds have not begun egg-laying and incubation; or (b) that juveniles from the occupied burrows are foraging independently and are capable of independent survival. If initial grading and clearing within the project footprint is to begin during the breeding season (February 1 through August 31), the following measures (#2 through #4 below) will be implemented.

2) Within 30-days prior to initiation of initial grading and clearing, 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 grading area. The proposed grading areas shall be clearly demarcated in the field or via GPS 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) When removal of occupied burrows is unavoidable, the following mitigation measures shall be implemented outside of the breeding season. Passive relocation methods are to be used by the biological monitors to move the owls out of the impact zone. 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 excavation of the burrow can begin. The burrows should then be excavated and filled in to prevent their reuse. The removal of active burrows on-site requires construction of new burrows or the enhancement of existing unsuitable burrows (i.e., enlargement or clearing of debris) 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.

4) As the project construction schedule and details are finalized, an approved biologist shall ensure that the BUOW Mitigation and Monitoring Plan will be updated and 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.

5) These measures shall be implemented, if passive relocation of some burrows are determined to be an unfavorable alternative for BUOW and occupied burrows are near construction activities: During the BUOW nesting season (February 1 to August 31), the qualified biologist shall establish and mark a 250 foot non-disturbance buffer circle around the burrow. The buffer shall be staked and roped-off prior to initiating any construction activity. No activity shall take place within the avoidance buffer area to ensure that disturbance to nesting birds does not occur. Any disturbance to nesting BUOW would require prior consultation, approval and mitigation in accordance with California Fish and Game requirements. .

6) Disturbing nesting BUOW that may cause changes of behavior, plugging the burrow entrance or causing the burrow to collapse could effectively destroy the nest, and as such, require a State permit.

7) If an active, non-breeding BUOW burrow is detected during preconstruction surveys, prior to onsite construction related activities, the qualified biologist shall establish and flag an avoidance buffer circle around the burrow area at a 160-foot radius.

Compensation

Consultation with CDFG intended to determine the amount and conditions of compensatory mitigation for foraging habitat lost as a result of project implementation is currently ongoing. The applicant is currently preparing a compensatory mitigation plan that includes on-site mitigation. Consultation with CDFG regarding on-site mitigation is ongoing and agency approval of the project Burrowing Owl Mitigation Plan would be required before the start of construction. If on-site mitigation is not possible, the applicant would mitigate for impacts to foraging habitat either through the National Fish and Wildlife Foundation's Impact-Directed Environmental Accounts program or independent acquisition of like habitat. Exact mitigation acreages will be determined in consultation with CDFG in accordance with the CDFG Staff Report Guidelines on Burrowing Owl Mitigation (1995).

BIO-4 General O&M

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. 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 Gen-tie Line access roads and unpaved roads within the solar energy facility will not exceed 15 miles per hour. Gen-tie line 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 CSE Facility 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. Species requiring reporting will be decided in consultation with the BLM and USFWS and will be detailed in the Wildlife Mortality Reporting Program.
    - A Raven Control Plan shall be implemented that details specific measures for storage and disposal of all litter and trash produced by the CSE 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 shall be prohibited. This plan will be approved by the BLM and CDFG.
    - A Weed Management Plan shall be 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 Site Reclamation and Revegetation Plan, and will be approved by the BLM.
    - A Wildlife Mortality Reporting Program shall be 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 Gen-tie Line. An appropriate reporting format for dead or injured special status wildlife observed within the solar energy facility and along the Gen-tie 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 Gen-tie line will follow the existing USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov/). Species requiring reporting will be decided in consultation with the BLM and USFWS.
    - An Avian and Bat Protection Plan (ABPP) shall be implemented that outlines 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.

BIO-5 Flat-tailed Horned Lizard

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 Gen-tie Line and within the creosote bush-white burr sage scrub and other native vegetation types in the Gen-tie line ROW:

1) Prior to ground-disturbing activities, an individual shall be designated and approved by the BLM as the Designated Biologist1 (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 at least 14 calendar days before initiating ground disturbing activities.
    - Immediately notify BLM's Authorized Officer 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.

[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.

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, 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 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) shall 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 shall be removed from harm's way during all construction activities, per mitigation measure #6 below. 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 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 Mitigation Measure #1 above, will be submitted to the BLM.

6) The removal of FTHLs out of harm's way shall 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 Gen-tie Line construction and staging areas, will be revegetated according to the Site Reclamation and Revegetation Plan (SRRP) approved by the BLM. The SRRP must be approved in writing by the BLM prior to any vegetation-disturbing activities. Restoration involves recontouring the land, replacing the topsoil (if it was collected), 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 SRRP will typically 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

To reduce the potential impact to FTHL during O&M, the following will be implemented when conducting O&M along the Gen-tie line:

1) At least 15 days prior to the commencement of construction and within 15 days following completion of construction activities, the Designated Biologist will provide the BLM a 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.
2) 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 access roads within suitable FTHL habitat. 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 within suitable FTHL habitat must remain on the designated access/maintenance roads. Cross country vehicle and equipment use outside of designated work areas in suitable FTHL habitat shall be prohibited.
   - O&M activities occurring within suitable FTHL habitat including 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 within suitable FTHL habitat, 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. FTHL are known to occur in the native vegetation along the proposed Gen-tie ROW. In accordance with the Rangewide Management Strategy, compensation for permanent impact to this habitat within the Yuha Desert FTHL MA will be at a 6:1 ratio. Acreages of proposed disturbance to FTHL habitat by alternative can be found in Table 8 of the BTR.

No mitigation for FTHL is required for the active agricultural land within the CSE solar energy facility or the Gen-tie Line on agricultural land, as it does not provide habitat for this species.

BIO-6 Nesting Raptors

Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. To prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures should be implemented:

- To the extent practicable, initial grading and clearing within the project 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.

Operations and Maintenance Mitigation

Mitigation for potential impact to raptors and other avian species due to collision with the proposed Gen-tie line is discussed below in BIO-7 (Mitigation for Migratory Birds and Other Sensitive Non-migratory Bird Species), including the development of an ABPP.

BIO-7 Migratory Birds and Other Sensitive Non-migratory Bird Species

To reduce the potential indirect impact to migratory birds, bats and raptors, an Avian and Bat Protection Plan (ABPP) shall 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 addressed in the ABPP include:

- Minimizing disturbance to vegetation to the maximum extent practicable.
- For the protection of migratory birds, prior to construction, the applicant shall prepare an Avian and Bat Protection Plan (ABPP) for review by the BLM and FWS that will specify the procedures by which: a). Biologists shall conduct a preconstruction migratory bird

nesting survey in the project area that takes place during the breeding season (January 15 through August 15); b) If any active nest is located, the nest area shall be flagged for avoidance, and a 200-foot buffer zone will be delineated, flagged, or otherwise marked; 300-foot buffers shall be established for Federally listed bird nests and 500-foot for nesting raptors; c) No work activity shall occur within this avoidance buffer areas until an approved biologist determines that the fledglings are independent of the nest or has verified nest failure; d) Regular reporting and notification requirements shall be met; e) Buffer reduction under certain warranted circumstances shall be possible following coordination with the Federal and State wildlife agencies based on individual species biology and behavior. This ABPP achieves compliance with the Migratory Bird Act.

- 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.
  - All overhead electric lines shall be designed to be raptor-safe in accordance with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006).
  - For the span of the Gen-tie Line crossing the Westside Main Canal, bird flight diverters shall be installed on the shield wire(s) with spacing in accordance with manufacturer's recommendations.

Operations and Maintenance Measures

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

- Ensure that no project features including evaporation ponds or other impounded structures by covering or enclosing will act as attractive nuisances or entrap wildlife or avian species.
- 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 Gen-tie Line facilities (APLIC 2006).
- Minimize noise
- Minimize use of outdoor lighting.
- Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program

BIO-8 Jurisdictional Waters

The Proposed Action is anticipated to impact up to 6.3 acres of CDFG jurisdictional riparian habitat. Mitigation for permanent impacts to CDFG riparian habitat is typically at a 2:1 ratio, while mitigation for temporary impacts to CDFG riparian habitat is typically at a 1:1 ratio. The Applicant anticipates offsetting these impacts through independent acquisition of compensatory lands or through a combined NFWF contribution for FTHL compensation as detailed in Mitigation Measure B5, or through compensation as detailed in Mitigation Measure B3 replacement for burrowing owl foraging habitat. 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 or burrowing owl compensation 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.

- Minimize project effects on wetlands, streambeds, and stream banks (i.e., California Department of Fish and Game (CDFG) or U.S. Army Corps of Engineers (ACOE) jurisdictional areas) by designing and siting project features outside of these areas to the extent practicable.
- Roads shall be maintained at-grade and built as near as practicable at right angles to streams and washes. Culverts shall be installed where necessary. All construction and maintenance activities shall be conducted in a manner that will minimize disturbance to native vegetation, drainage channels, and intermittent or perennial stream banks. In addition, road construction shall include dust control measures in accordance with local dust control requirements. All existing unmarked roads shall be left in a condition equal to or better than their condition prior to the construction of the electric line.

