SAN BERNARDINO COUNTY

INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

PROJECT LABEL:

APN:	0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, and 0470-0051-17, 0470-011-35 and 0470-011-10
APPLICANT:	ALAMO SOLAR, LLC
COMMUNITY:	HELENDALE/FIRST SUPERVISORIAL DISTRICT
LOCATION:	WEST OF NATIONAL TRAILS HIGHWAY/STATE ROUTE 66 (SR 66), WEST OF BRYMAN ROAD/ASTER ROAD AND NORTH OF HERITAGE WAY.
PROJECT NO:	P201300204/CUP
STAFF:	CHRISTOPHER CONNER
REP('S):	JEN BRADFORD
PROPOSAL:	A CONDITIONAL USE PERMIT TO BUILD AND OPERATE A 20 MEGAWATT UTILITY SCALE PHOTOVOLTAIC FACILITY ON APPROXIMATELY 123 ACRES OF THE 175-ACRE SITE.

USGS Quad:	Helendale
T, R, Section:	T7 N R4W Sec. 18 & 19 SW/4 and W/2
Thomas Bros.:	page 3934 Grid: H-6
Planning Area:	Desert Region
Land Use Zoning:	RL-5 (Rural Living – 5 acres)
Overlays:	BIO (Biological Resources, Desert Tortoise – Medium Population, Burrowing Owl); Floodplain (FP-1); Dam Inundation

PROJECT CONTACT INFORMATION:

Lead agency: County of San Bernardino
Land Use Services Department
385 N. Arrowhead Avenue
San Bernardino, CA 92415-0182

Contact person: Christopher Conner, Senior Planner
Phone No: (909) 387-4425 Fax No: (909) 387-3223
E-mail: Christopher.Conner@lus.sbcounty.gov

Project Sponsor: Alamo Solar LLC, Attn: Jen Bradford
20 California Street, Suite 500
San Francisco, CA 94111

PROJECT DESCRIPTION:

The Alamo Solar Project ("Project") is being developed by Alamo Solar, LLC (Applicant) to provide solar photovoltaic (PV) power to serve the electrical load requirements of California. The Project will generate approximately 20 MW of alternating current photovoltaic modules on approximately 123 acres of the 175-acre site. The Project will tie in electrically to a new project substation, to be located near the northwest corner of Melrose Road and Bryman Road. This substation will be the project's point of change of ownership from the project developer to the interconnection utility, Southern California Edison (SCE). From the substation the Project will connect electrically with the existing Southern California Edison (SCE) Victor-Helendale 33-kV transmission line that runs north-south along National Trails Highway (Route 66). SCE will undertake distribution line upgrades and modifications along this line that are described in the following pages, and that will be evaluated as part of this project. The electricity produced by the Project will be sold through a long-term power purchase agreement.

The Project is designed to have a useful life of 20 to 30 years, although the life span could be extended by upgrades and refurbishments. In the event that the Project is decommissioned, the facility would be removed and the site prepared for subsequent land use.

In addition to seeking County approval to construct and operate the facility, the Applicant will also seek County approval to merge the lots (parcels) within the facility.

Project Location and Setting

The Project site is situated in the western Mojave Desert, approximately one-tenth of a mile east of the seasonal Mojave River, and approximately 3 miles north of Oro Grande, 3.5 miles south of Helendale, 7.5 miles northeast of Adelanto, and approximately 10.5 miles northwest of downtown Victorville, California. The Project site is bordered to the north by agricultural lands; to the east by Bryman Road, the Atchison, Topeka & Santa Fe (AT&SF) Railroad, National Trails Highway State Route 66 (SR-66) and agricultural uses and vacant undeveloped lands; to the south by a combination of rural residential development and fallow agricultural land; and to the west by the Mojave River and agricultural uses.

The project site is relatively flat. Elevation of the site ranges from approximately 2,490 feet above sea level (asl) to 2,520 feet asl, with topography gradually sloping to the north-northwest. Rural residences are scattered locally near the Mojave River, and dirt roads delineating residential parcels are dense to the west and south of the site. Undeveloped areas are found in the Mojave River and to the east and north of the site. The Mojave National Preserve is located approximately 75.0 miles to the northeast.

The proposed Project area has been mapped by FEMA for flood zone hazards.[1] The 100-year floodplain of the Mojave River crosses through the northwestern corner of the project site, but would not encroach into the proposed solar footprint and facilities. Thus, the 100-year floodplain would be avoided during construction and operation of the proposed solar facility. From north to south, the project site includes Assessor Parcel Numbers 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-

[1] (http://msc.fema.gov/) FEMA Flood Insurance Rate Map (FIRM) panel ID numbers 06071C5150H.

15, and 0470-0051-17, 0470-011-35 (access road only) and 0470-011-10 (access road only). The parcels that make up this project area are primarily fallowed agricultural land with houses and outbuildings, all of which will be cleared prior to construction. The parcels' land use zoning district is RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The proposed Project is bound to the west by RL-5 and floodway (FW), north by RL-5, east by RL. Existing uses surrounding the project site include undeveloped land, agricultural land and county lands, floodway and a few scattered single family residences, most of which are abandoned. All residences within the proposed solar site will be abandoned and cleared prior to construction.

Proposed Project Layout

The proposed site plan and typical elevation are provided in the CUP Application. As proposed, the Project layout would exclude any activity within jurisdictional waters of the Mojave River. There would also be no operational ground-disturbing activity within 25-feet of the Mojave River's ordinary high water mark. The facility would include the following major components: non-reflective PV solar module arrays mounted on fixed tilt or single-axis trackers and a racking system supported by embedded piers, a maximum of 20 inverters and transformers on small concrete pad pads, buried collector lines, and switchgear. The solar power generation facility would also include a small, unmanned communications enclosure that would house the supervisory control and data acquisition (SCADA) system to monitor and control facility operations. The enclosure would measure approximately 200 square feet in size (10' x 20') and would be approximately 8 to 12 feet high.

Internal site circulation would include a 26-foot-wide perimeter road with an all-weather surface, and 12-foot wide access ways (minimally graded, dirt or gravel) to provide maintenance access to the solar panels. A six-to-eight foot high chain link security fence will be installed around the facility, within the required setbacks from the property boundary. All Project lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives. Lighting is planned to be installed at the exterior of the SCADA building and the project switchyard. Lighting will be directed downward and shielded to focus illumination on the desired areas.

External site access would be provided from Route 66, then by turning west along Heritage Way, and then by turning north along a new road segment that would run along the eastern edge of parcel 0470-011-10. Heritage Way will be expanded within its legal right-of-way. Both Heritage Way and the new access road will be between 26 feet and 36 feet wide, and will be surfaced with all-weather material.

The current site plan would result in a small (less than 5 percent) increase in impervious area of the site due to the construction of piles, concrete pads, and the access roads.

Interconnection and Distribution System Upgrades

The project includes distribution system upgrades that SCE will make from the project site to a point approximately five miles south near Oro Grande Canyon Road. These upgrades include wooden pole replacement and reconductoring. Construction of the upgrades will include staging areas, temporary

construction easements and SCE's existing permanent 10-foot wide easement. Some new poles will also be required.

Gen-tie line upgrades for this project are planned to begin at the project substation near the northwest corner of Melrose Road and Bryman/Aster Road, which represents the point of change of ownership between the project owner and SCE. Near the project substation, the project owner will install a new customer-owned switch, and SCE will install a closer pole and a metering pole.

From the project substation, the current gen-tie line runs east for about 1,500 feet along the Melrose Road alignment, and then turns south along National Trails Highway. Along the Melrose Road alignment, SCE will replace the existing 40-foot poles that now support a 4 kV line with taller, 50-foot poles to support both the existing 4 kV circuit and a new 33.5 kV circuit. Three new poles are planned to be added along this segment; two within the project site and one additional pole at the intersection of the Melrose Road alignment and National Trails Highway.

From the intersection of Melrose Road and National Trails Highway, the line will run south for about 2,500 feet to the intersection of National Trails Highway and Bryman Road. Along this segment, the line will use the existing SCE right-of-way for approximately 1,500 feet. SCE will replace the 40-foot poles with 50-foot poles, and add a third circuit of 33 kV to the two existing 33 kV and 4 kV circuits. The number and positions of all poles along this segment will remain the same. After running 1,500 feet south, the line will shift approximately 40 feet west before continuing to run south within the public right-of-way along National Trails Highway. Approximately four new poles will be added within this 1,000 foot segment before the line reaches the intersection of Bryman Road and National Trails Highway. The four new poles will assume roughly the same horizontal positions as the poles that run along the existing alignment.

From the intersection of Bryman Road and National Trails Highway, the line continues south within its present alignment for approximately 1.75 miles. New wires will be installed along this segment, and some poles will be replaced due to age, though all poles will remain in the same location.

Just south of the intersection of Barbosa Road and National Trails Highway, the line breaks from the right-of-way of National Trails Highway and proceeds south along the east side of the highway within SCE's current right-of-way. This segment will be upgraded with new wires. Due to the heavier conductor, some poles along this approximately 35-pole segment will be added to shorten the spans, and some poles will be replaced due to age. It is expected that approximately 11 new poles will be added and 9 poles will be replaced.

SCE's upgrades will be consistent with standards outlined by the Avian Powerline Interaction Committee. For example, avian hoods will be used at new circuits to avoid or minimize effects on large birds such as raptors.

The final portion of the project's distribution upgrades will occur in an area that is not contiguous to the other upgrades and approximately 3.8 miles to the southeast of the terminus of the distribution feeder. This section occurs at the intersection of Village Drive and Rancho Road. The circuit starts at a riser pole on Village Road, runs south to Ranch Road, and proceeds west to a second riser pole. The overall length of the affected duct bank is approximately 1,850 feet. Because the existing circuit was installed in conduit, the new conductors can be installed without modification to the conduit duct

bank. Upgrades to this segment will occur without ground disturbance, and construction duration is not expected to take more than 8 hours.

Project Operations

The proposed solar facility would be unmanned. Several part-time employees would visit the site periodically (i.e., monthly or bi-monthly). A few times per year, a designated representative would visit the site to wash the PV panels. Panel washing would require approximately 1 acre-foot of water per year. Water during operations would be purchased and trucked from a local licensed purveyor and/or supplied by one or more existing onsite wells The existing onsite well would be used if it meets current Department of Water Resources (DWR) standards. If it does not, it may be upgraded, or the project would purchase and truck in water. Based on an assumed use of medium-sized water tankers, purchasing the water would require approximately 80 truckloads for delivery of this water. Water or dust palliatives would be used if needed to control wind and water erosion during operations.

If the existing onsite groundwater wells are to be used, operations would be conducted in compliance with requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan). Provided that the well water will be used for non-potable uses (solar panel washing and dust control), the County of San Bernardino will require the well(s) to meet California Department of Water Resources standards for an industrial water well. This includes a minimum depth of annular surface seal of 50 feet. Allowances for a shallower seal may be accommodated based on the total well depth.

Extraction of groundwater through the use of existing wells or the purchase of water would include coordination and compliance with the Mojave Water Agency's requirements because the groundwater basin is adjudicated. Although the total amount of groundwater extraction is not high (estimated to be a total of 10-15 af during construction and 1 afy during operation), use of groundwater within an adjudicated basin requires coordination with MWA, particularly if the water use will exceed 10 afy.

Project Construction and Schedule

Construction of the proposed Project is estimated to require approximately 160 workers at its peak. SCE has indicated the need for approximately 19 additional full-time equivalent positions for upgrading its distribution line. Construction is estimated to start in mid-to-late 2014 and would take approximately eight months to complete. Approximately 10 to 15 acre-feet of water would be used during construction for dust suppression and ancillary construction activities.

Construction activities at the Project site include removal of several abandoned residences and structures, vegetation clearing, grubbing, grading, trenching for buried cables and installation of pier foundations. Existing vegetation is minimal and would be either mowed or removed as a result of construction activities. Existing structures will be removed and will require proper grading and compaction but mass grading is not expected given the relatively flat terrain of the site and the absence of heavy groundcover (Cut and fill is expected to affect only about 8,000 cubic yards of material).

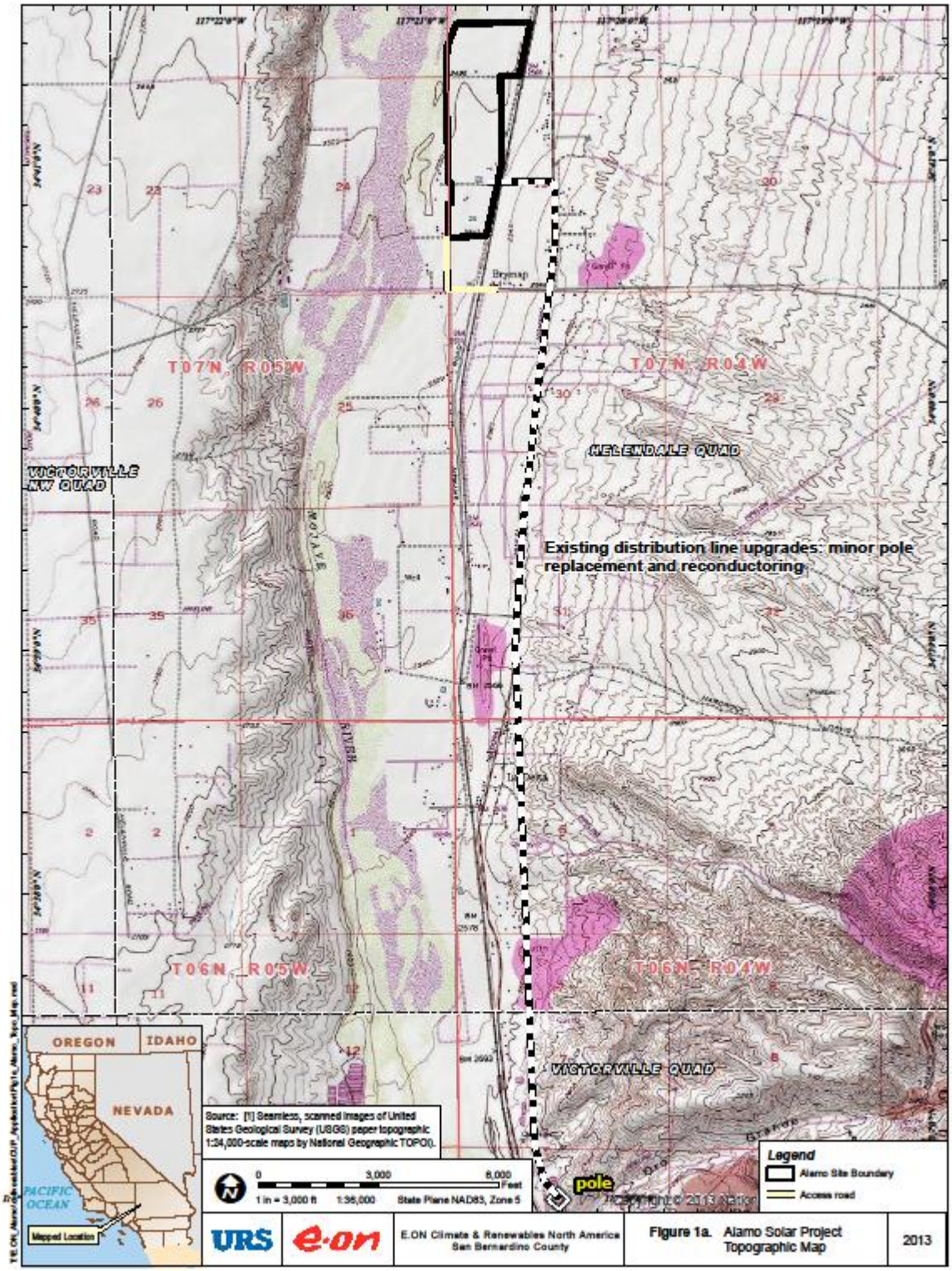
At locations where foundations are installed for the inverters, it is expected that minor cuts would be required to place the foundations on a level pad. It is expected that the fill from these cuts would be placed around the pre-cast foundation in order to divert small, localized flows away from the foundation and prevent undermining of the same.

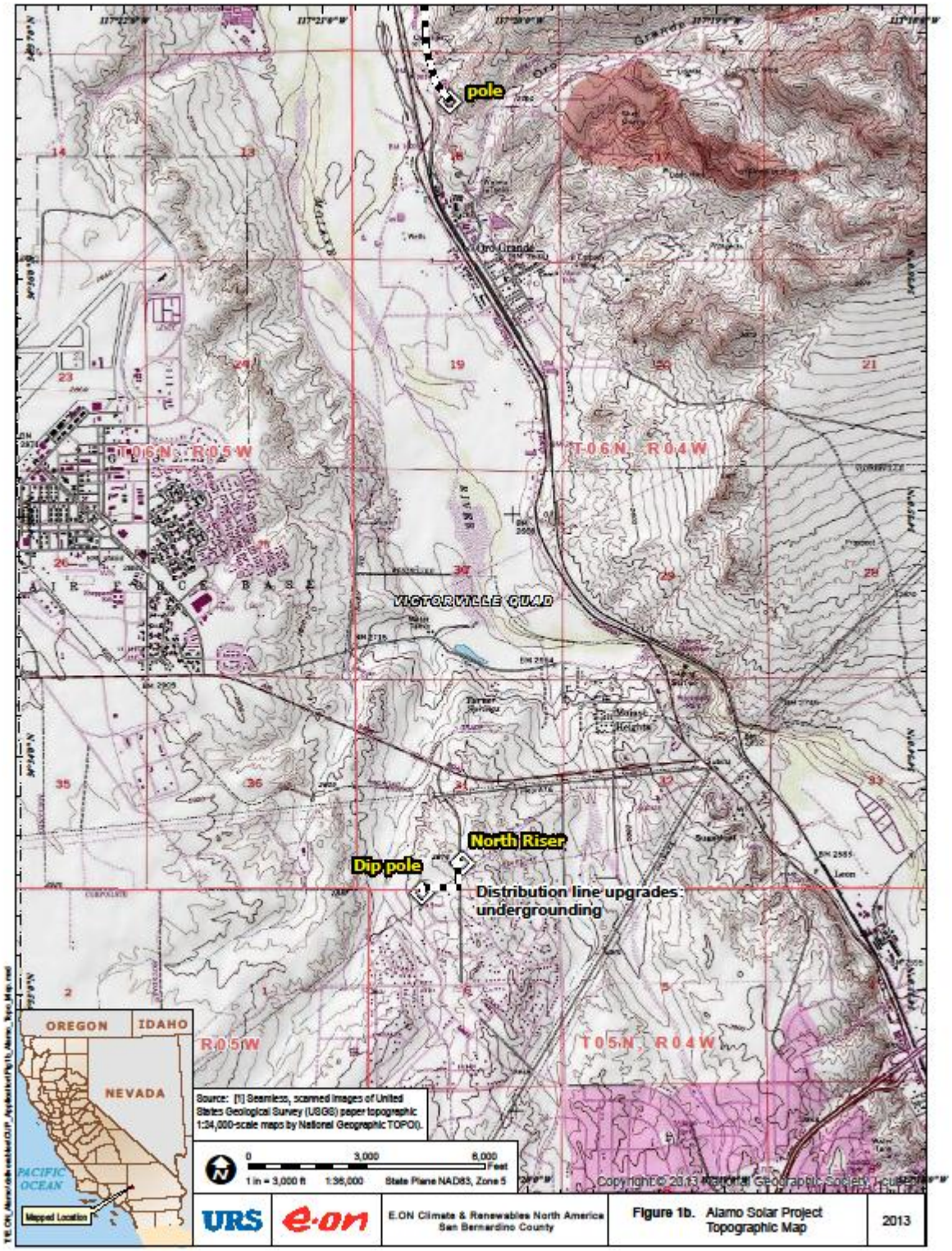
Mass grading is not proposed; these activities are expected to require approximately 8,000 cubic yards of cut and fill, which is expected to have minimal impact to existing drainage patterns and overall topography of the site. Where grading is required, cut-and-fill is expected to be balanced onsite, resulting in little or no import or export of earthen material.

Any water used to control dust during construction would either be provided by existing onsite wells or purchased and trucked from a local licensed purveyor. If one or more existing onsite groundwater wells are to be used, such uses would be conducted in compliance with requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan).

Best management practices for erosion control would be used to avoid and minimize impacts on the environment during construction and operations and maintenance. A Stormwater Pollution Prevention Plan and an Erosion and Sediment Control Plan will be prepared and implemented to avoid and minimize impacts on water quality during construction and operation.

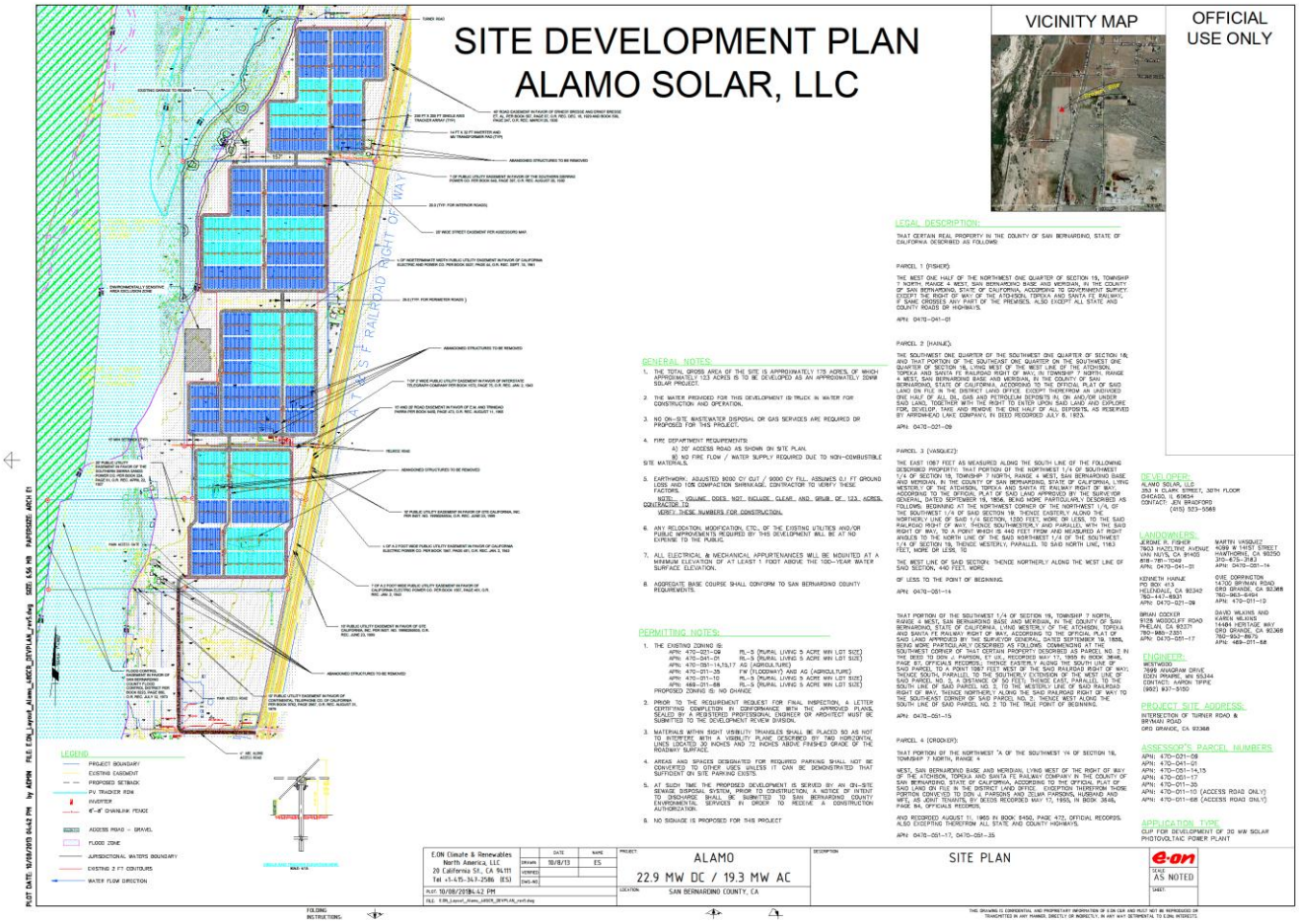
Figures 1a-b
Location Maps




pole
North Riser
Dip pole
Distribution line upgrades: undergrounding
T06N, R05W
T06N, R04W
T05N, R04W
R05W
VICTORVILLE QUAD
AIR FORCE BASE
OREGON
IDAHO
NEVADA
PACIFIC OCEAN
Mapped Location
Source: [1] Seamless, scanned images of United States Geological Survey (USGS) paper topographic 1:24,000-scale maps by National Geographic TOPO().
0 3,000 6,000 Feet
1 in = 3,000 ft 1:36,000 State Plane NAD83, Zone 5
URS
e·on
E.ON Climate & Renewables North America
San Bernardino County
Figure 1b. Alamo Solar Project Topographic Map
2013

APNs: 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, 0470-0051-17, 0470-011-35, and 0470-011-10
Alamo Solar, LLC
Project #: P201300204
October 2013

Figure 2 Site Plan



ENVIRONMENTAL/EXISTING SITE CONDITIONS:

Environmental Setting and Surrounding Uses

The Mojave Desert is a subsection of the Basin and Range Physiographic Province, which is characterized by long, north-south-trending mountain ranges separated by broad valleys. The project site is relatively flat. Elevation of the site ranges from approximately 2,490 feet above sea level (asl) to 2,520 feet asl, with topography gradually sloping to the north-northwest. Rural residences are scattered locally near the Mojave River, and dirt roads delineating residential parcels occur to the west and south of the site. Undeveloped areas are found in the Mojave River and to the east and north of the site. The Mohave National Preserve is located approximately 75.0 miles to the northeast.

The proposed Project area has been mapped by FEMA for flood zone hazards.[2] The northwestern corner of the site lies within the 100-year floodplain of the Mojave River but this area is not part of the proposed Project and would be avoided during construction and operation of the proposed solar facility. The 100-year floodplain limit is shown on Figure 2.

From north to south, the project site includes Assessor Parcel Numbers (APNs) 0470-021-09, 0470-041-01, 0470-051-14, 0470-051-15, and 0470-0051-17, 0470-011-35 (access road only) and 0470-011-10 (access road only).

Existing Land Uses

The project site is currently vacant. The property is zoned RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The proposed Project is bound to the west by RL-5 and floodway (FW), north by RL-5, east by RL. Existing uses surrounding the project site include undeveloped land, agricultural land, and county lands, floodway and a few scattered single family residences. All residences within the proposed solar site are abandoned and will be demolished during construction.

[2] (http://msc.fema.gov/) FEMA Flood Insurance Rate Map (FIRM) panel ID numbers 06071C5150H.

Figure 4 Site Photos

Photo 1: Facing west from Route 66 and Cardigan Road near the northeast corner of the project site

Photo 2: Facing southwest from Route 66 and Turner Road

Photo 3: Facing northeast toward an offsite farmstead and Melrose Road

Photo 4: Facing northwest towards agricultural field, bluff and Mojave River

Photo 5: Facing northwest towards agricultural field, bluff and Mojave River from along Turner Road west of the railroad tracks

AREA	EXISTING LAND USE	OFFICIAL LAND USE DISTRICT
SITE	2 Single Family Residences (to be demolished)	Rural Living (RL-5) and Agriculture (AG)
North	1 Single Family Residence	Rural Living (RL-5)
South	Vacant; several Single Family Residences adjacent to access road	Agrictulture (AG) and Floodway (FW)
East	Largely vacant; 1 Single Family Residence, Railroad,	Rural Living (RL-5) and Floodway (FW_
West	Largely vacant, several Single Family Residences	Rural Living (RL)

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):

Federal Government: Fish and Wildlife Services

State of California: Colorado River Basin Regional Water Quality Control Board (CRBRWQCB), Mojave Desert Air Quality Management District (MDAQMD), California Department of Fish and Wildlife

County of San Bernardino: Land Use Services – Planning, Code Enforcement, Building and Safety, Land Development; Public Health-Environmental Health Services, Public Works – Surveyor, Traffic; County Fire – Community Safety, Hazardous Materials

EVALUATION FORMAT

This initial study is prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based upon its effect on seventeen (17) major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study Checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant	No Impact

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact**: No impacts are identified or anticipated and no mitigation measures are required.

2. **Less than Significant Impact**: No significant adverse impacts are identified or anticipated and no mitigation measures are required.

3. **Less than Significant Impact with Mitigation Incorporated**: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)

4. **Potentially Significant Impact**: Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use/ Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

☐	The proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared.
☒	Although the proposed Project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION shall be prepared.
☐	The proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
☐	The proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
☐	Although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature: prepared by Christopher Conner, Senior Planner — Date: 10/28/2013

Signature: David Prusch, Supervising Planner — Date: 10/28/2013

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
I.	**AESTHETICS** – Would the project				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

SUBSTANTIATION: *(Check ☐ if project is located within the view-shed of any Scenic Route listed in the General Plan):*

a) **Less than Significant Impact.** No designated scenic vistas are located within visible distance of the Project.

The County General Plan Open Space Element, Policy OS 5.1. states that a feature or vista can be considered scenic if it:

- Provides a vista of undisturbed natural areas;
- Includes a unique or unusual feature that comprises an important or dominant portion

of the viewshed; or,

- Offers a distant vista that provides relief from less attractive views of nearby features such as views of mountain backdrops from urban areas).

The project site is zoned RL-5 and relatively flat. The solar equipment on site would consist of PV modules mounted on fixed-tilt foundations or tracker units, and associated electrical equipment will maintain a low profile. The project will also include access roads and a six-to eight foot chain link perimeter fence topped by a one-foot section of barbed wire. None of the proposed equipment would have a substantial adverse effect on any scenic vista. No designated scenic views, scenic vistas or scenic resources are known to occur in the vicinity of the Project. Moreover, most viewers would be motorists along SR-66 and views from that location are dominated by the high western escarpment along the Mojave River (see Figure 4 Site Photographs); installation of the solar field at a much lower elevation would not affect

the view of the escarpment nor is it likely to attract particular attention.

b) **Less than Significant Impact.** The Project would not substantially damage scenic resources such as trees, rock outcroppings, and historic buildings within a state scenic highway. The nearest single family residence is approximately 40 feet outside of the eastern property boundary. East of the railroad tracks there are several residences located along US Highway 66 (SR 66). The nearest of these residences is approximately 425 feet from the eastern property boundary. There are a dozen additional residences within the vicinity, most to the northeast and over 1,000 feet from the project site. Nearby residences would have unobstructed views of the Project. Most viewers would be motorists along SR 66 who would have temporary views; however, SR 66 is not a state or County designated scenic highway or a scenic byway. Moreover, views west from the highway are dominated by the high western escarpment along the Mojave River; installation of the solar field at a much lower elevation would not affect the skyline nor is it likely to attract particular attention. Therefore the Project would have no impact to scenic resources along a state scenic highway.