Mitigation Measures BIO-1 through BIO-8 identified above for the Proposed Action will also be implemented for Alternative 1, 2, or 3.

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

4.12.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of Mitigation Measures BIO-1 through BIO-8 would reduce the impacts to special status species, sensitive natural communities, protected wetlands/waters, wildlife movement, local policy, and conservation plans to a less than significant level under CEQA for the Proposed Action, Alternative 1, 2 or 3.

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

SECTION 4.13
PALEONTOLOGICAL RESOURCES

4.13 PALEONTOLOGICAL RESOURCES

This section examines paleontological resources in the proposed project/Proposed Action area and describes the potential for the Proposed Action or an alternative to impact such resources. The analysis is based on the *Addendum Paleontological Resource Assessment Centinela Solar Energy, LLC, Imperial County, California* prepared by the Department of PaleoServices, San Diego Natural History Museum (hereinafter Addendum) (SDNHM 2011). The Addendum summarizes existing paleontological resource data in the project area and vicinity as identified during a field survey of the alignment through BLM land.

4.13.1 METHODOLOGY FOR ANALYSIS

As described in Section 3.13, subsection 3.13.2, the affected geologic formations were classified based on the relative abundance of vertebrate fossils and significant non-vertebrate fossils using the BLM's Potential Fossil Yield Classification (PFYC) System. PYFC System classes range from 1 to 5, with a higher class indicating a higher potential for a geological deposit to contain fossils. Mitigation measures to protect paleontological resources have been developed in compliance with guidance provided by the BLM in IM 2009-11.

4.13.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. Direct impacts from the Proposed Action or an alternative are primarily related to damage to paleontological resources during construction. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.13.2.1 CEQA SIGNIFICANCE CRITERIA

For the purposes of this EIR/EA, a significant paleontological resources impact under CEQA would occur if implementation of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 -Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping or Alternative 4 -No Action/No Project Alternative would:

1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.13.2.3 NEPA REQUIREMENTS

Evaluation of impacts of the Proposed Action to paleontological resources is based on a review of the Addendum. The intensity of any activity associated with the Proposed Action or Alternative 1, 2 or 3 that would result in destruction of a unique resource would be considered to have an impact on paleontological resources (Note: Alternative 4 is not anticipated to result in any impacts because the Proposed Action would not be constructed). The requirements of NEPA are addressed under the Direct and Indirect Impacts discussions for the Proposed Action (subsection 4.13.3.1, item A) and each action alternative (Alternative 1 [subsection 4.13.3.2, item A], Alternative 2 [subsection 4.13.3.3, item A] or Alternative 3 [subsection 4.13.3.4, item A]).

4.13.3 ENVIRONMENTAL CONSEQUENCES

4.13.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility, and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsection 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Direct impacts to paleontological resources occur when there is physical disturbance or damage to fossils. Examples of direct impacts include earthwork activities such as access roads, tower pad grading operations, and tower foundation borehole drilling operations that cut into geologic deposits (formations) containing fossils. Indirect impacts increase the potential for physical disturbance or damage. Examples include compromising the integrity of a resource through allowing access to the area where it is located; or diminished the features protecting the resource (i.e. reducing protective layers of rock or soils) which could lead to exposure.

Construction

Gen-tie Line

The majority of the Gen-tie Line through BLM land is underlain by previously undisturbed Lake Cahuilla deposits; the remainder of the alignment is underlain by surface or subsurface deposits of Quaternary alluvium, Quaternary older alluvium, and Brawley Formation. These sedimentary rock units are classified as PFYC Class 3 or Class 4 (SDNHM 2011).

Quaternary Lake Cahuilla deposits were determined to have a high potential fossil yield (Class 4) based on previously recorded sites discovered during construction of the Sempra-Intergen transmission line. Most of the recorded sites are within one-half mile of the proposed Gen-tie Line alignment.

Although the vertical extent of the Lake Cahuilla deposits has not been determined for the Gen-tie Line alignment and surrounding area, drilling operations for the Sempra-Intergen transmission line encountered fossil-bearing lake sediments from the surface to depths of at least 25 feet. Additional information from monitoring of the Sempra-Intergen transmission line suggests that the Quaternary

alluvium in the central portion of the north-south Gen-tie Line alignment through BLM land is only 8- to 10-feet thick. Drilling operations through the alluvium would likely encounter underlying fossil-bearing beds of the Lake Cahuilla deposits (SDNHM 2011).

A segment of the Gen-tie Line on BLM land extends along the prehistoric coastline of Lake Cahuilla. Lake deposits are presumed to be thinner in this area than the location of the subsurface soil analysis presented in the preliminary geotechnical report (further from the shoreline in deeper water). Due to the thinner lake deposits, borehole excavations (which may be as deep as 40 feet) to support Gen-tie Line tower structures could impact much older fossil deposits (such as the Palm Spring Group) that underlie the Lake Cahuilla deposits (SDNHM 2011). Therefore, excavation activities associated with development of the Gen-tie Line on previously undisturbed lands managed by the BLM could result in a direct impact to paleontologically sensitive geologic rock units with a high fossil yield potential (Class 4). Mitigation measures PR-1 through PR-5 provide recommendations to protect paleontological resources and avoid adverse direct impacts. Through these measures (e.g., relocation, on-site monitoring), adverse direct impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be avoided during construction of the Proposed Action.

CSE Facility

Direct impacts to paleontological resources on private lands within the CSE Facility site are difficult to evaluate because agricultural activities have disturbed surface deposits in this area to a depth of approximately five feet. Years of on-going disruption soils on private lands in the project area to support agricultural cultivation would have destroyed any paleontological resources that may have been present. . Based on the historical activities on the site, surface excavation activities associated with the Proposed Action (such as access roads, building pads, electrical substation, and solar array support posts) are anticipated to result in no direct impacts (during construction) or indirect impacts (during operations and maintenance) to paleontological sensitive geologic rock units. However, deeper excavation activities associated with the construction of tower structures (20 to 40 feet in depth) on private lands on Lake Cahuilla deposits could result in direct impacts to paleontological sensitive geologic rock units (PYFC Class 4) (SDNHM 2011).

The Applicant has identified Best Management Practices (BMPs) to be implemented during construction to address protocol for handling paleontological resources should they be discovered (refer to Table 2.0-5 in Chapter 2.0).With implementation of these BMPs, direct impacts to paleontological resources would be reduced during construction of the CSE Facility component of the Proposed Action.

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of the Proposed Action. Indirect impacts to paleontological resources during operation and maintenance is anticipated to be low because no major ground disturbing activities or excavations would be anticipated as part of routine maintenance. However, as an added precaution, the Applicant has identified a BMP that calls for staff training on how to identify paleontological resources, and protocols for addressing unanticipated discoveries should they occur during operations and maintenance (refer to Table 2.0-5 in Chapter 2.0).

Decommissioning

When the project reaches the end of its operational life, the project components would be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, would be

removed to a depth of at least four feet below ground level and demolished and driven piles would be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, would be demolished and removed or used onsite for fill as needed. Gravel roads would be removed and the material either used on site for fill or removed. Excavation areas (e.g., road and foundation removal) would be backfilled and restored to an appropriate contour. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measure PR-1 through PR-5 requiring on-site monitoring and other activities to reduce destruction of paleontological resources would have been implemented during construction, no direct (at the time of decommissioning) or indirect (in the future after decommissioning is completed) impacts to paleontological resources within the project area are anticipated during decommissioning of the Proposed Action.

B. CEQA Significance Determination/NEPA Requirements

Destruction of Paleontological Resources

1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

Gen-tie Line

Excavation activities associated with construction of the Gen-tie line on previously undisturbed lands managed by the BLM could directly destroy paleontologically sensitive geologic rock units with high fossil yield potential. Excavations of 20 to 40 feet in depth required in association with tower structure construction on private lands could also result in direct impacts to paleontological sensitive geologic rock units (i.e., Cahuilla Lake deposits) with a high fossil yield potential (Class 4) (SDNHM 2011).Thus, direct impacts to paleontological resources during construction of the Gen-tie Line would be considered potentially significant under CEQA for the Proposed Action. Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources. Through these measures, direct and indirect impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be reduced to less than significant levels under CEQA for the Proposed Action.

CSE Facility

Construction activities on the CSE Facility site would occur over a large area that has been previously disturbed by agricultural activities. Deposits near the ground surface (approximately five feet in depth) have been subject to disking, tilling, and planting for years, effectively compromising any fossil deposits that may have once been present. As with the Gen-tie Line, deeper excavation activities (20 to 40 feet in depth) associated with construction of tower structures on private lands could result in a direct impact to paleontologically sensitive geologic rock units, as any resources at these depths are anticipated to be intact. This is considered a potentially significant impact under CEQA. The Applicant has identified BMPs to be implemented during construction to address protocol for handling paleontological resources should they be discovered (refer to Table 2.0-5 in Chapter 2.0).With implementation of these BMPs, direct and indirect impacts to paleontological resources during construction of the CSE Facility would be reduced to less than significant under CEQA for the Proposed Action.

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of the Proposed Action. Likewise, indirect impacts to paleontological resources during operation and maintenance would be low because no major ground disturbing activities or excavations would be anticipated as part of routine maintenance. Thus, direct and indirect impacts to paleontological resources during operations and maintenance are considered less than significant under CEQA for the Proposed Action.

Decommissioning

When the project reaches the end of its operational life, project components would be decommissioned and deconstructed. Concrete foundations, if used for poles and towers, would be removed to a depth of at least four feet below ground level and demolished; driven piles would be removed from the ground. Other concrete foundations, such as those for buildings and inverter pads, would be demolished and removed or used onsite for fill as needed. Gravel roads would be removed and the material either used on site for fill or removed. Excavation areas (e.g., road and foundation removal) would be backfilled and restored to an appropriate contour. Areas subject to decommissioning would have been disturbed during construction. Likewise, mitigation measures PR-1 through PR-5 would be implemented during construction to address construction-related impacts to paleontological resources. Thus, direct and indirect impacts to paleontological resources during decommissioning are considered less than significant under CEQA for the Proposed Action.

4.13.2.2 Alternative 1 – Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

Gen-tie Line

The Gen-tie Line alignment for Alternative 1 is identical to the Proposed Action. Thus, previous findings and the Gen-tie Line alignment relative to the prehistoric shoreline of Lake Cahuilla indicate that borehole excavation activities (which may extend to depths of 40 feet) could impact much older fossil bearing deposits (e.g., Palm Spring Group) that underlie Lake Cahuilla deposits. Excavation activities associated with construction of the Gen-tie Line on previously disturbed lands managed by the BLM could result in direct impacts to paleontologically sensitive geologic rock units with high fossil yield potential (Class 4). Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources. Through these measures (e.g., relocation, on-site monitoring), any direct impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be reduced during construction of Alternative 1.

CSE Facility

Previous agricultural activities have disturbed surface deposits (approximately 5-feet in depth) on private lands comprising the CSE Facility site. As with the Proposed Action, surface excavation activities associated with construction of Alternative 1 (such as access roads, building pads, electrical substation, and solar array support posts) on private lands are anticipated to result in no direct (at time of construction) or indirect impacts (during operations and maintenance) to paleontologically sensitive geologic rock units (SDNHM 2011). However, the deeper excavation activities associated with construction of tower structures (20 to 40 feet) on private lands could result in a direct impact to paleontologically sensitive geologic rock units (SDNHM 2011).

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of Alternative 1. Indirect impacts to paleontological resources during operation and maintenance is considered low because no major ground disturbing activities or excavations are anticipated for these activities.

Decommissioning

When the project reaches the end of its operational life, the components would be decommissioned and deconstructed. Decommissioning activities for Alternative 1 would be identical to the Proposed Action and could involve removal of concrete foundations and backfilling of excavated areas. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measure PR-1 through PR-5 requiring on-site monitoring and other activities to reduce destruction of paleontological resources would have been implemented during construction, no direct (at the time of decommissioning) or indirect (in the future after decommissioning is completed) impacts to paleontological resources within the project area are anticipated during decommissioning of Alternative 1.

B. CEQA Significance Determination

Destruction of Paleontological Resources

1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

Gen-tie Line

Excavation activities associated with construction of the Gen-tie line on previously disturbed BLM land could result in a direct impact to paleontologically sensitive geologic rock units(Cahuilla Lake deposits) with a high fossil yield potential (Class 4) (SDNHM 2011). Thus, direct impacts to paleontological resources during construction of the Gen-tie Line are considered potentially significant under CEQA for Alternative 1. Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources to less than significant levels under CEQA for Alternative 1.

CSE Facility

Construction activities on the CSE Facility site proposed as part of Alternative 1 would occur over a large area that has been previously disturbed by agricultural activities. Surface deposits (approximately five

feet in depth) have been subject to disking, tilling and planting for years, effectively compromising any fossil deposits that may have once been present. As with the Gen-tie Line, deeper excavation activities associated with construction of tower structures (approximately 20 to 40 feet in depth) on private lands could result in a direct impact to paleontologically sensitive geologic rock units as any resources at these depths are anticipated to be intact. This is considered a potentially significant impact under CEQA.

The Applicant has identified BMPs to be implemented during construction to address protocol for handling paleontological resources should they be discovered (refer to Table 2.0-5 in Chapter 2.0). With implementation of these BMPs, direct and indirect impacts to paleontological resources during construction of the CSE Facility would be reduced to less than significant under CEQA for Alternative 1.

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operations and maintenance of the Proposed Action. Likewise, indirect impacts during operations and maintenance would be low because no major ground disturbing activities or excavations would be anticipated as part of routine maintenance. Thus, direct and indirect impacts to paleontological resources during operations and maintenance are considered less than significant under CEQA for Alternative 1.

Decommissioning

When Alternative 1 reaches the end of its operational life, the components would be decommissioned and deconstructed as described for the Proposed Action. Ground disturbance and excavations would occur to remove existing equipment and foundations throughout the site. These same areas would have been disturbed during construction. Likewise, Mitigation Measures PR-1 through PR-5 would be implemented during construction to address construction-related impacts to paleontological resources. Thus, direct and indirect impacts to paleontological resources during decommissioning are considered less than significant under CEQA for Alternative 1.

4.13.2.3 Alternative 2 – Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

A. Direct and Indirect Impacts

Construction

Gen-tie Line

Previous findings, and the Gen-tie Line alignment, relative to the prehistoric shoreline of Lake Cahuilla, indicate borehole excavation activities (which may extend to depths of 40 feet) could impact much older fossil bearing deposits (e.g., Palm Spring Group) that underlie Lake Cahuilla deposits (SDNHM 2011). Excavation activities associated with construction of the Gen-tie Line on previously disturbed land under the jurisdiction of the BLM could result in direct impacts to paleontologically sensitive geologic rock

units with high fossil yield potential (Class 4). Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources. Through these measures (e.g., relocation, on-site monitoring), any direct impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be reduced during construction of Alternative 2.

CSE Facility

The CSE Facility site proposed as part of Alternative 2 includes 335 fewer acres. However, similar to the Proposed Action, previous agricultural activities have disturbed surface deposits (approximately five feet in depth) on private lands comprising the CSE Facility site. As with the Proposed Action, surface excavation activities associated with construction of Alternative 2 (such as access roads, building pads, electrical substation, and solar array support posts) on private lands are anticipated to result in no direct (at time of construction) or indirect impacts (during operations and maintenance) to paleontologically sensitive geologic rock units (SDNHM 2011). However, the deeper excavation activities associated with construction of tower structures (20 to 40 feet) on private lands could result in a direct impact to paleontologically sensitive geologic rock units (SDNHM 2011).

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of Alternative 2. Indirect impacts during operation and maintenance are anticipated to be low because no major ground disturbing activities or excavations would occur in association with routine maintenance. However, as a precautionary measure, the Applicant has identified a BMP that calls for staff training on how to identify paleontological resources and protocols for addressing unanticipated discoveries should they occur during operations and maintenance (refer to Table 2.0-5 in Chapter 2.0) on private lands that comprise the CSE Facility site.

Decommissioning

When the project reaches the end of its operational life in approximately 30+ years, the components would be decommissioned and deconstructed. Decommissioning activities for Alternative 2would involve dismantling of equipment on 335 fewer acres compared to the Proposed Action. Similar to the Proposed Action, Alternative 2may involve removal of concrete foundations and backfilling of excavated areas. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measure PR-1 through PR-5 requiring on-site monitoring and other activities to reduce destruction of paleontological resources, would have been implemented during construction, no direct (at the time of decommissioning) or indirect (in the future after decommissioning is completed) impacts to paleontological resources within the project area would be anticipated during decommissioning of Alternative 2.

B. CEQA Significance Determination

Destruction of Paleontological Resources

1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

Gen-tie Line

Any Gen-tie Line alignment selected for Alternative 2 would include a portion extending through BLM land. Thus, previous findings and the Gen-tie Line alignment relative to the prehistoric shoreline of Lake Cahuilla indicate that borehole excavation activities (which may extend to depths of 40 feet) could impact much older fossil bearing deposits (e.g., Palm Spring Group) that underlie Lake Cahuilla deposits (SDNHM 2011). Excavation activities associated with construction of the Gen-tie Line on previously disturbed lands managed by the BLM could result in direct impacts to paleontologically sensitive geologic rock units with a high fossil yield potential (Class 4). Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources. Through these measures, direct and indirect impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be reduced to less than significant levels under CEQA for Alternative 2.