The interconnection and distribution system upgrades will have no appreciable visual changes to current conditions. SCE will replace the 40-foot poles with 50-foot poles, and add a third circuit of 33 kV to the two existing 33 kV and 4 kV circuits. Some new poles will be added. The height change of these poles and the addition of a small number of new poles will not substantially change the visual character of the environment or damage scenic resources.

c) **Less than Significant Impact.** The Project will not substantially degrade the existing character or quality of the site and its surroundings. The project area is rural in character with a wide variety of developments, including scattered ranch structures, electrical transmission lines, a mining operation to the south, as well as the railroad, dirt roads and SR-66. The Project will be compatible with the area's rural and agricultural uses, and the general character of the area.

d) **Less than Significant Impact.** The Project is not expected to create a substantial new source of light or glare. The facility will be unmanned, and therefore nighttime lighting will be used to the extent needed to maintain safety and security objectives. Lighting fixtures will be hooded and directed downward to avoid spillage on adjacent properties. Additionally, the Project will comply with San Bernardino County Code section 84.29.040 which regulates glare, outdoor lighting, and night sky protection. All lighting associated with the proposed Project will be subject to County approval and compliance with San Bernardino County requirements. As such, the Project will have less than significant impacts in terms of lighting.

The Project is unlikely to create a substantial source of sustained glare. Because the Project is low in height, incorporates non-reflective materials, and largely blends with the

existing vegetation and structural components of this landscape, viewers are not expected to experience increased glare as a result of the Project. The small scale of the Project within the larger landscape, combined with the fact that the Project will comply with San Bernardino County Ordinance Standards 84.29.040 which states that solar energy facilities shall be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way, will minimize any potential for impacts associated with glare. The proposed Project will have less than significant impacts in terms of light and glare. No cumulatively considerable impacts are expected.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
II.	**AGRICULTURE AND FORESTRY RESOURCES** – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a)	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 non-agricultural use?	☐	☐	☐	☒
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

SUBSTANTIATION: *(Check ☐ if project is located in the Important Farmlands Overlay):*

a) **Less than Significant Impact.** The Project would convert Prime Farmland and Farmland of Statewide Importance (Farmland) to non-agricultural use. The California Department of Conservation Farmland Mapping and Monitoring Program identifies the project area as Prime Farmland and Farmland of Statewide Importance. However, the Project will not preclude future use of the site for agriculture use and therefore, the impact is considered less than significant.

The interconnection and distribution system upgrades will not convert Unique Farmland, Prime Farmland or Farmland of Statewide Importance to non-agricultural use. This work will be within temporary construction easements and SCE's existing permanent 10-foot wide easement.

b) **No Impact.** The proposed Project does not conflict with any agricultural zoning or Williamson Act land conservation contract. The site is vacant and is not used for agricultural uses. The property is zoned RL-5 (Rural Living-5 acre minimum parcel size), and is intended for rural residential uses, incidental agricultural and recreational uses, and similar compatible uses. Under County Code Chapter 82.04, electrical power generation is categorized as a transportation, communications and infrastructure use and is allowed in the RL zone upon approval of a Conditional Use Permit (CUP). The proposed Project area is not under a Williamson Act contract.

The interconnection and distribution system upgrades will not conflict with any agricultural zoning or Williamson Act land conservation contract. This work will be within temporary construction easements and SCE's existing permanent 10-foot wide easement.

c) **No Impact.** The proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). The proposed Project area is currently vacant land or within an existing utility easement, which has never been designated as forest land or timberland. No rezoning of the project site would be required as the proposed Project is compatible with the current zoning designation, with a Conditional Use Permit (CUP).

d) **No Impact.** The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. The proposed Project area is currently vacant land or within an existing utility easement and has never been designated as forest land or timberland.

e) **No Impact.** The proposed Project will not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to a non-agricultural use because the Project is limited to the existing site. The off-site improvements proposed are within an existing utility easement and will not result in the

conversion of farmland to non-agricultural uses.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
III.	**AIR QUALITY –** Where available, the significance criteria established by the applicable air quality management or air pollution control district might be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	Result in a 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)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

SUBSTANTIATION: *(Discuss conformity with the South Coast Air Quality Management Plan, if applicable):*

a) **Less than Significant Impact.** The proposed Project will not conflict with or obstruct implementation of the applicable air quality plan. The project site is located within the Mojave Desert Air Basin (MDAB) and is within the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The Air Quality Management Plan (AQMP) provides a program for obtaining attainment status for key monitored air pollution standards, based on existing and future air pollution emissions resulting from employment and residential growth projections. The AQMP is developed using input from various agencies' General Plans and other projections for population and employment growth. While the proposed Project is not identified specifically in the County of San Bernardino General Plan, it will not generate new homes or employment opportunities that will change the County's projections. Given that the proposed Project will not alter the population or employment projections considered during the development of the AQMP, and considering the minor emissions attributable to the proposed Project during operation (refer to discussion in item III (b) below), impacts

associated with AQMP consistency will be less than significant. In order to limit the production of fugitive dust during construction of the proposed Project, construction activities will be conducted in accordance with MDAQMD Rules 403 – Fugitive Dust and 403.2 – Fugitive Dust Control for the Mojave Desert Planning Area. This includes using water trucks to minimize the production of visible dust emissions to 20 percent opacity in areas where grading, blasting or vegetation removal occurs, within the staging areas, and on any unpaved roads utilized during project construction.

Over its lifetime, the proposed Project will not violate the regulations set forth by the MDAQMD Rule Book or CEQA. Currently the proposed Project will not utilize equipment that requires permits from the MDAQMD. Photovoltaic systems do not generate chemical emissions that negatively impact air quality. The proposed Project is designed to limit the amount of blasting and grading required for construction, which will limit fugitive dust generated during the life of the project.

b) **Less than Significant Impact.** The proposed Project is not expected to violate any air quality standard or contribute substantially to an existing or projected air quality violation. Potential air quality impacts include construction exhaust emissions generated from construction equipment, vegetation clearing and earth movement activities (if necessary), construction workers' commute, construction material hauling for the entire construction period. These activities will involve the use of diesel- and gasoline-powered equipment that will generate emissions of criteria pollutants such as Carbon Monoxide (CO), Nitrogen Oxides (NO_X), Reactive Organic Gases (ROG) or Volatile Organic Compounds (VOC), Sulfur Oxides (SO_X), Particulate Matter less than 10 microns (PM_{10}), and Particulate Matter less than 2.5 microns ($PM_{2.5}$). The project construction activities also represent sources of vehicle re-entrained fugitive dust (which includes PM_{10}), a potential concern because the proposed Project is in a non-attainment area for ozone and PM_{10}.

Construction-related increases in emissions of fugitive dust, exhaust from construction equipment, and employee commute vehicles will be temporary and localized during construction. Estimated quantities of unmitigated construction-related criteria pollutants from the Project in the MDAQMD are presented in Table 1. These data indicate that all construction-related emissions are below MDAQMD thresholds for California Environmental Quality Act (CEQA) review. Table 1 includes both the onsite activity of off-road equipment and the on-road mobile sources making deliveries to the site during the construction phase. A portion of these deliveries will occur in the South Coast Air Basin under the jurisdiction of the SCAQMD. Estimated emissions in the SCAQMD are presented in Table 2 and demonstrate that mobile sources associated with the construction activities in the South Coast Air Basin are not significant.

The proposed Project will also include dust abatement measures that will limit the generation of pollutants, including particulate matter 10 microns or less in diameter (PM_{10}), consistent with Rule 403.2 Fugitive Dust Control for the Mojave Desert Planning Area. This includes

using water trucks to apply water and/or palliatives to minimize the production of visible dust emissions to 20 percent opacity in areas where grading or vegetation removal occurs, within the staging areas, and on any unpaved roads used during project construction. These measures will further reduce fugitive dust emissions. In the context of the project design and construction features, proposed Project construction-related air quality impacts will be negligible.

Electricity generation via the use of PV systems does not generate chemical emissions that will negatively affect air quality. Over its lifetime, the proposed Project will not violate the regulations set forth by the MDAQMD Rule Book or CEQA and Federal Conformity Guidelines. Emissions from this unmanned facility during operations will be from periodic security checks of the site, periodic site maintenance, and trucks associated with routine panel washing that would be conducted approximately 2–4 times per year. Periodic equipment maintenance will require truck visits, deliveries, and could require minor use of solvents, paints, coatings, etc.

Table 3 presents the estimated operational emissions for all mobile sources. It has been conservatively assumed that all operational emissions are generated in the MDAQMD, given there are no long distance deliveries required during the operational phase. These emissions are all below the annual thresholds of the MDAQMD.

TABLE 1
CONSTRUCTION PHASE EMISSIONS WITHIN MDAQMD FOR ALAMO SOLAR PROJECT

Criteria Pollutant	Unmitigated Construction Sources (tons/yr)	MDAQMD Threshold (tons/yr)
Carbon Monoxide (CO)	13.05	100
Oxides of Nitrogen (NO_X)	18.67	25
Volatile Organic Compounds (VOC)	2.57	25
Oxides of Sulfur (SO_X)	0.03	25
Particulate Matter (PM_{10}) [1]	1.81	15
Particulate Matter ($PM_{2.5}$) [1]	1.03	15

Note: [1] Exhaust and Fugitive Dust.

TABLE 2
MOBILE SOURCE EMISSIONS FROM CONSTRUCTION ACTIVITIES IN SCAQMD PORTION OF SAN BENARDINO COUNTY FOR ALAMO SOLAR PROJECT

Criteria Pollutant	Unmitigated Mobile Sources (tons/yr)	Unmitigated Mobile Sources (lb/day)	SCAQMD Mass Daily Thresholds Construction (lb/day)
Carbon Monoxide (CO)	0.07	0.68	550
Oxides of Nitrogen (NO_X)	0.20	1.95	100
Volatile Organic Compounds (VOC)	0.02	0.20	75
Oxides of Sulfur (SO_X)	0	0	150
Particulate Matter (PM_{10}) [1]	0.28	2.73	150
Particulate Matter ($PM_{2.5}$) [1]	0.01	0.10	55

Note: [1] Exhaust and Fugitive Dust.

TABLE 3
OPERATIONAL EMISSIONS FOR ALAMO SOLAR PROJECT

Criteria Pollutant	Operational Emissions (tons/yr)	MDAQMD Threshold (tons/yr)
Carbon Monoxide (CO)	0.03	100
Oxides of Nitrogen (NO_X)	0.02	25
Volatile Organic Compounds (VOC)	0.00	25
Oxides of Sulfur (SO_X)	0.00	25
Particulate Matter (PM_{10}) [1]	0.11	15
Particulate Matter ($PM_{2.5}$) [1]	0.01	15

Note: [1] Exhaust and Fugitive Dust.

c) **Less than Significant Impact**. The proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). The project will contribute criteria pollutants in the area during the short-term project construction period (see Table 1, above). None of the activities associated with the proposed Project will create a substantial permanent increase in the emissions of criteria pollutants that will be cumulatively considerable. Periodic panel washing, occasional patrolling and routine maintenance and repairs of the unmanned solar facility will have no cumulatively considerable impact on the emissions of criteria pollutants (see Table 2, above). There are no sources of potential long-term air impacts associated with the implementation of the proposed Project. Therefore, impacts will be less than significant. Moreover, the proposed

solar electricity Project would reduce criteria pollutant emissions compared to emissions associated with generation of comparable amounts of electricity from fossil fuels.

d) **Less than Significant Impact.** The proposed Project will not expose sensitive receptors to substantial pollutant concentrations. The MDAQMD defines sensitive receptors as residences, schools, daycare centers, playgrounds and medical facilities (MDAQMD 2009). Residences in the project area may be exposed to short-term construction air quality impacts associated with construction exhaust emissions generated from construction equipment, vegetation clearing, construction workers' commute, and construction material hauling during the construction period. There will be no air quality impacts from project operation: electricity generation via the use of photovoltaic systems does not generate chemical emissions that will negatively contribute to air quality. The County's general conditions and standards as well as project-specific design and construction features incorporated into the proposed Project such as dust suppression techniques per MDAQMD's Rule 403 will reduce any potential impacts from the project.

e) **No Impact.** The proposed Project will not create objectionable odors that will affect a substantial number of people. Electricity generation via the use of photovoltaic systems does not generate chemical emissions that will negatively affect air quality or produce objectionable odors. Potential odor generation associated with the proposed Project will be limited to construction sources such as diesel exhaust and dust but these will be temporary and not be substantial. No significant odor impacts related to project implementation are anticipated due to the nature and short-term extent of potential sources, as well as the intervening distance to sensitive receptors. Therefore, the operation of the project will have a less than significant impact associated with the creation of objectionable odors affecting a substantial number of people.

Although impacts to Air Quality are considered to be less than significant the following mitigation measures are required as conditions of project approval.

MM# Mitigation Measures

AQ-1 **AQ/Construction and Operational Mitigation.** Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)] including but not limited to:

a) Equipment/vehicles shall not be left idling for period in excess of five minutes

b) Engines shall be maintained in good working order to reduce emissions

c) Onsite electrical power connections shall be made available where feasible

d) Ultra low-sulfur diesel fuel shall be utilized (State law)

e) Electric and gasoline powered equipment shall substituted for diesel powered equipment

where feasible

f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

g) In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site (State law).

h) All transportation refrigeration units (TRU's) shall be provided electric connections. [Mitigation Measure **AQ-1** - General Requirements/Planning]

AQ-2 **AQ/Dust Control Plan.** The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/ subcontracts a requirement that project contractors adhere to the requirements of the DCP. [Mitigation Measure AQ-2 – Building Permit/Planning]

AQ-3 **AQ – Installation.** The developer shall submit for review and obtain approval from County Planning evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
IV.	**BIOLOGICAL RESOURCES –** Would the project:				
a)	Have substantial adverse effects, 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 or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c)	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?	☐	☒	☐	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	☐	☐	☐	☒

SUBSTANTIATION: *(Check if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database ☒): Category «CAT»*

a) **Less than Significant with Mitigation Incorporated**. As described more fully in the Biological Resources Assessment Report for the Project (URS 2013), the Alamo site has been degraded by past agricultural land uses and no longer supports natural vegetation. Biological investigations of the site indicated that the predominant vegetation present is

Russian thistle (*Salsola tragus*) and hedge mustard (*Sisymbrium officinale*), two invasive weeds. Several agricultural buildings and residences are present within the site, and around the buildings are ornamental plantings including tamarisk (*Tamarix* spp.) and other trees that are not found elsewhere on site. A few living creosote bush (*Larrea tridentata*) and *Atriplex* shrubs were observed, but were sparsely distributed. Habitat conditions on-site are not characteristic of natural Mojave Desert environments, and the site is not suitable for occupation by most of the sensitive species that occur in the surrounding desert. Biological surveys of the Project site and gen-tie improvement corridor, described in detail in the Biological Resources Assessment Report for the Project (URS 2013), did not detect any sensitive species within the Project site. Surveys did identify a single Mojave desert tortoise (*Gopherus agassizii*) approximately four miles south of the project boundary, and approximately 10 feet from the proposed gen-tie improvement corridor.

While the Mojave River corridor, which is adjacent to the site's western boundary, contains suitable habitat for a variety of special-status species, these plants and animals are not expected to use the Project site due to the disturbed nature of the site and the absence of habitat. Even riparian species that are known to utilize adjacent uplands for foraging purposes, such as the federally- and state-listed endangered southwestern willow flycatcher (*Empidonax trailii extimus*) and least Bell's vireo (*Vireo bellii pusillus*), are unlikely to find prey in an area that is largely unvegetated and whose sparse vegetation is dominated by Russian thistle. The same is true of mammal species that likely occur in the River corridor, such as the Mojave river vole (*Microtus californicus mohavensis*) and pallid San Diego pocket mouse (*Perognathus fallax pallidus*); while these species occur in proximity to the Project site, the site does not provide suitable habitat for these species during any life stage and the species are not likely to venture onto the site. During a site visit on January 15, 2013, representatives from the California Department of Fish and Wildlife (CDFW) concurred with this interpretation, and indicated that conducting surveys for these species on the Project site was unnecessary due to the absence of suitable habitat. In a July 12, 2013 letter to the County Land Use Services Department, the USFWS concurs that further survey for these species is not necessary.

The Mojave desert tortoise, a federally- and state-listed threatened species, is not believed to occur within the Project site, but was detected during protocol surveys within the transmission corridor where gen-tie improvements are proposed, approximately four miles south of the proposed Project boundary. Within the Project site, the absence of natural vegetation results in unsuitable habitat conditions for this species, and the Mojave desert tortoise was not detected during multiple, full-coverage transect surveys of the site. (Transect surveys were performed pursuant to the burrowing owl survey protocol, but are very likely to have detected the Mojave desert tortoise, if present, due to the similarity in the survey methods. Protocol surveys for the Mojave desert tortoise were limited to the western portion of APN 0470-021-09 outside the site boundary and the gen-tie improvement corridor, per direction received from CDFW representatives during the January 15, 2013 site visit.) The documented occurrence within the gen-tie improvement corridor was located within creosote bush scrub habitat, which is the preferred habitat association for this species, and was detected approximately four miles south of the site's southern boundary (URS 2013).

As requested by CDFW during the site visit on January 15, 2013, protocol surveys for the burrowing owl were performed throughout the Project site and gen-tie improvement corridor in accordance with the current survey protocol for this species (CDFW 2012). As described in the Biological Resources Assessment Report for the Project (URS 2013), no burrowing owls were detected during these surveys.

Floristic surveys were conducted during the early (late March) and late (early July) 2013 season to encompass the flowering periods of sensitive plants that occur in the region. Comprehensive lists of plants occurring within the site and gen-tie improvement corridor were compiled (see URS 2013), but no sensitive plants were identified.

Considering the information above, the Project's effects on special-status species would be limited to potential effects on the Mojave desert tortoise identified adjacent to the gen-tie improvement corridor.

Common plants and wildlife species that currently utilize the Project site could be impacted by construction and operation of the proposed Project. Generally speaking, short-term impacts could potentially include injury or mortality of wildlife during construction. Long-term habitat loss would not occur, as natural habitats do not occur within the 175-acre site under existing conditions. Nonetheless, the limited existing plants within proposed disturbance zones would be eliminated during grading or site preparation activities. For the common wildlife that inhabit the site, ground disturbance has potential to cause injury and/or mortality of individuals. The extent to which species would be impacted would depend on several factors, including the species' mobility and the extent to which the species relies on the site for life history requirements. Species of low mobility, or those that use the site during particularly vulnerable portions of the life history, such as nesting periods, would be expected to sustain greater impacts than highly mobile species or those whose use of the site is transitory. Because development of the Project site would not disturb natural habitat areas, regionally abundant plants and wildlife species would not be substantially affected by the Project.

Within the gen-tie improvement corridor, existing wooden electrical poles would be re-conductored, and in some cases replaced with newer poles. Ground disturbance associated with these improvements would be minor and would include approximately 400 square feet at each pole location. While the long-term effects of this activity would be insignificant due to the temporary nature of the impacts and the limited acreage involved, common plants and wildlife located within these impact footprints would be susceptible to injury or destruction during construction. For common species, this impact would be less than significant because these species are abundant and well-represented in the vicinity and the region. Potential impacts to special status species are discussed below.

Impacts to Migratory Birds. The USFWS (2013) indicates that solar energy projects can result in a loss of breeding and forging habitat that can affect migratory bird populations protected by the Migratory Bird Treaty Act. The Service also indicates that migratory birds can mistake solar panel arrays as water bodies and die as a result of collisions. Birds can also collide with electrical power lines. The Alamo Solar Project does not include any project-specific impacts to migratory bird habitat and therefore would not contribute to any direct, indirect or cumulative loss of migratory bird habitat. Solar panels to be used at the

Alamo Solar Project would use silver frames and would be expected to keep the facility from looking like a water body; this design feature should avoid or minimize bird collisions at the site. The gen-tie Interconnection consists of the addition of a few new poles but most interconnection activities consist of upgrades to an existing distribution line and therefore the project is not expected to substantially increase the potential for bird collisions with electrical lines. SCE will follow standards of the Avian Powerline Interaction Committee to reduce the potential for electrocution of large birds such as raptors. As a result, project-specific impacts to migratory birds are considered less than significant. Although residual impacts are expected to be less than significant and thus require no mitigation, the USFWS recommends the Applicant work with the USFWS to contribute to a fund to identify and reduce sources of mortality of migratory birds in the region. Although the project is not expected to result in a significant impact on migratory birds, and thus no mitigation is required, the Applicant will work voluntarily with USFWS to identify a mutually agreeable contribution that reflects the small-scale of expected residual impact. See mitigation measure BIO-9

Impacts to Southwestern Willow Flycatcher (*Empidonax trailii extimus*) and Least Bell's Vireo (*Vireo bellii pusillus*). As noted above, these federally- and state-listed endangered species are known to occur along the Mojave River corridor but the project avoids this area and includes no suitable habitat for these species. While these species are known to utilize adjacent uplands for foraging purposes, they are unlikely to find prey in the site because it is largely unvegetated and the sparse vegetation that remains is dominated by Russian thistle. Both the CDFW and USFWS indicate that further biological surveys for these species are unnecessary. The USFWS (2013) also comments that a study has shown that solar panels can attract some types of aquatic insects and suggests that this in turn could attract the southwestern willow flycatcher and least Bell's vireo to the solar site. The USFWS also notes that solar panels bordered in white or crisscrossed by white strips can greatly reduce the attraction of aquatic insects. The Alamo Solar Project is not expected to result in a substantial increase in aquatic insect use during operations because the solar panels will have light-colored (silver) frames and, moreover, only a small fraction of the quarter-mile wide riparian corridor is adjacent to the site. As a result, the Alamo Solar Project is not expected to lead to increased foraging by these species that would have substantial adverse effects.

Impacts to the Mojave Desert Tortoise (*Gopherus agassizii*). Protocol surveys were conducted in April 2013 in accordance with the USFWS (2010) survey protocol for this species (see URS 2013). No tortoise were noted at or adjacent to the project site, which lacks suitable habitat. One live adult tortoise was detected in a burrow in creosote bush scrub habitat approximately four miles south of the project site, and approximately 10 feet from the gen-tie improvement corridor. Pole replacement and re-conductoring activities along with associated movement of personnel and equipment would disturb the ground surface and may compact shallow subsurface soils. If these activities were to occur in an area where Mojave desert tortoises are present, it is foreseeable that this species could be injured or killed by contact with construction equipment. Tortoises in subterranean burrows are often difficult to detect, and could also be crushed or entombed during construction.

Absent mitigation, these impacts would be significant.

Because the Mojave desert tortoise is listed under the Endangered Species Act and California Endangered Species Act as a threatened species, the Project would either need to avoid the potential to take this species or would require incidental take authorization under these statutes. Project-related take of this species would be prevented and potential impacts reduced to a less than significant level through Mitigation Measures requiring the implementation of a Worker Environmental Awareness Program (BIO-1), presence of a biological monitor during construction (BIO-2), installation of tortoise exclusion fencing around disturbance zones (BIO-3), and pre-construction surveys for this species (BIO-4). In addition, mitigation measure BIO-10 would minimize potential impacts to desert tortoise from local or regional increases in common raven populations, discussed further below.

The Common raven preys on the desert tortoise and the Bureau of Land Management (BLM), the USFWS, and other agencies have determined that land development projects in the California desert, including solar facilities and power lines, can lead to local increases in common ravens as a result of human-provided subsidies of food, water and nesting sites. An increase in local raven populations could lead to increased depredation (http://www.dmg.gov/documents/20101130_RPT_Common_Raven_Predation_on_DT_USFWS.pdf). The USFWS with the support of other federal, state and local agencies involved in managing land development projects in the California Desert have identified measures to mitigate impacts of raven predation on the desert tortoise. On a project-specific basis, the USFWS recommends designing projects to exclude ravens to the extent practicable and implementing measures to eliminate or minimize the availability of food, water and other human subsidies to ravens throughout construction, operation, maintenance and decommissioning. Recognizing that it is not possible to completely exclude ravens from using project infrastructure (e.g., buildings, fences, solar structures, transmission lines), the USFWS developed the Regional Common Raven Management Program to offset indirect and cumulative impacts from development projects. Such impacts can be offset (mitigated) by making a one-time contribution to the program based on the permitted duration of a project and the number of acres that would be affected. The Alamo Solar Project has a projected duration of 20 to 30 years and the USFWS has determined the appropriate funding for such a project would vary from a total of $64 to $105 per acre of disturbance, including both the site and the gen-tie improvement corridor. For example, a 30-year project affecting 125-acres would contribute a one-time payment of $13,125 (125 ac x $105).

The Alamo Solar Project could potentially contribute to temporary local increases of raven populations during construction as a result of increases in:

- Water availability as a result of puddling from onsite dust suppression activities, equipment cleaning and maintenance, etc;
- Potential perching, roosting or nesting sites;

- Food sources from soil disturbance and road kill; and
- Food sources and attractants from human activities

Potential construction-related impacts from increased water and food availability would be effectively mitigated by ensuring water does not pond and food waste from workers is covered and does not accumulate. The presence of up to 176 construction workers and equipment is likely to discourage use of the project site for perching, roosting or nesting.

The solar project would provide a fence, small structures and a small number of new power poles that could be used by ravens for perching, roosting or nesting during operations. The facility will be unmanned and the few people that would visit periodically for maintenance and panel washing are not expected to result in any substantial increase in food or water that would attract ravens.

Mitigation measure BIO-10 would reduce project-specific, indirect and cumulative impacts of raven depredation of desert tortoise to less than significant levels.

Impacts to the Desert Kit Fox (*Vulpes macrotis arsipus*). The desert kit fox is a small fox native to the Mojave and Sonoran deserts of California, Oregon, Nevada, Utah, Colorado, Texas, New Mexico, and Arizona, as well as parts of Mexico. While the desert kit fox is not designated by federal, state, or local agencies as a special-status species, CDFW regulations at 14 CCR 460 prohibit the take of this species. Thus, to be compliant with CDFW regulations, the project must be accomplished without hunting, shooting, catching, capturing, or killing desert kit foxes, or attempting these activities. Although this species was not detected within the Project site or gen-tie improvement corridor during biological surveys, there is nonetheless a moderate probability that desert kit fox could use the site considering this species' high mobility and willingness to tolerate human disturbance and utilize disturbed habitats. Because the desert kit fox does not carry an applicable designation as a sensitive or special-status species, project impacts to this species would be less than significant. However, the survey and passive relocation requirements specified in Mitigation Measure BIO-6 would further reduce the potential for the project to impact this species, and would ensure compliance with CDFW regulations.

b) **Less than Significant.** As described in the Biological Resources Assessment Report for the Project, vegetation within the Alamo site is significantly disturbed and includes two mapped (see Sawyer *et al*. 2009) plant communities: Russian thistle stands and hedge mustard stands. (The site also contains areas mapped as developed/ornamental, but these are not formally-defined plant communities). Native habitats, including riparian habitats and other communities designated by the CDFW as sensitive, do not occur within the site boundaries. The gen-tie improvement corridor contains a variety of vegetation communities and land covers, including residential and industrial developments, ornamental landscaping, ruderal vegetation associated with edges of development, and intact desert scrub habitats. Riparian vegetation communities or other habitats that are considered sensitive by the

CDFW are not present. Considering this information, the Project's impacts on existing vegetation would be less than significant.

c) **Less than Significant with Mitigation Incorporated.** As described and illustrated in the Biological Resources Assessment Report and Jurisdictional Determination Report for the Project (URS 2013 and URS 2012, respectively), jurisdictional delineations indicate the Project site is located adjacent to the Mojave River corridor, but that the jurisdictional limits of the river are beyond the site boundaries. No wetlands are present on-site, and development of the Alamo site would not directly impact jurisdictional wetlands or waters. Indirect impacts associated with the potential for construction-related runoff to enter the Mojave River are addressed in Item IX of this MND.

A number of ephemeral drainages traverse the gen-tie improvement corridor, although they lack sufficient hydrology to support riparian vegetation or exhibit wetland characteristics. These features exhibit defined beds and banks, and are regulated under Section 1600 *et seq.* of the California Fish and Game Code which specifies that a Streambed Alteration Agreement must be obtained from the CDFW prior to undertaking an activity that would divert, obstruct, or substantially alter the streambeds. Federal protection under the Clean Water Act may also apply if the ephemeral drainages bear significant nexus to the Mojave River. Because the extent of disturbance proposed along the gen-tie improvement corridor is minimal, and because Southern California Edison will retain flexibility to avoid sensitive resources during final site design, it is unlikely that ephemeral washes would be affected by the Project. If they occurred, impacts to desert washes would be significant, absent mitigation. However, to ensure compliance with applicable laws, Mitigation Measure BIO-7 would require the project applicant or SCE to acquire a Section 404 Permit and Streambed Alteration Agreement prior to filling or altering desert washes along the gen-tie improvement corridor. Implementation of this mitigation measure would reduce potential impacts to a less than significant level.

d) **Less than Significant Impact.** The Alamo site is located in proximity to the Mojave River, a regionally important feature that provides stopover habitat and drinking water for a wide variety of wildlife species that traverse the desert during migration. However, as described in the proposed Project's General Biological Resources Assessment Report (URS 2013), the Alamo Project site has been previously disturbed and no longer contains intact habitats. The proposed limits of disturbance are confined to areas of former agricultural use, and no construction personnel or equipment would be allowed to enter the riparian area. The river corridor in the vicinity of the Project site has a width of approximately 0.4 mile, allowing wildlife to avoid temporary indirect impacts such as construction noise by moving within the river corridor if needed. The site perimeter fencing that would be installed around the site is not expected to hinder wildlife movement or habitat connectivity because the lands to be fenced do not contain natural habitat, and because most of the proposed fences would be installed in locations that are generally similar to the alignments of existing agricultural

fencing.