CSE Facility

The CSE Facility site proposed as part of Alternative 2 includes 335 fewer acres. However, similar to the Proposed Action, previous agricultural activities have disturbed deposits buried near the ground surface (approximately five feet in depth) on private lands comprising the CSE Facility site. As with the Proposed Action, surface excavation activities associated with construction of Alternative 2 (such as access roads, building pads, electrical substation, and solar array support posts) on private lands are anticipated to result in no direct (at time of construction) or indirect impacts (during operations and maintenance) to paleontologically sensitive geologic rock units (SDNHM 2011). However, deeper excavation activities associated with construction of tower structures (20 to 40 feet) on private lands could directly impact to paleontologically sensitive geologic rock units (SDNHM 2011).

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of Alternative 2. Indirect impacts to paleontological resources during operation and maintenance are anticipated to be low because no major ground disturbing activities or excavations would be anticipated in association with routine maintenance. However, as a precautionary measure, the Applicant has identified a BMP that would require staff training on how to identify paleontological resources, and protocols for addressing unanticipated discoveries should they occur during operations and maintenance (refer to Table 2.0-5 in Chapter 2.0). Therefore, impacts to paleontological resources during operations and maintenance of Alternative 2 are considered less than significant under CEQA.

Decommissioning

When the project reaches the end of its operational life in about 30 years, the components would be decommissioned and deconstructed. Decommissioning activities for Alternative 2 would involve dismantling of equipment on 335 fewer acres compared to the Proposed Action. Similar to the Proposed Action, Alternative 2may involve removal of concrete foundations and backfilling of excavated areas. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measures PR-1 through PR-5 would be implemented during construction to address construction-related impacts to paleontological resources, direct and indirect impacts to paleontological resources during decommissioning are considered less than significant under CEQA for Alternative 2.

4.13.1.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

A. Direct and Indirect Impacts

<u>Construction</u>

Gen-tie Line

The Gen-tie Line alignment for Alternative 3 follows a similar, but shorter, alignment compared to the Proposed Action. Alternative 3 proposes two approximately 2.5 mile-long 230-kV electric lines on new double-circuit towers generally extending west from the Ring Bus to the radial SDG&E line Approximately 1.25 miles of this segment would be on BLM land (refer to Figure 2.0-37 in Chapter 2.0). Alternative 3 would require 11 fewer towers on BLM land. Previous findings, and the Gen-tie Line alignment relative to the prehistoric shoreline of Lake Cahuilla, indicate borehole excavation activities (which may extend to depths of 40 feet) could impact much older fossil bearing deposits (e.g., Palm Spring Group) underlying Lake Cahuilla deposits (SDNHM 2011). Thus, excavation activities associated with construction of the Gen-tie Line on previously disturbed BLM land managed by the BLM could result in direct impacts to paleontologically sensitive geologic rock units with high fossil yield potential (Class 4).

Mitigation Measures PR-1 through PR-5provide recommendations to reduce impacts to paleontological resources. Through these measures (e.g., relocation, on-site monitoring), any direct impacts to paleontological resources within the Gen-tie Line segment on BLM lands would be reduced during construction of Alternative 3. However, because Alternative 3 would eliminate approximately 3 miles of new tower structures native desert lands managed by the BLM, the overall extent of disturbance of paleontological resources would be less compared to the Proposed Action or Alternative 1.

CSE Facility

The CSE Facility site proposed as part of Alternative 3 involves the same parcels as the Proposed Project. However, Alternative 3 also includes disturbance associated with construction of a 450 foot by 350 foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. The area proposed for the Ring Bus, along with the rest of the CSE Facility site, has been subject to agricultural activities that have disturbed surface deposits (approximately five feet in depth). As with the Proposed

Action, surface excavation activities associated with construction of Alternative 3 (such as access roads, building pads, electrical substation, solar array support posts, Ring Bus) on private lands are anticipated to result in no direct (at time of construction) or indirect impacts (during operations and maintenance) to paleontologically sensitive geologic rock units (SDNHM 2011). However, deeper excavation activities associated with construction of tower structures (20 to 40 feet) on private lands could directly impact paleontologically sensitive geologic rock units (SDNHM 2011).

Operations and Maintenance

No direct impacts to paleontological resources are anticipated in association with operation and maintenance of Alternative 3. Indirect impacts resulting from operation and maintenance activities are anticipated to be low because no major ground disturbing activities or excavations are anticipated during regular maintenance. However, as a precautionary measure, the Applicant has identified a BMP that calls for staff training on how to identify paleontological resources, and protocols for addressing unanticipated discoveries should they occur during operations and maintenance activities (refer to Table 2.0-5 in Chapter 2.0).

Decommissioning

When the project reaches the end of its operational life in about30 years, the components would be decommissioned and deconstructed. Decommissioning activities for Alternative 3would involve dismantling of more equipment on the CSE Facility site (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house comprising the Ring Bus) and approximately three miles less of new tower structures on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

Similar to the Proposed Action, Alternative 3could involve removal of concrete foundations and backfilling of excavated areas. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measures PR-1 through PR-5, that would require on-site monitoring and other activities to reduce destruction of paleontological resources, would have been implemented during construction, no direct (at the time of decommissioning) or indirect (in the future after decommissioning would be completed) impacts to paleontological resources within the project area would be anticipated during decommissioning of Alternative 3.

B. CEQA Significance Determination

Destruction of Paleontological Resources

1) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

Gen-tie Line

The Gen-tie Line proposed as part of Alternative 3 would follow a similar, but shorter, alignment compared to the Proposed Action. Alternative 3 proposes two approximately 2.5 mile-long 230-kV electric lines on new double-circuit towers generally extending west from the Ring Bus to the radial SDG&E line. Approximately 1.2 miles of this segment would be on BLM land (refer to Figure 2.0-37 in Chapter 2.0). Alternative 3 would include approximately three miles less of new tower structures on BLM land. Excavation activities associated with construction of the Gen-tie line on previously disturbed BLM land could result in direct impacts to paleontologically sensitive geologic rock units (Lake Cahuilla

deposits) with a high fossil yield potential (Class 4). Excavations of 20 to 40 feet in depth required in association with construction of tower structures on private lands could result in a direct impact to paleontologically sensitive geologic rock units (SDNHM 2011).Thus, direct impacts to paleontological resources during construction of the Gen-tie Line are considered potentially significant under CEQA for Alternative 3.

CSE Facility

The CSE Facility site for both Alternative 3 and the Proposed Action are identical. However, Alternative 3 also includes a 450-foot by 350-foot electric switch yard using a four-breaker Ring Bus on the western edge of the CSE Facility site. Deposits buried near the ground surface (approximately five feet in depth) on the CSE Facility site parcels have been subject to disking, tilling and planting for years, effectively compromising any fossil deposits that may have once been present. As with the Gen-tie Line, deeper excavation activities associated with construction of tower structures (20 to 40 feet) on private lands could result in a direct impact to paleontologically sensitive geologic rock units as any resources at these depths are anticipated to be intact. This is considered a potentially significant impact under CEQA.

The Applicant has identified BMPs to be implemented during construction to address protocol for handling paleontological resources should they be discovered. The BMPs include training construction workers on identification of resources, and protocols for addressing unanticipated discoveries, and ceasing all grading or excavating activities if suspected paleontological materials are discovered. The find shall be left undisturbed until a qualified professional paleontologist would be contacted to evaluate the discovery and make recommendations as to significance, disposition, mitigation, and/or salvage (refer to Table 2.0-5 in Chapter 2.0). Through implementation of Applicant-identified BMPs (refer to Table 2.0-5 in Chapter 2.0), direct and indirect impacts to paleontological resources during construction of the CSE Facility would be reduced to less than significant under CEQA for Alternative 3.

Operations and Maintenance

No direct impacts to paleontological resources would be anticipated in association with operation and maintenance of Alternative 3. Likewise, indirect impacts to paleontological resources resulting from operation and maintenance activities would be low because no major ground disturbing activities or excavations would be anticipated during routine maintenance. Thus, direct and indirect impacts to paleontological resources during operations and maintenance are considered less than significant under CEQA for Alternative 3.