Because the proposed impacts within the gen-tie improvement corridor would be minor and temporary, impacts in this area would not affect wildlife movement or habitat connectivity.

Considering this information, impacts of the proposed Project on wildlife movement and habitat connectivity would be less than significant.

e) **Less than Significant with Mitigation Incorporated.** The proposed Alamo Solar Project has been designed with consideration for the policies and ordinances of San Bernardino County, and the proposed Project is consistent with these policies and ordinances. However, in some instances, these ordinances may impose additional requirements on the Project. Sections 88.01.050 and 88.01.060 of the San Bernardino County Development Code require that where removal of Joshua trees or cacti is proposed, all individuals to be removed shall be transplanted or stockpiled for future transplanting wherever possible. Development of the proposed Project would not require Joshua trees or cacti to be removed, however, as these species do not occur within the Project site. Although limited numbers of Joshua trees, Mojave yucca, and cacti occur within the gen-tie improvement corridor, the density of these plants is low enough that they could easily be avoided during construction.

Absent any sort of strategy for avoiding or salvaging Joshua trees or cacti during the proposed gen-tie line improvements, the Project would potentially conflict with Sections 88.01.050 and 88.01.060 of the San Bernardino County Development Code. This conflict would represent a potentially significant impact, absent mitigation. However, avoidance of Joshua trees and cacti, per mitigation measure BIO-8, would ensure consistency with the Development Code and reduce this potential impact (resulting from conflict with local policies or ordinances protecting biological resources) to a less than significant level.

f) **No Impact.** The Alamo site is not enrolled in any formal Habitat Conservation Plan or Natural Community Conservation Plan. However, several large-scale conservation plans are being developed in the region, and the Project's expected consistency with these plans is described below. It is important to note that because these plans have not yet been formally approved they are without regulatory weight, and may be subject to significant change prior to approval.

Following issuance of California Executive Order S-14-08 in November 2008, a team of federal and state agencies began work on the Desert Renewable Energy Conservation Plan (DRECP), a comprehensive planning document intended to provide binding, long-term endangered species permit assurances and to facilitate the review and approval of compatible renewable energy projects within the Mojave and Sonoran deserts of Southern California. The four agencies, which include the Bureau of Land Management (BLM), the U.S. Fish and Wildlife Service, the California Energy Commission, and the CDFW, collectively form the "Renewable Energy Action Team" (REAT) responsible for preparing the

DRECP. As of August 2013, a draft of the DRECP document has not been made available for public review and environmental review under NEPA and CEQA has not yet occurred. Based on information released by the REAT in January 2013, the DRECP will identify "Development Focus Areas," within which the DRECP's planned comprehensive incidental take authorizations and streamlined approval process would be applicable. Outside designated Development Focus Areas, projects on private land would continue to be approved through existing local government review processes; the DRECP would not prohibit development on private lands (REAT 2013). Because the DRECP has not yet been finalized, it is not known whether or not the Alamo project site would be situated within a Development Focus Area. However, because the site is under private ownership, it appears that the DRECP would not prohibit development of the site in either case. The expected date of a final, effective DRECP is not known but is likely to be substantially beyond the approval and construction timeline of the Alamo project, due to the large-scale, complex nature of the DRECP.

In 2006, the BLM adopted the West Mojave Plan, a habitat conservation plan and federal land use plan amendment that presents a comprehensive strategy to conserve and protect sensitive biological resources within approximately 6.2 million acres in the western Mojave Desert while also providing a streamlined program for complying with state and federal endangered species laws. Two state agencies and 15 local jurisdictions, including the County of San Bernardino, worked closely with the BLM during preparation of the West Mojave Plan. The two species of primary importance covered in the West Mojave Plan are the Mojave desert tortoise and Mohave ground squirrel. Because these species have not been detected within the Alamo site, the development of the site would not pose significant conflicts with this plan. Because the proposed activities within the gen-tie improvement corridor are associated with modernizing an existing transmission facility, and would not involve any changes in land use, these activities would not conflict with the West Mojave Plan. It should be noted that the BLM's approval of the West Mojave Plan has been the subject of recent litigation, and that the legal process may necessitate some deviation from the version approved in 2006. Thus, some uncertainty exists regarding the exact terms of this plan. By court order, the BLM is required to prepare a revised plan prior to March 31, 2014.

The project will have no impact relative to approved conservation plans.

Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.

MM#	Mitigation Measures
BIO-1	**Worker Environmental Awareness Program.** Prior to any construction activities on the project site or within the gen-tie improvement corridor, the Applicant will implement a Worker Environmental Awareness Program (WEAP) to educate on-site workers about

sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, on the first day of work prior to the employee's commencing work on the site. The WEAP will place special emphasis on the protected species that have potential to occur within the Alamo site, including the Mojave desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.

The program will include the following elements:

- A presentation, developed by or in consultation with a qualified biologist, discussing the sensitive biological resources with potential to occur on-site, and explaining the reasons for protecting these resources and penalties for non-compliance;
- Brochures or booklets, containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources, to be provided to all WEAP participants;
- Contact information for the project biological monitor, and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form, to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources; and,
- Conspicuous stickers, identifying the project and signifying WEAP completion, to be distributed immediately following WEAP training and required on personnel hard hats.

The project Applicant will be responsible for ensuring that all on-site personnel, throughout the duration of project construction, receive WEAP training. A training log, to be signed by all on-site personnel immediately following WEAP training, will be maintained on the project site during construction to document compliance with this measure.

BIO-2 **Biological Monitor.** Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor subject to the approval of the County of San Bernardino. The biological monitor shall be present at all times during vegetation clearing or ground disturbance, and shall ensure that impacts to biological resources are avoided or minimized to the fullest extent possible. When construction activities have progressed to the point where biological resources are no longer present, as determined by the biological monitor, biological monitoring in the area may be reduced or discontinued with approval from the County of San Bernardino. The biological monitor shall have the authority to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected.

BIO-3 **Mojave Desert Tortoise Exclusion Fencing.** Prior to initiation of construction activities along the gen-tie improvement corridor, the activity footprint of each work location will be surveyed for the Mojave desert tortoise by a qualified biologist. If Mojave desert tortoises or their recent sign are detected, the Applicant shall not initiate construction, and shall

instead contact the USFWS and CDFW to develop an avoidance strategy. No relocation or other take of desert tortoise is anticipated or proposed. Within 24 hours following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical along the long gen-tie improvement corridor. Any exclusionary fencing used shall be installed in accordance with the specifications set forth in Chapter 8 of the USFWS' *Desert Tortoise Field Manual* (USFWS 2009), and installation of the fence shall be overseen by a biologist familiar with the installation of tortoise exclusion fencing. If tortoise exclusion fences are left in place for a period exceeding one week at any location, the fences will be inspected weekly for any signs of damage or wear that could potentially compromise the integrity of the exclusion perimeter. If damage or excessive wear is observed, the exclusion fence will be repaired immediately. Results of any necessary fence inspections will be maintained to document compliance with this provision.

As noted, should exclusionary fencing prove impractical along the long gen-tie improvement corridor, SCE may elect instead to have all vehicular movements and construction activities monitored by qualified biologists to ensure desert tortoise are avoided. The monitors shall have authority to slow, halt or re-direct all construction traffic to ensure avoidance. No tortoise relocation or other forms of take are anticipated or proposed.

BIO-4 **Pre-construction Mojave Desert Tortoise Surveys and Avoidance.** Within 14 days prior to construction-related ground clearing and/or grading, the Applicant shall retain a qualified biologist to conduct surveys for signs of occupancy by the Mojave desert tortoise. Surveys shall cover the entire area proposed for disturbance, shall be conducted by walking parallel transects spaced no more than 10 meters apart, and shall focus on detecting any live tortoises or their sign, including carcasses, burrows, palates, tracks, and scat. Should any sign indicating the presence of Mojave desert tortoise be detected, the Applicant shall not proceed with ground clearing and/or grading activities in the area of the find, and shall instead contact the USFWS and CDFW to develop an avoidance strategy and/or seek authorization for incidental take of Mojave desert tortoise.

The results of the pre-construction surveys, including graphics showing the locations of any tortoise sign detected, and documentation of any avoidance measures taken, shall be submitted to the USFWS, CDFW, and the County of San Bernardino within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable federal and state laws pertaining to the protection of Mojave desert tortoise.

BIO-5 **Pre-construction Nesting Bird Surveys and Avoidance.** Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless

determined otherwise by a qualified biologist based on observations in the region), the Applicant shall retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys shall be conducted no more than seven days prior to initiation of disturbance work. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities.

If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the USFWS) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers shall be established in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of San Bernardino and CDFW within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

BIO-6 **Pre-construction Desert Kit Fox Surveys and Passive Relocation.** To avoid unauthorized take of the desert kit fox, the project Applicant shall retain a qualified biologist to conduct preconstruction surveys for this species within 14 days prior to ground disturbance. The survey shall be conducted by walking parallel transects spaced no more than 20 meters apart, and shall be focused on detecting any desert kit fox individuals or dens within the disturbance footprint. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active based on field observations. If necessary, motion-sensitive cameras or a tracking medium shall be used to determine whether a den is active.

Inactive dens in areas that would be impacted by construction activities shall be excavated by hand and/or mechanically and backfilled to prevent reuse by desert kit fox.

Active and potentially active dens in areas that would be impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand to prevent reuse. If tracks are observed, the den shall be classified as active. Outside the desert kit fox pupping season (January 15 through July 31, unless determined

otherwise by a qualified biologist based on observations in the region), the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the kit fox from continuing to use the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to prevent reuse, while ensuring that no kit fox are trapped in the den. No excavation of active desert kit fox dens shall be permitted during the pupping season.

The Applicant shall submit a report to the County of San Bernardino and CDFW within 30 days of completion of preconstruction desert kit fox surveys describing the survey methods, results, and details of any dens backfilled or foxes observed.

BIO-7 **Authorizations for Impacts to Ephemeral Washes.** If feasible, the Applicant shall avoid filling or altering the ephemeral desert washes that traverse the gen-tie improvement corridor during construction. If avoidance is not feasible, prior to undertaking any activity that would divert, fill, obstruct, or substantially alter any of the washes, the project Applicant will enter into a Streambed Alteration Agreement with the CDFW authorizing the proposed activity as required by Section 1602 of the California Fish and Game Code. The project Applicant will ensure that all project personnel comply with all stated terms and conditions of the Agreement, including any seasonal or weather-related restrictions on work activities within the streambeds, construction site housekeeping practices, or other limitations the CDFW may impose. The Applicant shall also contact the Los Angeles District of the U.S. Army Corps of Engineers, and shall obtain a Section 404 Permit for the proposed work if required.

BIO-8 **Avoidance of Joshua Trees and Cacti.** If feasible, the Applicant shall avoid the need to remove Joshua trees, Mojave yucca, or cacti during construction activities along the gen-tie improvement corridor. If avoidance is not feasible, the Applicant shall acquire a permit from the County of San Bernardino as required by Section 88.01.050 of the San Bernardino County Development Code prior to removing these species.

BIO-9 **Migratory Bird Fund Contribution.** The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant.

BIO-10 **Raven Management.** Alamo Solar Project, LLC and SCE shall implement the following measures to mitigate project-specific impacts that could result in a local increase in common ravens:

- Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.

- Use water for construction, operation and maintenance in a manner that does not

result in puddling.

- The biological monitor identified in mitigation measure BIO-2 shall implement the following at the project site:
    - Remove and dispose of road kills of common wildlife species from the project site and access road. No species subject to the Endangered Species Act would be removed.
    - Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.
    - Remove any inactive raven nests in the project site or along the access road.
- SCE will address common raven nests according to existing procedures or permits applicable to transmission line upgrades and maintenance activities.

Alamo Solar Project, LLC and SCE would implement the following measure to mitigate indirect and cumulative impacts it cannot fully eliminate:

- Contribute to the Regional Raven Management Plan. The contribution shall consist of a one-time payment of a total of $105 per acre of disturbance, including the project site and gen-tie improvement corridor.

BIO-11 **Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant shall perform construction-phase and operations-phase avian mortality monitoring at the Alamo project site. Prior to issuance of a grading permit for the project, the Applicant shall submit an Avian Protection Plan to the County of San Bernardino and the USFWS ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan shall include the following elements:

1. Bird Encounter Protocol during Construction

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird;
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior

to discovery.

2. Construction-Phase Reporting Requirements

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan shall require that the USFWS be notified immediately. Additionally, the applicant shall not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or CDFW.

3. Operations-Phase Mortality Monitoring

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the Alamo site, and will detail the methods by which this monitoring should be conducted. The plan shall require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events shall be conducted during each year, and will be scheduled to coincide with peak migration periods. However, one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

4. Adaptive Management

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the Project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan shall direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
V.	**CULTURAL RESOURCES –** Would the project				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

SUBSTANTIATION: *(Check if the project is located in the Cultural ☐ or Paleontologic ☐ Resources overlays or cite results of cultural resource review):*

a) **Less than Significant with Mitigation Incorporated.**

The Project site consists of fallow agricultural lands and typical rural developments, including scattered residences, dirt roads, distribution lines and other structures. The 190-acre Project site has been subject to several recent surface and subsurface archaeological studies (URS December 2011, March 2013, July 2013) as well as an architectural survey and evaluation (URS). In addition, SCE has conducted a cultural resources survey of the Project's distribution line (SCE 2013). The results of these studies are summarized below.

Archaeological Resources. In 2011 URS Corporation conducted an archaeological survey of two parcels for a 128-acre solar development (URS 2011). Prior to the survey a site record and literature search was conducted by the San Bernardino Archaeological Information Center (SBAIC) housed at San Bernardino County Museum of Natural History. The record search indicated that the Project site was located within the recorded boundary of CA-SBR-183, a poorly-defined prehistoric habitation site first recorded by Gerald Smith in 1940. The 2011 record search also indicated a prehistoric and historic trail alignment is mapped along the east side of the Mojave River in or near the western edge of the Project site. Field survey located and mapped a small prehistoric artifact scatter at the location of CA-SBR-183; no evidence of the trail was discovered (URS December 2011).

Subsequent to the 2011 survey, the Project was redesigned to avoid CA-SBR-183 and was enlarged to its current 175-acre size. Areas not investigated in 2011 were subject to an

updated site records review and archaeological surface survey (URS April 2013). Collectively, the archaeological surveys demonstrate that CA-SBR-183 is the only archaeological resource within or immediately adjacent to the currently proposed Alamo Solar Project.

Subsurface archaeological survey conducted in the western portion of the Project area adjacent to CA-SBR-183 found no evidence of intact archaeological deposits despite the excavation of 13 trenches and dry-screening more than 400 gallons of excavated soil (URS July 2013). The investigation was conducted by URS archaeologists and a Native American monitor representing the San Manuel Band of Mission Indians. Only two artifacts were recovered during screening and both were found in the disturbed plowzone (0–14 inches) of a single trench, including one small pottery sherd and one small fragment of burned bone. These results indicate that although areas around CA-SBR-183 contain a very low density of surface and near-surface artifacts in the plowzone, there is no evidence of subsurface archaeological deposits within the area tested. These results indicate that the solar project will not have a direct effect on CA-SBR-183. Surface grading and trenching near the archaeological site can be expected to affect a low density scatter of previously disturbed surface and near-surface artifacts in the plowzone which extends from the existing ground surface to a depth of approximately 12–14 inches. Given the nearness of the prehistoric site, there also is a low potential that isolated features or pockets of cultural materials could be discovered during ground disturbance. Finally, without effective means of ensuring avoidance, movement of heavy equipment during construction could inadvertently affect archaeological site CA-SBR-183. Mitigation measures CUL-1 through CUL-5 would reduce such impacts to less than significance.