Decommissioning

When the project reaches the end of its operational life in about 30 years, the components of Alternative 3wouldbe decommissioned and deconstructed. Alternative 3 would include dismantling of slightly different amounts of equipment on private lands and BLM land compared to the Proposed Action. Slightly more equipment would require dismantling on the private lands in association with the addition of the Ring Bus (high-voltage circuit breakers, meters, disconnect switches, lightning arresters, overhead shield wires, lightning masts, electrical control house), while 11 fewer towers would require dismantling BLM land. Similar to the Proposed Action, Alternative 3 would also require removal of concrete foundations to a depth of at least four feet, and backfilling of excavated areas. Because areas subject to decommissioning would have been disturbed during construction, and Mitigation Measures PR-1 through PR-5 would be implemented during construction to address construction-related impacts to paleontological resources, direct and indirect impacts to paleontological resources during decommissioning are considered less than significant under CEQA for Alternative 2.

4.13.1.5 Alternative 4 - No Action/No Project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under Alternative 4, the BLM would not grant a right-of-way, and Imperial County would not approve a CUP or variance for the Proposed Action. As a result, no solar energy project would be constructed on county lands, and the project site would remain in agricultural production. No tower structures to support a gen-tie line in association with the Proposed Action would occur on BLM land. No direct impacts to paleontological resources would occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct impacts to paleontological resources associated with operations and maintenance of the Proposed Action would occur.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct impacts to paleontological resources under would occur.

B. CEQA Significance Determinations/NEPA Requirements

Construction

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed. Agricultural operations would continue on the project site and no Williamson Act Contracts would need to be cancelled. No direct or indirect impacts to paleontological resources under CEQA would occur.

Operation and Maintenance

Under Alternative 4, the solar energy project identified as the Proposed Action would not be operated or maintained. Agricultural operations would continue on the project site and no Williamson Act Contracts would need to be cancelled. No direct or indirect impacts to paleontological resources under CEQA would occur.

Decommissioning

Under Alternative 4, the solar energy project identified as the Proposed Action would not be constructed; therefore, decommissioning would not be required. No direct or indirect impacts to paleontological resources under CEQA would occur.

4.13.4 Mitigation Measures

The following mitigation measures have been identified to address impacts to paleontological resources associated with the Proposed Action and Alternatives 1, 2 and 3:

PR-1 Based on results from the field survey conducted on July 6, 2011, 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 Addendum (SDNHM, 2011) for survey findings and any mitigation recommendations. If no further mitigation is needed, the Authorized Officer will promptly notify the Applicant that no additional paleontological surveys or mitigation measures will be 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 Applicant would 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 Applicant. 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.

- 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 Applicant. 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.

- 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 Applicant. 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 Applicant 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.

PR-2 Based on the field survey and reporting results identified in Mitigation Measure PR-1, a Monitoring Plan shall be developed and implemented (if required).

A monitoring plan can be developed by a BLM paleontologist or a qualified paleontologist hired by the Applicant. 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: a) on-site, performed during ongoing operations, and b) spot-checks, performed during or after disturbance, or at key times during the progress of the project.

   a. 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 Applicant 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 micro-vertebrate fossils or other analyses. Activities planned to occur during nighttime 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.

   b. Spot-checking – In areas with a moderate to high probability for unknown fossil material, it may be more appropriate to check only at key times rather than maintain continuous monitoring of operations. Key times for scheduling spot-checking are when the fossil-bearing bedrock is exposed to view or prior to placing spoil material back into the excavation. Spot-checking requires close coordination with the Applicant and the paleontologist, and usually requires the paleontologist to be available on short notice.

The paleontologist shall report areas potentially containing fossils 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 Applicant and the BLM.

2. Field Agent – Other qualified paleontologists may perform field work independently of the PIunder 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 outfield work" (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. Fieldwork results must be reported to the PI, who will then submit required reports.

3. Field Monitor – Field Monitors may be used 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 used 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 used 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.

PR-3 Upon completion of all field work, the PI must submit within 30days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. A copy of the report may be provided to the Applicant if required, but without the BLM Locality forms. Reports must include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources", as applicable.

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

PR-4 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 Applicant 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 Applicant 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 Applicant will not be held responsible for completion of any research project. However, the Applicant can choose to sponsor further research. A separate research permit will be required for additional research activities.

PR-5 Fossil specimens and related data collected from BLM land 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.

Implementation of Alternative 4 - No Action/No Project would not result in a significant paleontological resources impact under CEQA because the proposed project would not be developed. Therefore, no mitigation is required for this Alternative.

4.13.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of Mitigation Measures PR-1 through PR-5 would reduce potential for construction-related impacts to significant paleontological resources. Impacts after mitigation would be reduced to less than significant for the Proposed Action, Alternative 1, Alternative 2 and Alternative 3. No field surveys are required on federal or private lands within Imperial County. This determination was made because bedrock outcrops on BLM land is almost entirely obscured by existing surface soils and alluvium making it unlikely that fossil material would be visible during a survey. Field survey on private lands were likewise not needed because previous agricultural activities have disturbed surface deposits also making it unlikely that fossil material would be visible at the ground surface.

SECTION 4.14
ENVIRONMENTAL JUSTICE

4.14 ENVIRONMENTAL JUSTICE

This section discusses the potential for the proposed project to result in significant adverse impacts in regards to environmental justice.

4.14.1 METHODOLOGY FOR ANALYSIS

The analysis of the impacts of the Proposed Action on environmental justice issues follows guidelines described in the Council on Environmental Quality's (CEQ's) Environmental Justice Guidance under the National Environmental Policy Act (CEQ 1997). To determine whether an adverse and significant project impact has issues in environmental justice, the approach to the analysis considers two factors: 1) assessment of whether impacts associated with construction and operation of the Proposed Action would result in a high potential for adverse environmental impacts, and 2) if, for impacts that are high and adverse, determination as to whether these impacts would disproportionately affect minority and low-income populations.

Implementation of the Proposed Action, including the construction, operation, and decommissioning phases, would have an environmental justice impact if any adverse health and environmental effects resulting from any phase of the Proposed Action were significantly high. If the analysis determines that health and environmental impacts on the general population are not significant, no disproportionate impacts affect minority and low-income populations. If impacts are significant, disproportionality would be determined by comparing the proximity of any high and adverse impacts to the location of low-income and minority populations.

Demographic data issued by the US Department of Census was used to determine the minority and low-income populations present in the area affected by the Proposed Action, as described in Section 3.14. For impacts that are relatively local to the project site, Census Tract 119 is considered the affected area. For impacts that are more regional in nature, Imperial County is considered the affected area. Project construction effects are considered in light of the County workforce population that may be affected, as well as a larger regional workforce that may commute from San Diego, Riverside, and San Bernardino Counties to work at the project site (e.g., up to a two hour commute time).

4.14.2 CEQA SIGNIFICANCE CRITERIA/NEPA REQUIREMENTS

As noted in subsection 1.12 of Chapter 1.0, the Proposed Action appeared to have the potential to impact numerous resources based upon a preliminary scoping, findings of the Initial Study, and consultation with BLM. Visual Resources, Land Use and Special Designations, Transportation and Circulation, Air Quality, Greenhouse Gas Emissions/Climate Change, Geology and Soils, Cultural Resources, Noise, Agricultural Resources, Hazards and Hazardous Materials, Hydrology and Water Quality, Biological Resources, Paleontological Resources, Environmental Justice, and Recreation were all identified as resource areas that would be potentially impacted, and thus are the focus of this EIR/EA. The existing environmental conditions for each of these resource areas are described in Chapter 3.0 to provide the basis for the impact analysis in Sections 4.1 through 4.15 of Chapter 4.0.

For purposes of the analysis, the CEQA Significance Determinations and NEPA Requirements are discussed concurrently where applicable (i.e. with regard to CEQA Guidelines criterion). For NEPA disclosure, the impact analysis is referring to the Proposed Action or an Alternative. Environmental Justice, while not an effect with regard to the natural environment, requires analysis as part of the NEPA Process under Executive Order (EO) 12898.

Direct effects (or impacts) are those occurring in the same place and time as the proposed Gen-tie Line and CSE Facility with regard to construction, operations and maintenance or decommissioning. With regard to environmental justice, direct effects would occur when a minority or low-income population is disproportionately affected by construction, operations and maintenance, or decommissioning of the Proposed Action or an alternative. Indirect effects (or impacts) are those that could result from the Proposed Action or an alternative, but are later in time (for example after construction, operations and maintenance, or decommissioning) or further removed in distance (for example, several miles from the project site).

4.14.2.1 CEQA Significance Criteria

The CEQA Environmental Checklist, Appendix G of the 2011 CEQA Guidelines does not identify any significance criteria specifically related to minority or low-income populations. It does contain thresholds for Population and Housing related to displacing substantial numbers of existing housing units or people necessitating construction of replacement housing elsewhere. However, as described under 1.14.3, CEQA issues associated with population and housing would not result in adverse impacts so no further discussion of these issues is provided.

4.14.2.2 Issues Scoped Out as Part of the Initial Study

Impacts to population and housing associated with CEQA requirements have been eliminated from further evaluation because the project site is located on undeveloped land and no housing or people would be displaced. Thus, no impact is identified for this issue area and it is not discussed further in this EIR/EA.

4.14.2.3 NEPA Requirements

Executive Order (EO) 12898 requires that a Proposed Action's impacts on Environmental Justice be considered as part of the NEPA Process. The analysis of the effects of the Proposed Action, Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing, and Alternative 4 - No Action/No Project Alternative must comply with NEPA requirements. Therefore, for purposes of this EIR/EA, an adverse impact with regard to Environmental Justice would occur under NEPA if implementation of the Proposed Action or Alternatives would:

1) Result in high and adverse human health or environmental effects that would disproportionately affect a minority or low-income population.

4.14.3 Environmental Consequences

4.14.3.1 Proposed Action

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsections 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

Human Health Effects

As described in Sections 4.3, 4.8, and 4.11, no adverse impacts would occur associated with hazards associated with traffic, emergency access, noise, and flooding. Thus, there would be no adverse impacts associated with these issues that would affect minority or low-income populations.

As discussed in Section 4.4, the potential for adverse impacts associated with air quality, including exposure to air pollutants, increased dust, and toxic emissions would be reduced to acceptable levels with implementation of Mitigation Measures AQ-1 through AQ-4 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with air quality that would disproportionately affect minority or low-income populations.

As described in Section 4.6, the potential for adverse impacts associated with geology and soils, including exposure to hazards associated with seismic events and soils failure, would be reduced to acceptable levels with implementation of Mitigation Measures GS-1 through GS-6 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with geology and soils that would disproportionately affect minority or low-income populations.

As described in Section 4.10, the potential exposure to hazards and hazardous materials, including Valley Fever-related dust exposure, on-site hazardous materials, and hazardous conditions, would be reduced to acceptable levels with implementation of Mitigation Measures AQ-1, AQ-2, HM-1, and HM-2 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with hazards or hazardous materials that would disproportionately affect minority or low-income populations.

Environmental Effects

As described in Sections 4.1, 4.3, 4.5, 4.11, and 4.15, no adverse impacts would occur associated with visual resources, transportation and circulation, climate change, hydrology and water quality, and recreation. Thus, there would be no adverse impacts associated with these issues that would affect minority or low-income populations disproportionately.

As described in Section 4.2, the potential for adverse impacts associated with land use and special designations would be reduced to acceptable levels with implementation of Mitigation Measures AQ-2, AQ-4, and BIO-1 through BIO-8. Thus, there would be no adverse impacts associated with these land use and special designations that would disproportionately affect minority or low-income populations.

As described in Section 4.7, the potential for adverse impacts associated with cultural resources, including historical, archaeological, and Native American resources, and human remains would be reduced to acceptable levels with implementation of Mitigation Measures CR-1 through CR-6 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with these cultural resources that would disproportionately affect minority or low-income populations.

As described in Section 4.9, impacts to agricultural resources would be reduced to acceptable levels with implementation of Mitigation Measures AR-1 through AR-4 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with agricultural resources that would disproportionately affect minority or low-income populations.

As described in Section 4.10, potential impacts to biological resources, including special-status species and sensitive habitats, would be reduced to acceptable levels with implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-5, BIO-6, BIO-7, and BIO-8 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with these biological resources that would disproportionately affect minority or low-income populations.

As described in Section 4.13, potential impacts to paleontological resources would be reduced to acceptable levels with implementation of Mitigation Measure PR-1 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with these paleontological resources that would disproportionately affect minority or low-income populations.

Socioeconomic Effects

Under existing conditions, the project site has approximately 1,950 acres under agricultural production for non-food, field crops, primarily Bermuda grass and alfalfa (CSE, 2011). Based on agricultural workforce data presented by Imperial County in 2011, field crops average five full-time employees per 1,000 acres, so it is estimated that the project site has direct employment of 10 persons on a full-time basis.

During project construction activities, the construction workforce would average approximately 250 workers, with up to 360 workers during peak periods. Project construction is anticipated to occur over a 22 – to 28-month period. The onsite construction workforce would consist of laborers, craftspeople, supervisory personnel, and support personnel. 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. During project construction activities, the site would yield a greater number of workers than under existing conditions. Project construction is not anticipated to result in any high or adverse decrease in the quantity or quality of employment, therefore no indirect or direct socioeconomic impacts are anticipated associated with construction activities. Thus, there would be no adverse impacts associated with employment that would disproportionately affect minority or low-income populations.

Operations and Maintenance

Human Health Effects

As described in Sections 4.3, 4.4, 4.8, and 4.11, no adverse impacts would occur associated with traffic hazards associated with project design, emergency access, air quality, noise, and flooding. Thus, there would be no adverse impacts associated with these issues that would disproportionately affect minority or low-income populations.

As described in Section 4.6, the potential for adverse impacts associated with geology and soils, including exposure to hazards associated with seismic events and soils failure, would be reduced to acceptable levels with implementation of Mitigation Measures GS-1 through GS-6 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with geology and soils that would affect minority or low-income populations disproportionately.

As described in Section 4.10, the potential exposure to hazards and hazardous materials, including Valley Fever-related dust exposure, on-site hazardous materials, and hazardous conditions, would be reduced to acceptable levels with implementation of Mitigation Measures AQ-1, AQ-2, and HM-3 and no

adverse impacts would occur. Thus, there would be no adverse impacts associated with hazards and hazardous materials that would affect minority or low-income populations disproportionately.

Environmental Effects

As described in Sections 4.1, 4.2, 4.3, 4.5, 4.7, 4.11, and 4.13, no adverse impacts would occur associated with visual resources, land use and special designations, increased traffic, climate change, cultural resources and human remains, hydrology and water quality, and paleontological resources. Thus, there would be no adverse impacts associated with these issues that would affect minority or low-income populations disproportionately.

As described in Section 4.2, the potential for adverse impacts associated with land use and special designations would be reduced to acceptable levels with implementation of Mitigation Measure BIO-2 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with land use and special designations that would affect minority or low-income populations disproportionately.

As described in Section 4.9, impacts to agricultural resources would be reduced to acceptable levels with implementation of Mitigation Measures AR-1, AR-2, AR-3 and AR-4 and no adverse impacts would occur. Thus, there would be no adverse impacts associated with agricultural resources that would affect minority or low-income populations disproportionately.

As described in Section 4.12, potential impacts to biological resources, including special-status species and sensitive habitats, would be reduced to acceptable levels with implementation of Mitigation Measures BIO-2, BIO-4, BIO-5, BIO-6, and BIO-7. Thus, there would be no adverse impacts associated with these biological resources that would affect minority or low-income populations disproportionately.

Socioeconomic Effects

Operating the CSE Project is expected to require 5 to7 permanent, full-time employees. The staffing requirements are expected to include a plant manager, maintenance manager, 2 to 4 operations and maintenance technicians, and a clerical position. These positions will offer salary and benefits competitive with those requiring comparable skills. These employment estimates apply to Phase I of the project; permanent staffing needs are not expected to change as a result of the future expansion. CSE also expects to contract for security services, which could result in the creation of approximately three full-time equivalent employees. Therefore, total full-time employment, or the full-time employment equivalent, associated with the Proposed Action is anticipated to range from 8 to 10 persons.

CSE will also rely on additional contractor-provided services from time to time, which will result in the creation of additional local jobs. Operation of the CSE facility will create demand for other services such as facility maintenance, panel washing, property maintenance (e.g. weed abatement) and environmental monitoring/compliance. CSE expects that these jobs would be filled by skilled electricians, laborers, equipment operators, and environmental specialists. Additional personnel would work at the site intermittently to conduct preventative maintenance, wash panels and perform repairs. Permanent operational staffing is not anticipated to increase as the result of future expansion of power generating capabilities.

Operation and maintenance activities associated with the Proposed Action are not anticipated to result in any high or adverse decrease in the quantity or quality of employment, therefore no indirect or direct socioeconomic impacts are anticipated associated with operation and maintenance activities. Thus,

there would be no adverse impacts associated with socioeconomics that would affect minority or low-income populations.

Decommissioning

Human Health Effects

As described in Sections 4.3, 4.4, 4.6, 4.8, 4.10, and 4.11, no adverse impacts would occur associated with traffic hazards associated with design features, emergency access, air quality, geology and soils, noise, hazards and hazardous materials, and flooding. Thus, there would be no adverse impacts associated with these issues that would affect minority or low-income populations.

Environmental Effects

As discussed in Sections 4.1, 4.2, 4.3, 4.5, 4.7, 4.9, 4.11, 4.12, 4.13 and 4.15, no adverse impacts were identified associated with visual resources, land use and special designations, transportation and circulation, climate change, cultural resources and human remains, agricultural resources, hydrology and water quality, biological resources, paleontological resources, and recreation. Thus, there would be no adverse impacts associated with these issues that would affect minority or low-income populations.