Architectural Resources. An architectural resources survey and evaluation of the Project site was conducted (URS February 2013). Eight historic-period built environment properties were identified. After applying the procedures and criteria for the California Register of Historical Resources (CRHR) eligibility, as well as other means by which properties can be considered historical resources for the purposes of CEQA (as defined in CEQA), it was determined that none of the eight properties appear to be eligible for listing in the CRHR, or to be considered historical resources for purposes of CEQA. The Project would not have a significant effect on historic-era cultural resources.

SCE's cultural resources survey of areas that would be affected by upgrades to the distribution line were negative; upgrades along the distribution line would not have a significant effect on cultural resources.

b) **Less than Significant with Mitigation Incorporated.** See discussion of Item a), above.

c) **Less than Significant with Mitigation Incorporated.** A paleontological assessment (URS July 2013) indicates the Project site is located in sediments mapped as Holocene deposits (Q and Qw), which are thought to be too young to contain significant paleontological

resources. The SCE distribution line passes through well dissected alluvial fan deposits of Pleistocene age (Qod) that lie at the surface of a shallow depth below the surface and are considered to have high paleontological sensitivity. Thus, earth-moving activities in conjunction with reconductoring the distribution line may have affect significant nonrenewable paleontological resources. Mitigation measure CUL-5 would reduce such impacts to less than significance.

d) **No Impact.** This project will not disturb any human remains, including those interred outside of formal cemeteries, because no such burial grounds are identified on this project site and none are expected. If any human remains are discovered, during construction of this project, the developer is required to contact the County Coroner and the County Museum for a determination of appropriate measures to be taken. A Native American representative shall also be consulted, if the remains are determined to be of Native American origin.

Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.

MM# Mitigation Measures

CUL-1: Avoid CA-SBR-183. CA-SBR-183 and adjacent areas outside of the solar facility footprint shall be illustrated on construction site plans as an Environmentally Sensitive Area to be avoided during construction. Temporary exclusionary fencing shall be used to keep construction personnel and equipment outside the recorded site boundary.

CUL-2: Archaeological and Native American Monitoring. Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.

If potentially significant archaeological deposits are encountered, all ground disturbance near the find shall halt and the Project Archaeologist shall contact the San Bernardino County Museum and interested Native Americans to develop and implement a plan that would reduce potential impacts through avoidance or, if avoidance is not practicable, data recovery. Archaeological remains shall be recorded on the appropriate California Department of Parks and Recreation (DPR) 523 Series Forms. Discovery of potentially significant archaeological deposits and subsequent investigations may result in the preparation of additional archaeological technical reports. After ground-disturbing construction activities have been completed, an archaeological construction monitoring report shall be completed. Technical reports, the monitoring report, collected artifacts, and other necessary archaeological documentation shall be submitted to the San Bernardino County Museum for permanent curation.

CUL 3 Construction Worker Educational Workshop. Prior to construction, the qualified archaeological monitor or qualified designee shall conduct a brief educational workshop such that all construction personnel understand monitoring requirements, roles and responsibilities of the monitors, and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate.

CUL-4: Human Remains. In the event human remains are encountered during implementation archaeological investigations or during construction, ground disturbance in the area of the remains shall cease, and the remains shall be protected in place pending identification by the San Bernardino County Coroner. The San Bernardino County Coroner shall be contacted to determine the origin of the remains. In the event the remains are Native American in origin, the Native American Heritage Committee (NAHC) shall be contacted to determine necessary procedures in conjunction with the on-site Native American Monitor for protection and preservation of the remains, including reburial, as provided in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series (California Resources Agency 2004).

CUL-5 Paleontological Monitoring. A qualified paleontologist shall develop a paleontological mitigation program including, but not limited to, a field survey before grading, monitoring during grading, and recovery, preparation, identification, reporting, and curation of recovered fossils. The paleontological monitor shall have the authority to halt grading to collect uncovered paleontological resources. However, if geotechnical evidence prior to construction reveals that undisturbed Pleistocene sediments will not be impacted by excavations, paleontological monitoring would not be required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
VI.	**GEOLOGY AND SOILS –** Would the project:				
a)	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 Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
	ii. Strong seismic ground shaking?	☐	☐	☒	☐
	iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv. Landslides?	☐	☐	☐	☒
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c)	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 landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2001) creating substantial risks to life or property?	☐	☐	☒	☐
e)	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?	☐	☐	☐	☒

SUBSTANTIATION: *(Check ☐ if project is located in the Geologic Hazards Overlay District):*

a) **i) Less than Significant Impact.** The entire San Bernardino County area is particularly susceptible to strong ground shaking and other geologic hazards from numerous

earthquake fault zones, including the San Andreas Fault, among others. A review of California Geological Survey – Alquist-Priolo Earthquake Fault Zones maps indicates the proposed Project is located approximately 0.8 mile northeast of the Helendale-South Lockhart fault zone which locally trends along Highway 18. While the potential for onsite ground rupture cannot be totally discounted (e.g., unmapped faults could conceivably underlie the project site), the likelihood of such an occurrence is considered low due to the absence of known faults within the site.

The proposed Project will not include any habitable structures. Nonetheless, the design of any structures onsite will incorporate measures to accommodate seismic loading, pursuant to existing guidelines such as the "Greenbook" Standard Specifications for Public Works Construction (2006) and the International Code Council's (ICC) 2007 California Building Code (CBC). Specific standards that may be used for the proposed Project include but are not limited to proper fill composition and compaction, anchoring (or other means of securing application structures); and use of appropriate materials, dimensions and flexible joints where appropriate. Therefore, impacts from proximity to fault zones are considered less than significant.

ii) Less than Significant Impact. The subject site is within an area that is subject to strong earthquakes but no habitable structures are proposed. Due to economic considerations, it is not generally considered reasonable to design a structure that is not susceptible to earthquake damage. Therefore, significant damage to structures may be unavoidable during large earthquakes. The proposed structures should, however, be designed to resist structural collapse through incorporation of California Building Standards Code design guidelines and thereby provide reasonable protection from serious injury, catastrophic property damage and loss of life. With compliance with the California Building Standards Code, impacts are considered less than significant.

iii) Less than Significant Impact. The project site is expected to experience earthquake activity that is typical of the Southern California area. However, the site is characterized by deep, well-drained alluvial soils and groundwater in the region is low. The potential for liquefaction at this site is considered to be low. Furthermore, the proposed Project design and construction will incorporate requirements of the California Building Code that would address potential seismic-related effects such as liquefaction, settlement, and lateral spreading. Based on incorporation of applicable standards, potential project impacts associated with seismic-related ground failure will be less than significant.

iv) No Impact. The proposed Project would not have any risks associated with landslides. Landslides are the downslope movement of geologic materials. The stability of slopes is related to a variety of factors, including the slope's steepness, the strength of geologic materials, and the characteristics of bedding planes, joints, faults, vegetation, surface water, and groundwater conditions. The project area is relatively flat terrain where landslides have not historically been an issue; therefore, no significant impacts are anticipated with respect

to seismic-related (or other) landslide hazards.

b) **Less than Significant Impact.** The proposed Project's hydrological report (URS June 2012) indicates substantial soil erosion or the loss of topsoil is not expected. Site soils are well-drained and any rain or wash water on the solar panels would drain freely to the ground. Based on the volume of water falling from each panel during storm events, the height of the fall, and site soil conditions, it is not expected that erosion beyond a micro level will occur. Water will fall from the PV panels and pond at a drip point before infiltrating or gradually migrating into the existing drainage patterns. If, overtime, minor erosion were noted at the drip points, small gravel pads could be added to help dissipate the energy of the falling water. If minor erosion were noted near the foundations, minor grading could restore support for the individual foundations, and keep surface flows from undermining the foundations in future storm events.

Erosion control plans will be required to be submitted, approved and implemented. Measures to reduce and control erosion of soil during construction and long term operation are required by MDAQMD through its Rule 403 for control of fugitive dust, the Colorado River Basin Regional Water Quality Control Board (RWQCB) under its administration of the State's General Construction Permit, and the County of San Bernardino Public Works Department through its Storm Water Management Program. Implementation of requirements under MDAQMD Rule 403 for control of fugitive dust would reduce or eliminate the potential for soil erosion due to wind. The proposed Project would result in a minor increase in impervious surfaces and implementation of Best Management Practices (BMPs) that would be included in the applicant's Storm Water Pollution Prevention Plan (SWPPP) would reduce soil erosion due to storm water or water associated with construction.

c) **Less than Significant Impact.** Mapped soil types—primarily well-drained alluvial soils—appear to be conducive to the development of the proposed Project. The Project design and construction methods, including use of embedded pier foundations and recompaction of surface soils where needed, will stabilize project components; thereby, reducing potential impacts of the mapped soils to a less than significant level.

The project area is relatively flat terrain where landslides have not historically been an issue. Potential liquefaction (and related settlement and lateral spreading effects) and landslide impacts are discussed above in Sections VI.a.iii and VI.a.iv, respectively. Based on the described conditions and project design and construction methods, no significant impacts related to geologic instability are anticipated as a result of project implementation.

d) **Less than Significant Impact.** Site soils are well-drained to excessively well-drained and are not considered expansive soils.

e) **No Impact.** The proposed Project is an unmanned facility. No septic or other wastewater

disposal systems will be utilized as part of this project.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
VII	**GREENHOUSE GAS EMISSIONS –** Would the project:				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

SUBSTANTIATION:

a) **Less than Significant Impact.** The County's *Greenhouse Gas Emissions Reduction Plan* (GHG Plan) was adopted on December 6, 2011 and became effective on January 6, 2012. The GHG Plan establishes a GHG emissions reduction target for the year 2020 that is 15 percent below 2007 emissions. The Plan is consistent with AB 32 and sets the County on a path to achieve more substantial long-term reduction in the post-2020 period. Achieving this level of emissions will ensure that the contribution to greenhouse gas emissions from activities covered by the GHG Plan will not be cumulatively considerable.

In 2007, the California State Legislature adopted Senate Bill 97 (SB 97) requiring that the CEQA Guidelines be amended to include provisions addressing the effects and mitigation of GHG emissions. New CEQA Guidelines have been adopted that require: inclusion of a GHG analyses in CEQA documents; quantification of GHG emissions; a determination of significance for GHG emissions; and, adoption of feasible mitigation to address significant impacts. The CEQA Guidelines [Cal. Code of Regulations Section 15083.5 (b)] also provide that the environmental analysis of specific projects may be tiered from a programmatic GHG plan that substantially lessens the cumulative effect of GHG emissions. If a public agency adopts such a programmatic GHG Plan, the environmental review of subsequent projects may be streamlined. A project's incremental contribution of GHG emissions will not be considered cumulatively significant if the project is consistent with the adopted GHG plan.

Implementation of the County's GHG Plan is achieved through the Development Review Process by applying appropriate reduction requirements to projects, which reduce GHG emissions. All new development is required to quantify the project's GHG emissions and adopt feasible mitigation to reduce project emissions below a level of significance. A review standard of 3,000 metric tons of carbon dioxide equivalent (MTCO2e) per year is used to identify and mitigate project emissions. For projects exceeding 3,000 MTCO2e per year of

GHG emissions, the developer may use the GHG Plan Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner 100 or more points in the Screening Tables do not require quantification of project-specific GHG emissions. The point system was devised to ensure project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those from existing development, will allow the County to meet its 2020 target and support longer-term reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore are determined to have a less than significant individual and cumulative impact for GHG emissions.

Greenhouse gas emissions resulting from the construction and operation of the proposed Project were quantified and reported in a technical memorandum (URS April 2013). Results of the analysis show that construction and operation emissions over 30 years will be approximately 250 MTCO2e per year, far below San Bernardino County's significance threshold of 3,000 MTCO2e per year. These project GHG emissions are consistent with the County of San Bernardino's September 2011 *Greenhouse Gas Emissions Reduction Plan* and would present a less than significant impact for GHG emission.

Moreover, the construction of this solar facility will generate "green" electric power generation that would otherwise be produced with fossil fuels with much higher GHG emissions. The proposed Project thus would result in a net environmental benefit regarding GHG emissions.

b) **No Impact.** The proposed Project would produce solar electricity and is consistent with the *County of San Bernardino Greenhouse Gas Emissions Reduction Plan*. (See discussion above in Item a).

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
VIII	**HAZARDS AND HAZARDOUS MATERIALS –** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	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?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d)	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?	☐	☐	☐	☒
e)	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?	☐	☐	☐	☒
f)	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?	☐	☐	☐	☒
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

h)	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?	☐	☐	☒	☐

SUBSTANTIATION:

a) **Less than Significant Impact.** The proposed Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, because no use approved on the site is anticipated to be involved in such activities. If such uses are proposed on-site in the future, they will be subject to permit and inspection by the Hazardous Materials Division of the County Fire Department and in some instances additional land use review.

Construction will involve short-term use of hazardous substances such as fuels, lubricants, adhesives, solvents and asphalt wastes. (PCBs in oil for transformer work)The potential risk associated with the accidental discharge during use and storage of such construction-related hazardous materials is considered low because the handling of any such materials will be addressed through the implementation of Best Management Practices (BMPs) pursuant to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

The AC/DC collection system may be installed in shallow subsurface trenches and/or on an above-grade raceway suspended on stakes. Collection trenches would likely be mechanically excavated, though in some cases targeted shallow trench blasting may be required as a construction technique due to near-surface bedrock. Therefore, Construction may involve short-term use of explosives.

If explosives are to be used, the applicant will be required to obtain all necessary permits and approvals through the San Bernardino County Fire Department's Hazardous Materials Division (HMD). This may include preparing a Business Emergency Contingency Plan and securing a Certified Unified Program Agency (CUPA) Permit for hazardous materials handling and/or hazardous waste generation, as required by the HMD. The applicant and/or its construction firm and/or relevant subcontractors responsible for blasting activities will engage the HMD to perform a pre-construction site tour, to assist with worker training as necessary, and to perform a site closure inspection once any required blasting has been completed. Explosives will be transported, handled and used in accordance with all applicable laws and regulations. Therefore impacts would be less than significant.

b) **Less than Significant Impact.** The project will not 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. With the exception of typical construction-related hazards such as fuels, lubricants, adhesives, solvents and asphalt wastes, the proposed Project will not generate or require the use or storage of significant

quantities of hazardous substances. The photovoltaic panels used in the proposed Project are environmentally sealed collections of photovoltaic cells that require no chemicals and produce no waste materials. Batteries used for construction or operation will be stored and disposed of according to Department of Toxic Substances Control (DTSC) the Universal Waste Rule or EPA Hazardous Waste Battery Regulations. Furthermore, standard operating procedures will prevent the use of materials from causing a significant hazard to the public or environment.

Agricultural chemicals were not observed on the property during the Phase I Environmental Site Assessment (URS March 2013). However, based on the historical agricultural use of the property, chemical retention in surface and/or subsurface soils could be present. Most agricultural chemicals degrade rapidly in the presence of ultraviolet light from the sun and most newer-formulated chemicals have lower retention time especially at the lower application concentrations directed by regulatory agencies.

c) **No Impact.** There are no existing or proposed schools within one-quarter mile of the proposed Project site.

d) **No Impact.** The project site is not located on a known site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and will not create a significant hazard to the public or the environment.

e) **No Impact.** The project site is not located within an airport land use plan or within two miles of an airport. The nearest airport is the Southern California Logistics Airport located approximately 4.5 miles south of the solar site.

f) **No Impact.** The proposed Project area is located within I mile of a private airstrip; therefore, it would not result in a safety hazard for people residing or working in the project area. The private airstrip is Palisades Ranch Airport.

g) **Less than Significant Impact.** The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. External site access from the south would be provided west from Route 66 along Heritage Way then north to the site along a new road segment running along the eastern edge of parcel 0470-011-0351. The access road would be 26 to 36 feet wide, surfaced with all-weather material and will include adequate access for emergency vehicles.

The interconnection and distribution system upgrades will not change any access plans nor require any additional emergency response plan or emergency evacuation plan.

h) **Less than Significant Impact.** Any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. Comprehensive safety measures that comply with federal, state, and local worker

safety and fire protection codes and regulations will be implemented for the proposed Project and will minimize the occurrences of fire due to project activities during construction and for the life of the project. Therefore, less than significant impacts are anticipated.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
IX	**HYDROLOGY AND WATER QUALITY –** Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would 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 would drop to a level, which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	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 that would result in substantial erosion or siltation on- or offsite?	☐	☐	☒	☐
d)	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 would result in flooding on- or offsite?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	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?	☐	☐	☐	☒

h)	Place within a 100-year flood hazard area structure which would impede or redirect flood flows?	☐	☐	☐	☒
i)	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?	☐	☐	☒	☐
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

SUBSTANTIATION:

a) **Less than Significant Impact.** According to the Project's Hydrologic Analysis Addendum (URS March 2013), and Alamo Solar Site Hydrologic Analysis (URS December 2011) the project will not violate any water quality standards or waste discharge requirements. Potential water quality impacts from the proposed Project could be associated with short-term (construction-related) erosion/sedimentation and hazardous material use/discharge. Water used during construction and operations would be obtained from existing onsite wells and/or a local purveyor. Any use of existing onsite wells would be conducted according to requirements of the County of San Bernardino Division of Environmental Health Services, California Department of Water Resources and the Lahontan Regional Water Quality Control Board (Basin Plan). During operations, the expected pollutants of concern at this unmanned facility include trash and debris and potentially oil and grease from maintenance vehicles visiting the site periodically for panel washing (several times per year) and general site maintenance (as needed).

The facility will be unmanned. Solar panels will be elevated above the existing grade and supported by a metal frame and individual embedded piers. The ground shall be minimally graded. The proposed Project also includes construction of various concrete pads and gravel internal access roads but the Hydrological Analysis (URS March 2013) indicates less than 5 percent of the site will be covered with impervious surfaces. The remaining 95 percent will remain as native soil or graded to improve and control surface drainage.

Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project. The SWPPP provides detailed descriptions of water quality management measures to be used (e.g., site design and construction BMPs).

Maintenance of the unmanned facility Project will primarily involve panel washing and repairs or replacement of panels or other electrical equipment. Panel washing would be conducted as needed but is expected to occur quarterly or bi-annually. Panels would be power-washed with clean water that will contain no cleaning agents or other additives.

The construction of the interconnection and distribution system upgrades will also be incorporated in the Construction SWPPP and BMPs will be designed implemented to avoid hazardous waste discharge.

b) **Less than Significant Impact.** The proposed Project may obtain construction and operational water either by purchasing it from a local purveyor or by using existing onsite wells or a combination of both. The Mojave Groundwater basin is one of the 19 adjudicated groundwater basins within California and as such, the water extracted from that basin is closely accounted for by the Mojave Water Agency (MWA) Watermaster; water pumped from each specific subbasin beyond a specified volume per year is subject to recharge costs. The MWA indicates the current owner has water rights as a "minimal producer" to extract up to 10 af per year from the local Alto Subbasin without further notification. Water demand during construction is estimated at a total of 10-15 af; demand in excess of 10 af would be either obtained from a local purveyor or the well owner would join/stipulate the rules of the adjudication. Regardless of source, most (89 percent) of the ground surface within the proposed Project area will be permeable and operational water use will be small, estimated at approximately 1 acre-feet per year or less. The small amount of water to be used and the large amount of permeable surface within the solar site would not deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Onsite wells, if used, would meet Department of Water Resources well standards for an industrial well which includes a minimum depth of the annular seal of 50 feet. The existing well condition will be evaluated prior to operation and brought up to the industrial well standards if necessary.

c) **Less than Significant Impact.** The proposed Project will have a less than significant impact on the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite. The proposed Project's Hydrologic Analysis (URS December 2011 and March 2013) includes a conceptual drainage plan that would maintain the Turner Road channel on-site. The proposed Project would result in only a negligible effect to the current runoff rates, offsite drainage patterns, or quantity of runoff. Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project.

The Project site is situated within the Mojave Desert and has a slope of approximately 1 percent overall. The overall off-site watershed has area of approximately 1,545 acres. Because the imperviousness of the site would not be greatly changed as a result of the construction, the impact of increased rainfall runoff due to construction would be negligible.

During operation, the panels shall drain freely to the ground any rainwater that hits them.

Based on the volume of water falling from each panel, the height of the fall, and the soil conditions, it is not expected that erosion beyond an immediate micro level shall occur. Site soils are well-drained to excessively well-drained. Water from the PV panels infiltrate or gradually migrate into the existing drainage patterns. If, over time, minor erosion is noted at the drip points or foundations, small gravel pads can be added to help dissipate the energy of the falling water. If, over time, minor erosion is noted near the foundations, minor grading can restore support for the individual foundations and keep surface flows from undermining the foundations in future storm events.

d) **Less than Significant Impact.** Site topography is uniform in surface profile with a slight slope in the northwesterly direction. Under existing conditions, during heavy rain events, small washes onsite become conduits for stormwater flow. Runoff discharges directly to the Mojave River from the western perimeter of the site, but the central to northern part of the site drain to a channel that runs along Turner Road, which directs flows west through the site to the river. Runoff from the watershed upstream of the Project site passes through dual three foot-diameter culverts that run under the railroad track and discharge to the channel. Since this site is bordered on the east by the AT&SF Railroad, which acts as a dam with a controlled discharge from the dual culverts, the slight increase in runoff as a result of construction will cause very little effect on backup. Also, because the flows from the site discharge directly into the Mojave River, the potential to cause concentrated flows downstream as a result of drainage changes at the site is non-existent. Since the results from the preliminary hydrology study demonstrate that the increase in runoff volume associated with Project development is negligible.

According to the Project's Hydrologic Analysis (URS December 2011 and March 2013), the project will not 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 would result in flooding on- or off-site.

e) **Less than Significant Impact.** According to the Project's Hydrologic Analysis (URS December 2011 and March 2013), the proposed Project would result in a negligible increase in runoff compared to existing conditions and thus will not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff [please refer to discussion above in item (d).] The Hydrologic Analysis indicates the conceptual drainage plan will not substantially increase the volume of stormwater flows originating from or altered by the project. The Hydrologic Analysis was developed in consultation with and has been reviewed and accepted by the County. All necessary drainage improvements will be required by the County as conditions of project approval.

f) **Less than Significant Impact.** The proposed Project would not otherwise substantially degrade water quality because appropriate measures relating to water quality protection, including erosion control measures, are required. Potential erosion/sedimentation and

hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project.

g) **No Impact.** The project will not place unprotected 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, because the project does not propose housing.

h) **Less than Significant Impact.** The northwestern corner of the site lies within the Federal Emergency Management Agency (FEMA) designated 100-year floodplain of the Mojave River. However, the development area for the Project is outside of the 100-year floodplain. Therefore, the project will not place within a 100-year flood hazard area structures which would impede or redirect flood flows, because the development is not located within a 100-year flood hazard area.

i) **Less than Significant Impact.** The San Bernardino County Land Use Plan Hazard Overlay map for the Helendale area indicates the western half of the Project site is located in an area that could be subject to dam inundation. The project will be unmanned and would not expose people to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Some solar panels and fencing and other equipment could be affected by inundation.

j) **Less than Significant Impact.** See i), above.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
X.	**LAND USE AND PLANNING** – Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☒
b)	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 zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

SUBSTANTIATION:

a) **No Impact.** The project would not physically divide an established community. The proposed Project area is located in an unincorporated part of the County that has sparse residential development in the immediate area. Therefore, the proposed Project would not divide an established community.

b) **No Impact.** The property is zoned RL-5 (Rural Living – 5 acre parcel minimum). The RL land use zoning district provides for rural residential uses, incidental agricultural uses, and similar and compatible uses. Under County Code Chapter 82.04, an energy generating facility would be permitted through a Conditional Use Permit (CUP). The development standards for solar energy facilities are identified in County Code Chapter 84.29.040. The standards require setbacks from property lines either as identified in the Land Use Zoning District or 130 percent of the mounted structure height, whichever is greater. The Project layout includes the required setbacks in the Land Use Zoning District which will be greater than 130 percent of the mounted structure height of the PV solar module array. The development standards also require that solar facilities be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel or public right-of-way. The design of the solar arrays include non-reflective PV solar module arrays. Therefore, the Project will be consistent with all applicable land use policies and standards associated with the requirements of the CUP.

c) **No Impact.** The proposed Project and the interconnection and distribution system upgrades do not conflict with any applicable habitat conservation plans or natural community conservation plans, because there is no habitat conservation plan or natural community conservation plan applicable to the Project area

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XI.	**MINERAL RESOURCES –** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

SUBSTANTIATION: *(Check ☐ if project is located within the Mineral Resource Zone Overlay):*

a) **No Impact.** The Project will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state, because there are no identified important mineral resources on the project site and the site is not within a Mineral Resource Zone Overlay.

b) **No Impact.** The Project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan, because there are no identified important mineral resources on the project site and the site is not within a Mineral Resource Zone Overlay.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XII.	**NOISE –** Would the project result in:				
a)	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?	☐	☐	☒	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e)	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?	☐	☐	☐	☒
f)	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?	☐	☐	☐	☒

SUBSTANTIATION: *(Check if the project is located in the Noise Hazard Overlay District ☐ or is subject to severe noise levels according to the General Plan Noise Element ☐):*

a) **Less than Significant Impact.** With the exception of a few scattered residences, the proposed Project is adjacent to undeveloped and vacant land. Construction of the proposed Project, including the interconnection and distribution system upgrades, may potentially create some elevated short-term construction noise and vibration impacts to existing residents in the area; however these activities would be limited to day time hours and will comply with the noise and vibration standards of the San Bernardino Development Code. Construction noise and vibration is exempt from 7:00 A.M. to 7:00 P.M. Monday through Saturday. (County of San Bernardino, CA, County Development Code Chapter 83.01.080 and 83.01.090.) Operation of the proposed unmanned solar facility would not generate

audible levels of noise or perceptible levels of vibration in the surrounding area. There would be no permanent substantial change in noise or vibration levels. During operations, some noise is produced by the inverter/transformer installations. Such noise is expected to be around 50 to 60 dBA at 50 feet, depending on the design and vendor for the equipment. Based on typical solar array configurations, and assuming that the inverter stations are located on the interior of the nearest array, the nearest existing residence would be about 145 feet from the nearest inverter stations. At this distance, the inverter noise is expected to be at or below the County maximum daytime noise limit of 55 dBA L_{eq}. Vehicle trips generated during operations for maintenance and security would be periodic and would not violate noise standards.

b) **Less than Significant Impact.** The Project will not create exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels, because the project is required to comply with the vibration standards of the County Development Code and no vibration exceeding these standards is anticipated to be generated by the proposed uses.

c) **No Impact.** The Project will not generate a substantial permanent increase in ambient noise levels in the project vicinity above levels existing or allowed without the project. The Project will comply with the noise standards of the County Development Code.

d) **Less than Significant Impact.** The project will not generate a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing or allowed without the project because construction equipment shall not operate during evening hours and construction noise and vibration is exempt from noise/vibration standards from 7:00 a.m. to 7:00 p.m. Monday-Saturday, and the project is required to comply with the noise standards of the County Development Code.

e) **No Impact.** The proposed Project area is not located an airport land use plan or within two miles of a public airport or public use airport.

f) **No Impact.** The proposed Project area is not located within the vicinity of a private airstrip. The nearest private airstrip, Palisades Ranch Airport, is approximately one mile north of the project site.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XIII.	**POPULATION AND HOUSING –** Would the project:				
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

SUBSTANTIATION:

a) **No Impact.** The project will not induce substantial population growth in an area either directly or indirectly. The proposed Project is an unmanned solar generating facility and interconnection and distribution system upgrades. The power and infrastructure associated with the Project will assist in supplying upgrades to a larger electrical network and not directly for the immediate area. The proposed construction schedule will require 160-200 workers at its peak. During operations the facility will be unmanned. Several part-time employees or contractors would visit the site periodically for maintenance and several times a year employees or a contractor would visit the site to wash the PV panels.

b) **No Impact.** The proposed Project site is vacant land except for two residences that will be vacated and demolished prior to construction. This will not displace substantial numbers of existing housing units or require construction of replacement housing.

c) **No Impact.** The proposed Project would not displace substantial numbers of people.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XIV.	**PUBLIC SERVICES**				
a)	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	Fire Protection?	☐	☐	☒	☐
	Police Protection?	☐	☐	☒	☐
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other Public Facilities?	☐	☐	☐	☒

SUBSTANTIATION:

a) **Less than Significant Impact.** The proposed Project will not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services, including fire and police protection, schools, parks or other public facilities.

Fire Protection – Less than Significant Impact. The proposed Project would not result in the need for additional fire protection services that would require construction of new facilities. The nearest fire stations, Apple Valley Fire Protection District and Victorville Fire Department, are located approximately 12 miles southeast and 11 miles south of the project site, respectively. Any development in previously undeveloped areas increases human presence and the potential for fire. The fire threat is considered moderate at the project site. The San Bernardino County fire Department has identified fire protection measures that will be required as conditions of approval for this project in order to comply with applicable ordinances, codes and/or recognized fire protection standards. These include Fire

Department review and approval of all final onsite and off-site improvements; inspection, approval and signing a Building and Safety job card for "fire final"; vegetation clearance around buildings and structures; and road designs required to ensure adequate Fire Department access, among others. . During construction, some public services including fire protection may be required but these would be short-term and would not result in increase in the level of service offered or affect these agencies' response times. Because of the low probability and short-term nature of potential fire protection needs during construction, and conditions of approval required by the County Fire Department, the proposed Project would not result in associated significant impacts to fire protection.

Police Protection – Less than Significant Impact. The proposed Project would not result in the need for additional police protection services that would require construction of new facilities. The proposed Project area is served by the San Bernardino County Sheriff's Department. The Apple Valley Substation is located approximately 12 miles to the southeast of the project site. In addition, the Victorville Substation is approximately 12 miles to the south of the project site. Due to the large expanse that the substations cover, deputies are regularly assisted by California Highway Patrol, Big Bear Lake, Hesperia, Victorville and the Town of Apple Valley police, and BLM Rangers. The proposed Project would not impact service ratios, response times, or other performance objectives related to police protection. During construction, some public services including police protection may be required but these would be short-term and would not result in a need for new facilities or an increase in the level of service offered or affect these agencies' response times. The project will include a six-to-eight foot high chain link security fence, installed at the property setback and lighting will be designed to provide the minimum illumination needed to achieve the project's security objectives.