Socioeconomic Effects

Decommissioning would return the project site to a state similar to the current agricultural land present on the project site. There would be no indirect or direct adverse impacts associated with decommissioning as the resultant employment and socioeconomic conditions would be comparable to the existing conditions of the project site. Thus, there would be no adverse impacts associated with socioeconomics that would affect minority or low-income populations.

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Impacts on Low-income or Minority Populations

1) Result in high and adverse human health or environmental effects that would disproportionately affect a minority or low-income population.

Construction

As described under item A of subsection 4.14.3.1, all potential adverse health, environmental, or socioeconomic effects would be reduced to acceptable levels with implementation of the identified mitigation measures. There would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with construction. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

Operations and Maintenance

As described under item A of subsection 4.14.3.1, all potential adverse health, environmental, or socioeconomic effects would be reduced to acceptable levels with implementation of the identified mitigation measures. There would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with operations and maintenance activities. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

Decommissioning

As described under item A of subsection 4.14.3.1, there would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with decommissioning. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

4.14.3.2 Alternative 1 – Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

Direct and Indirect Impacts

Alternative 1 is located on the exact same parcels as the Proposed Action in Census Tract 119. Therefore the discussion of potential for adverse effects during construction provided under the Proposed Action also applies to Alternative 1 (Refer to the discussion above). Therefore the discussion of adverse effects provided under the Proposed Action also applies to Alternative 1 (Refer to the discussion above). As described above, all potential adverse health, environmental, or socioeconomic effects would be reduced to acceptable levels with implementation of the identified mitigation measures. There would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with construction, operations and maintenance, or decommissioning. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

4.14.3.3 Alternative 2 – Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

Direct and Indirect Impacts

Alternative 2 includes three fewer parcels than the Proposed Action, and is still located in Census Tract 119. Therefore the discussion of adverse during construction provided under the Proposed Action also applies to Alternative 2 (Refer to the discussion above). Therefore the discussion of adverse effects provided under the Proposed Action also applies to Alternative 2 (Refer to the discussion above). As described above, all potential adverse health, environmental, or socioeconomic effects would be reduced to acceptable levels with implementation of the identified mitigation measures. There would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with

construction, operations and maintenance, or decommissioning. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

4.13.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

Direct and Indirect Impacts

Alternative 3 includes the same parcels as the Proposed Action in Census Tract 119. The potential adverse effects described for the Proposed Action, above, would be comparable to the potential for adverse affects associated with Alternative 3. Therefore the discussion of adverse effects during construction provided under the Proposed Action also applies to Alternative 2 (Refer to the discussion above). As described above, all potential adverse health, environmental, or socioeconomic effects would be reduced to acceptable levels with implementation of the identified mitigation measures. There would be no direct or indirect adverse health, environmental, or socioeconomic effects associated with construction, operations and maintenance, or decommissioning. Therefore, no minority or low-income populations would disproportionately affected by any high and adverse human health, environmental, or socioeconomic effects.

4.14.3.5 Alternative 4 – No Action/No project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a federal approval as no BLM land would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

Direct and Indirect Impacts

Construction

Under Alternative 4, no solar energy project would be constructed on county lands, and the project site would remain in agricultural production. No tower structures to support a gen-tie line in association

with the Proposed Action would occur on BLM land. No direct or indirect impacts to minority or low-income populations would occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts to minority or low-income populations would occur in association with operations and maintenance of the Proposed Action.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No impact to land use or special designations would occur.

4.14.4 MITIGATION MEASURES

No environmental justice impacts were identified for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 - No Action/No Project Alternative. As a result, no mitigation measures are required.

4.14.6 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the Proposed Action, Alternative 1 - Alternative Transmission Line Corridor, Alternative 2 - Reduced Solar Energy Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would not result in a significant environmental justice impact and no mitigation is required. Therefore, there are no residual impacts after mitigation.

SECTION 4.15
RECREATION

4.15 RECREATION

This section examines the potential for the proposed project to affect access to recreational facilities on BLM lands. The project, as a solar energy facility, was determined not to create demand for recreation or parks as part of the Initial Study and was scoped out from requiring further analysis under CEQA. As a result, the analysis in this section applies only to NEPA.

4.15.1 METHODOLOGY FOR ANALYSIS

The following discussion identifies and analyzes the impacts of the Proposed Action and alternatives on access to recreational resources on BLM lands. The California Desert Conservation Plan, Western Colorado (WECO) Off-Highway Vehicle Routes of Travel Designation Plan (WECO Plan) and Imperial County General Plan were consulted to determine the location of recreational routes and areas in the vicinity of the project site.

Impacts associated with other existing land use activities are discussed in Land Use and Special Designations (Sections 3.2 and 4.2).

4.15.2 NEPA REQUIREMENTS

The following potential effects to recreation will serve as a basis for the NEPA analysis of the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Alternative 4 - No Action/No Project Alternative:

1) Directly or indirectly disrupt recreation activities in established Federal, State, or local recreation areas and/or wilderness areas;
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,
3) Diminish the enjoyment of existing recreational opportunities.

These three potential effects of the project are discussed for the Proposed Action and alternatives with regard to direct, indirect and cumulative impacts.

4.15.3 ENVIRONMENTAL CONSEQUENCES

4.15.3.1 PROPOSED ACTION

The Proposed Action consists of two primary components located in unincorporated western Imperial County southeast of the Imperial Valley Substation: 1) the CSE Facility; and 2) the Gen-tie Line. The key components of the Proposed Action include PV arrays (PV modules, mounting structures, DC electrical wiring, power conditioning equipment including inverters and transformers, and the AC collector system that transmits electricity from the PV Arrays to the CSE Facility substation); the CSE Facility substation; the common services area; and ancillary systems such as fencing, security, lighting, fire protection, access roads, and other systems. Further details of the Proposed Action are described in subsection 2.1.5.2 and 2.1.5.3 of Chapter 2.0.

A. Direct and Indirect Impacts

Construction

The Gen-tie Line and new bladed access roads through BLM land (refer to Figures 2.0-22 through 2.0-25 in Chapter 2.0) would be located within an area currently designated by the California Desert Conservation Area (CDCA) Plan as Utility Corridor N. The purpose of Utility Corridor N is to provide an established network of joint-use planning corridors for utility infrastructure. The corridors provide a defined area in which to locate infrastructure thereby minimizing the number of separate rights-of-way and avoiding sensitive resources.

Several access roads identified on the WECO Plan would be crossed during construction of the proposed Gen-tie Line. Two open access roads on the east and west side of the Westside Main Canal would be crossed as well as two limited access roads on BLM land within Utility Corridor N. These routes are considered recreational in that they provide access to recreational activities on BLM lands. Limited access roads require vehicles to stay on designated roads, limit types of vehicles allowed on certain roads, and limit access during certain season of the year.

Construction of the Gen-tie Line in Utility Corridor N may temporarily disrupt, but would not entirely preclude use of the roads for access to recreational uses on BLM lands. Likewise, the new bladed access roads needed for construction of the Gen-tie Line within Utility Corridor N would not be used to access recreational areas on BLM lands. These roads would be limited to use in association with construction of the proposed Gen-tie Line.

As such, the construction of the Gen-tie Line and new temporary and permanent bladed access roads proposed as part of the Proposed Action would not directly or indirectly disrupt access to recreational 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.

Operations and Maintenance

As mentioned above under "Construction," the proposed project would include permanent bladed roads to allow for on-going operations and maintenance of the Gen-tie Line within Utility Corridor N. These roads would be limited to providing access associated with the Gen-tie Line, not for use by the public to access recreational areas on BLM lands. The existing open access roads on the east and west sides of the Westside Main Canal would be spanned overhead by the Gen-tie Line. Likewise, two limited access roads on BLM lands in Utility Corridor N would also be spanned by the Gen-tie Line Action (Refer to Figure 3.15-1 in Section 3.15). The presence of the Gen-tie Line would not result in direct or indirect impacts to use of these roads or disrupt access to recreational 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 during operations and maintenance of the Proposed Action.

Decommissioning

At the end of the Proposed Action's operational life 30+ years in the future, all equipment and components will be decommissioned and deconstructed. Temporary bladed roads similar to those

needed for construction may also be required during decommissioning. However, following dismantling and removal of the Gen-tie Line wiring and structures, all temporary and permanent roads associated with the Proposed Action would be restored and the landscape reclaimed as near to the original conditions as practicable in accordance with the a Reclamation Plan. Following decommissioning, open access roads located on the east and west sides of the Westside Main Canal, as well as the two limited access roads in Utility Corridor N would no longer be spanned by the Gen-tie Line. Decommissioning of the Gen-tie Line would not result in direct or indirect impacts to use of these roads or disrupt access to recreational 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.

4.15.3.2 Alternative 1 – Double Circuit Gen-tie Line Structures

Under Alternative 1, the Applicant would construct its Gen-tie Line in the same alignment identified for the Proposed Action but install tower structures capable of supporting an additional 230-kV circuit. The gen-tie line from the next project built subsequent to the Applicant's could be strung on the open side of the towers built by the Applicant preventing, in part, impacts associated with the construction of a separate set of gen-tie structures. The Applicant would construct double-circuit structures for the segment of the Gen-tie Line that is not parallel to the existing 230-kV structures leading into Imperial Valley Substation (i.e., for the east-west segment of the Gen-tie Line south of SR 98).

A. Direct and Indirect Impacts

Construction

The double-circuit Gen-tie Line associated with Alternative 1 is proposed along the same alignment as the Proposed Action. Therefore the discussion of impacts to access roads occurring during construction described under the Proposed Action also applies to Alternative 1 (Refer to the discussion above). Although Alternative 1 includes a double-circuit structure, construction impacts would be the same as would occur under the Proposed Action. No additional temporary or permanent bladed access roads would be created nor would any additional existing open or limited access roads be spanned by Alternative 1 (Refer to Figure 3.15-1 in Section 3.15). Therefore, construction of the double-circuit Gen-tie Line proposed as part of Alternative 1 would not directly or indirectly disrupt access to recreational 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.

Operations and Maintenance

The discussion of impacts to existing open and limited access roads provided for the Proposed Action under "Construction" is also applicable to "Operations and Maintenance" for Alternative 1. Operations and Maintenance of the double-circuit Gen-tie Line proposed as part of Alternative 1 would not directly or indirectly disrupt access to recreational 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.

Decommissioning

The discussion of impacts to existing open and limited access roads during decommissioning of the Proposed Action also applies to Alternative 1. Likewise, permanent bladed roads and any temporary roads needed to accommodate decommissioning activities would be restored per the Reclamation Plan. Decommissioning of the double-circuit Gen-tie Line proposed as part of Alternative 1 would not result in direct or indirect impacts to use of existing open and limited access roads or disrupt access to recreational 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.

4.15.3.3 Alternative 2 – Reduced CSE Facility Site

Alternative 2 would occupy all the same private land parcels currently encompassed in the CSE Facility site with the exception of the three parcels under Williamson Act Contract. Removal of these three parcels would result in disturbance of approximately 335 fewer acres and preserve existing agricultural uses and lands under Williamson Act Contracts. A Gen-tie Line alignment for Alternative 2 may be chosen from the Proposed Action, Alternative 1 or Alternative 3 as described in Chapter 2.0, subsections 2.1.5.3, 2.2.2 and 2.2.4, respectively. Any Gen-tie Line alignment selected would include a portion extending through BLM land. The amount of power produced by Alternative 2 would be reduced approximately 45-MW to 230-MW.

Construction

The Gen-tie Line associated with Alternative 2 is identical to the Proposed Action. Therefore the discussion of impacts to access roads occurring during construction described under the Proposed Action also applies to Alternative 2 (Refer to the discussion above). Alternative 2 includes the same alignment as the Proposed Action and would result in the same construction impacts with regard to temporary and permanent bladed access roads created to construct the Gen-tie Line. Therefore, construction of the Gen-tie proposed as part of Alternative 2 would not directly or indirectly disrupt access to recreational 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.

Operations and Maintenance

The discussion of impacts to existing open and limited access roads provided for the Proposed Action under “Construction” is also applicable to “Operations and Maintenance” for Alternative 2. Operations and Maintenance of the Gen-tie Line proposed as part of Alternative 2 would be identical to the Proposed Action and would not directly or indirectly disrupt access to recreational 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.

Decommissioning

The discussion of impacts to existing open and limited access roads during decommissioning of the Proposed Action also applies to Alternative 2. Likewise, permanent bladed roads and any temporary roads needed to accommodate decommissioning activities would be restored per the Reclamation Plan. Decommissioning of the Gen-tie Line proposed as part of Alternative 2 would be identical to the Proposed Action and would not result in direct or indirect impacts to use of existing open and limited access roads or disrupt access to recreational 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.

4.15.3.4 Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing

Alternative 3 includes construction of a "loop-in" to connect the CSE Facility via the Gen-tie Line to the radial SDG&E line (refer to Figure 2.0-37 and Figure 2.0-39 in Chapter 2.0). To interconnect (loop-in) the Gen-tie Line with the radial SDG&E electric line, a 450-foot by 350-foot 230-kV electric switchyard using a four-breaker ring bus ("Ring Bus") would be constructed immediately east of the Westside Main Canal and south of SR 98 along the proposed Gen-tie Line alignment. An approximately 1.4-mile long 230-kV electric line on new single or double circuit towers would be constructed on the CSE Facility site. A double circuit 230-kV electric line would connect the CSE Facility substation to the Ring Bus. Two 230-kV lines (approximately 2.5 miles in length with 1.2 miles on BLM land) would be constructed westward from the Ring Bus along the proposed Gen-tie Line route to the SDG&E towers. The two 230-kV lines would require undercrossing structures to pass beneath the existing north-south 230-kV lines. The radial SDG&E line would be cut and each end spliced together with one of the new CSE 230-kV lines to complete the loop. Alternative 3 would eliminate approximately 3 miles of new tower structures (approximately 11 towers) on native desert lands managed by the BLM compared to the Proposed Action or Alternative 1.

Construction

The Gen-tie line associated with Alternative 3 would require approximately 11 fewer new tower structures as well as less ground disturbance associated with temporary and permanent bladed access roads within Utility Corridor N. Thus, less construction impacts would occur with regard to temporary and permanent bladed access roads created to construct the Gen-tie Line. It would however still span two open access roads on the east and west sides of the Westside Main Canal and two limited access roads within Utility Corridor N. Therefore, while Alternative 3 includes a shorter alignment that the Proposed Project, it still affects the same open and limited access roads as the Proposed Action (Refer to Figure 3.15-1 in Section 3.15). Nevertheless, construction of the Gen-tie proposed as part of Alternative 3 would not directly or indirectly disrupt access to recreational 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.

Operations and Maintenance

The discussion of impacts to existing open and limited access roads provided for the Proposed Action under "Construction" is also applicable to "Operations and Maintenance" for Alternative 3. Operations and Maintenance of the Gen-tie Line proposed as part of Alternative 3 would involve approximately 11 fewer towers and associated permanent access roads, if needed. Alternative 3 would not directly or indirectly disrupt access to recreational 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.

Decommissioning

The discussion of impacts to existing open and limited access roads during decommissioning of Proposed Action also applies to Alternative 3. Permanent bladed roads and any temporary roads needed to accommodate decommissioning activities for Alternative 3 would be restored per the Reclamation Plan. However, fewer roads would require restoration under Alternative 3 because it would require 11 fewer towers and disturbance associated with temporary and permanent access roads. Decommissioning of the Gen-tie Line proposed as part of Alternative 3 would not result in direct or indirect impacts to use of existing open and limited access roads or disrupt access to recreational 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.

4.15.3.5 Alternative 4 – No Action/No project Alternative

Alternative 4 assumes that the CSE Facility and Gen-tie Line would not be constructed. The Alternative 4 - No Action/No project Alternative would not require a right-of-way grant for the Gen-tie Line as it would not be constructed and no federal lands would be crossed. Under CEQA, continuation of agricultural uses on the CSE Facility portion of the project would be expected based on the current General Plan and Land Use Ordinance designations.

A. Direct and Indirect Impacts

Construction

Under Alternative 4, no solar energy project would be constructed on county lands, and the project site would remain in agricultural production. No tower structures to support a gen-tie line in association with the Proposed Action would occur on BLM land. No direct or indirect impacts to access to recreational areas on BLM lands would occur.

Operations and Maintenance

No solar PV structures or facilities would be constructed on the project site or BLM lands. As a result, no direct or indirect impacts to access to recreational areas on BLM lands would occur in association with operations and maintenance of the Proposed Action.

Decommissioning

Without construction and operation of the Proposed Action, Alternative 4 would result in no need for decommissioning activities. No direct or indirect impacts to access to recreational areas on BLM lands.

4.15.4 MITIGATION MEASURES

No impacts to recreation with regard to access were identified for the Proposed Action, Alternative 1 - Double Circuit Gen-tie Line Structures, Alternative 2 - Reduced CSE Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing or Alternative 4 - No Action/No Project Alternative. As a result, no mitigation measures are required.

4.15.5 RESIDUAL IMPACTS AFTER MITIGATION

Implementation of the Proposed Action, Alternative 1 - Alternative Transmission Line Corridor, Alternative 2 - Reduced Solar Energy Facility Site, Alternative 3 - Use Existing Electric Line Towers and 230-kV Line Looping and Undercrossing and Alternative 4 - No Action/No Project Alternative would not result in any impacts to access to recreational areas and no mitigation is required. Therefore, there are no residual impacts after mitigation.