Schools – No Impact. Long-term operations of the proposed solar facility would place no demand of school services because it does not include the construction of residences. The project would not introduce temporary or permanent population into the area; therefore no impacts to schools would occur.

Parks – No Impact. Long-term operation of the proposed unmanned solar facility would place no demand on parks because it does not include the construction of residences or the extension of roads or other infrastructure that could induce population growth

Other Public Facilities – No Impact. The proposed Project would not result in the introduction and/or an increase in new residential homes or otherwise induce population growth that could require new public facilities.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XV.	**RECREATION**				
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

SUBSTANTIATION:

a) **No Impact.** The proposed Project will not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated because the Project will be unmanned and does not include construction of any new residential units or infrastructure extensions that would induce population growth.

b) **No Impact.** The proposed solar facility will be unmanned and does not include recreational facilities or require the construction or expansion of recreational facilities.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XVI.	**TRANSPORTATION/TRAFFIC –** Would the project:				
a)	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 greenways, pedestrian and bicycle paths, and mass transit.	☐	☒	☐	☐
b)	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.	☐	☐	☒	☐
c)	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?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

SUBSTANTIATION:

a) **Less than Significant Impact With Mitigation Incorporated.** The proposed Project is an unmanned facility that would be visited intermittently by part-time employees or contractors for maintenance, panel washing and security. Given that the facility would be unmanned and operational trips would be infrequent, the proposed Project would not create a substantial permanent increase in traffic as part of project operations. County policy D/CI 1.1 indicates that all new development shall not degrade Levels of Service (LOS) on major arterials below LOS C. National Trails Highway (formerly State Route 66)

provides primary north-south access to the project site. It is a two-lane highway within the vicinity of the Project. From the National Trails Highway, the project site is accessed via a westerly route on Heritage Way, a local east-west roadway. The proposed project would widen Heritage Way within the existing right-of-way and construct a new access road segment north to the site to accommodate Project traffic.

During construction, short-term temporary construction activities would generate additional vehicle trips along National Trails Highway and SR-18 as a result of worker commutes and construction deliveries (see Tables 4 and 5 below). Construction activities are anticipated to be conducted for approximately 8 months and the workforce is estimated to vary from a low of 10 during Month 1 to a high of approximately 176 workers during Months 5 and 6. In addition, SCE has indicated that approximately 19 full-time equivalent positions would be needed at the peak of upgrading its distribution line. Half of the workers are anticipated to commute from Victorville via National Trails Highway and the other half from Apple Valley via SR-18 (Happy Trails Highway) and National Trails Highway. Typically on-site work hours are 7 AM to 3:30 PM. Under this scenario, most workers (e.g., 95%) arrive before the 7-9 AM peak hours and leave before the 4-6 PM peak hours.

If 10-hour days are scheduled, workers would still arrive before the AM peak hours but all would leave at approximately 5:30 PM. Conservatively assuming 10-hour workdays, during peak construction Months 5 and 6, construction workers could temporarily generate 176 trips in the PM peak hours. The aforementioned 10-hour work day schedules are anticipated to be infrequent and will be implemented on as-needed basis.

Monthly construction deliveries are provided below and, based on 6-day work weeks, are expected to vary from a low of 59 deliveries per day in Month 1 to a high of 124 to 129 deliveries per day in Months 5 and 6 based on 26 working days per month. Construction deliveries are anticipated to occur throughout the day and are not expected to have a significant impact on traffic circulation. Mitigation measure TR-1 further would reduce impacts.

Existing traffic volume along SR-18 at Apple Valley Road is approximately 45,500 vehicles per day. Additional project construction traffic along this route (approximate 176 trips per day) is not expected to cause a significant traffic impact either individually or cumulatively, based on the short-term construction timetable.

The unmanned solar facility would not result in operational traffic that would reduce LOS.

The temporary increase in delivery and worker vehicle trips during project construction may impact public roadways during project construction activities. Therefore, mitigation measure TR-1 has been added to reduce potential construction related impacts.

TABLE 4
CONSTRUCTION LABOR FORCE ESTIMATES

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Working Hours Per Day	10	10	10	10	10	10	10	8
Working Days per Week	6	6	6	6	6	6	6	5
Workforce Estimates (No. of workers)	10	20	50	60	176	176	66	39

TABLE 5
CONSTRUCTION DELIVERY ESTIMATES

Vehicle Type	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Material delivery trucks[1]		80	160	80	22			
Water truck (average)[1]	1,536	1,690	1,664	1,728	3,200	3,456	1,664	1,408
Total Per Month[2]	1,536	1,770	1,824	1,808	3,222	3,456	1,664	1,408

[1] Heavy Duty Diesel (80,000 lbs gross vehicle weight).
[2] Assumed 4,000 gallon water trucks. Water used for dust control.

b) **Less Than Significant Impact.** San Bernardino Associated Government (SANBAG) acts as the transportation planning agency for San Bernardino County that is responsible for the cooperative regional planning of local and regional roadway improvements, train and bus transportation, deployment of intelligent transportation systems and long-term planning studies (SBC 2007).The proposed Project is subject to the provisions of SANBAG's Congestion Management Program (CMP) for San Bernardino County. According to page C-2 of the CMP, a project should be evaluated for potential impacts if a project or groups of projects are forecast to equal or exceed the CMP threshold of 250 two-way peak hour trips. Pass-by trips are not considered in the threshold determination. If a project is forecast to generate 100 to 250 peak hour trips and expects to add at least 50 peak hour trips to a State highway facility, the jurisdiction should consult with Caltrans to determine the need for a Traffic Impact Assessment [TIA] report. It is assumed the Project would generate approximately 96 round trips to the site per year for part-time workers and approximately 163 truckloads of water for panel washing. Since the proposed project would be unmanned and operational trips would be intermittent by part-time employees or contractors for maintenance, panel washing and security; the proposed Project would not generate a substantial permanent increase in traffic as part of daily project operations. Additional traffic during operations would fall below the CMP thresholds and warrants no further traffic analysis.

c) **No Impact.** The proposed Project will not affect air traffic patterns. Operation of the proposed Project is not dependent upon air transport related material, labor force, or service and would not result in an increase to air traffic levels. Therefore, no change in air traffic patterns, volume and safety are anticipated.

d,e) **Less Than Significant Impact.** The project would be constructed in accordance with County requirements and would not introduce design features such as sharp curves or dangerous intersections or an incompatible use within the vicinity of the project site. Internal site circulation would include a 25-foot-wide perimeter road with an all-weather surface and 12-foot wide access ways (minimally graded, dirt or gravel) to provide maintenance access to the solar panels. External project site access from the south would be provided west from Route 66 along Heritage Way then north to the site along a new road segment. The project site is located within a rural area and would not generate substantial numbers of vehicle trips as part of project operations. Per standard development procedures, all site plans are reviewed by the County to ensure that proposed roadway improvements and new access roads adequately meet all safety and design requirements.

f) **No Impact.** The proposed Project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks) and/or decrease the performance of facilities. The project is located within a rural area and would be unmanned. The nearest public bus route to the project site is Route 22 operated by the Victor Valley Transit Authority. Route 22 has a stop at National Trails Highway and Bryman (Google 2013). The project site is located to the northwest of the bus stop and would not impact bus service.

Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant.

MM#	Mitigation Measures
TR-1	**Traffic Control Plan.** A Traffic Control/Traffic Management Plan would be prepared to minimize project impacts on public roads and highways. The traffic plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling roadway work during periods of minimum traffic flow.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XVII.	**UTILITIES AND SERVICE SYSTEMS –** Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded, entitlements needed?	☐	☐	☐	☒
e)	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f)	Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

SUBSTANTIATION:

a) **No Impact.** The proposed Project does not involve construction of facilities that would generate wastewater; therefore it would not exceed applicable wastewater treatment requirements. The project will use uncontaminated water to clean the solar panels. The proposed project's water discharge does not require treatment or permitting according to the regulations of the Colorado River RWQCB.

b) **No Impact.** The proposed Project will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. During construction approximately 10–15 acre feet of water would be utilized for dust suppression. The solar

facility would be unmanned. Several part-time employees would visit the site periodically (e.g., monthly or bi-monthly). A few times per year, a designated representative would visit the site to wash the PV panels. Panel washing would require approximately 1 acre-foot of water per year or less and, based on an assumed use of medium-sized water tankers, would require approximately 80 truckloads for delivery of this water. Water also may be provided by one or more on-site wells. Water or dust palliatives would be used if needed to control wind and water erosion during operations.

Water used during construction, operations, or both, may be purchased from a local purveyor or provided by onsite wells. Regardless of water supply source, the proposed Project would not require construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

c) **Less than Significant Impact.** The proposed Project would not require the construction or expansion of storm water drainage facilities. Most of the project site would remain pervious and existing soils are predominantly well drained. Minor washes onsite would be filled and their stormwater flows re-directed to other existing washes onsite via perimeter swales. The project's Hydrologic Analysis Addendum, (URS March 2013) indicates this conceptual drainage plan would maintain adequate runoff through the Project site without causing backup for flows upstream or concentrated flows downstream. The proposed Project would result in only a negligible effect to the existing runoff rates, offsite drainage patterns, or quantity of runoff. Furthermore, potential erosion/sedimentation and hazardous materials impacts will be avoided or reduced below a level of significance through conformance with applicable elements of the NPDES Construction General Permit. As part of the permit requirements, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the project for construction.

d) **No Impact.** Construction and operational water needs of the proposed Project will be provided by existing onsite water wells and/or by a local water purveyor that would truck the water to the site. A total of approximately 10 to 15 acre-feet of water could be required during construction for dust suppression. The project's operational water demand is estimated at no more than 1 acre-foot per year for panel washing. The unmanned facility requires no water or sewer hookups or related entitlements. Water use for construction and operation of the proposed Project is negligible relative to existing supply (19th Annual Report of the Mojave Basin Area Watermaster, May 1, 2013, Appendix B, Alto Subarea) and the Mojave Water Agency (MWA), which serves as the Watermaster, has indicated that existing water rights allow onsite pumping of up to 10-acre feet per year of water without incurring additional costs. Should water needs exceed 10-acre feet, additional water could be purchased from the MWA or through the transfer of un-pumped water from another water producer in the Alto subarea (David Seielstad, personal communication June 19, 2013)

e) **No Impact.** The proposed unmanned solar facility would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater

treatment facilities. A local portable toilet contractor would meet the wastewater needs of the approximately 160–200 workers during construction.

f) **No Impact.** The Project would be served by landfills with sufficient capacity to accommodate the minor amount of solid waste that would be generated. The proposed Project is an unmanned solar electricity generating facility that would generate no process waste and only small amounts of solid waste requiring disposal. Solid waste generated during short-term construction activities will include demolition of existing buildings and structures onsite and generation of minor quantities of construction debris. Solid waste associated with the proposed Project will be disposed as appropriate in local landfill or at a recycling facility.

The proposed Project area is served by the two regional Class III landfills. The Landers Sanitary Landfill (Class III) is located approximately 31 miles southeast of the project and has a remaining capacity of 765,098 Cubic Yards (CYs). The Victorville Sanitary Landfill is located approximately 25 miles northwest has a remaining capacity of 81,510,000 CYs. These landfills have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

The panels and tracking system may eventually need to be decommissioned or recycled. Most parts of the proposed PV system are recyclable. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems (not counting the motors and control systems) typically consist of steel and concrete. All of these materials can be recycled. Demolished concrete shall be recycled through local recyclers. Metal and scrap equipment and parts that do not have free flowing oil will be sent for salvage. Equipment containing any free flowing oil shall be managed as hazardous waste and shall be evaluated before disposal at a properly permitted disposal facility. Oil and lubricants removed from equipment shall be managed as used oil and disposed in accordance with applicable State hazardous waste disposal requirements. County Code Chapter 84.29.070 Decommissioning Requirements requires the removal of all structures and facilities to a depth of three feet below grade and offsite recycling and/or disposal compliant with all Federal, state and local disposal requirements.

g) **Less than Significant Impact.** The proposed Project would comply with all federal, state, and local statutes and regulation related to solid waste. Accordingly, no significant impacts related to landfill capacity are anticipated from the proposed Project.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

	Issues	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less than Significant*	*No Impact*
XVIII.	**MANDATORY FINDINGS OF SIGNIFICANCE:**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c)	Does the project have environmental effects, which shall cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

SUBSTANTIATION:

a) **Less than Significant Impact with Mitigation Incorporated.** Implementation of the proposed Project, with mitigation, will not degrade the overall quality of the region's environment, or substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

Refer to *Section III, Air Quality*, where short-term (construction) air quality impacts are discussed. Implementation of mitigation measures AQ-1, AQ-2 and AQ-3 would further reduce air quality impacts to a less than significant level.

Refer to *Section IV, Biological Resources*. The project has the potential to affect, either directly or through habitat modifications, species and/or sensitive natural communities 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. The proposed Project has the potential to reduce the number of a rare or endangered plant or animal

species identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game. Implementation of mitigation measures BIO-1 through BIO-8 will reduce potential impacts to a level considered less than significant.

Refer to *Section V Cultural Resources*. Heavy equipment movement during construction has the potential to affect a known archaeological resource adjacent to the project unless avoidance measures are implemented. The project has a low potential to encounter and disturb unrecorded archaeological resources during project construction. Implementation of mitigation measures CUL-1 though CUL-5 would reduce potential cultural resource impacts to less than significant levels.

b) **Less than Significant Impact.** The project does not have impacts that are individually limited but cumulatively considerable. The sites of projects in the area to which this project would add cumulative impacts are capable of absorbing such uses without generating any cumulatively significant impacts.

c) **Less than Significant Impact.** The incorporation of design features, County policies, standards, and guidelines would ensure that there would be no substantial adverse effects on human beings, either directly or indirectly. Impacts of the proposed Project would be less than significant.

XIX. MITIGATION MEASURES

(The following mitigation measures, which are also included within the Conditions of Approval and coupled with the required Condition Compliance Release Forms (CCRF) shall serve as the Mitigation Monitoring and Reporting Program for this project.)

AQ-1 **AQ/Construction and Operational Mitigation.** Operation of all off-road and on-road diesel vehicles/equipment shall comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)] including but not limited to:

a) Equipment/vehicles shall not be left idling for period in excess of five minutes

b) Engines shall be maintained in good working order to reduce emissions

c) Onsite electrical power connections shall be made available where feasible

d) Ultra low-sulfur diesel fuel shall be utilized (State law)

e) Electric and gasoline powered equipment shall substituted for diesel powered equipment where feasible

f) Signs shall be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.

g) In addition, all on-road diesel trucks shall not idle more than five minutes per truck trip or per day on the project site (State law).

h) All transportation refrigeration units (TRU's) shall be provided electric connections. [Mitigation Measure AQ-1 – General Requirements/Planning]

AQ-2 **AQ/Dust Control Plan.** The developer shall prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/ subcontracts a requirement that project contractors adhere to the requirements of the DCP.

AQ-3 **AQ – Installation.** The developer shall submit for review and obtain approval from County Planning evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety. [Mitigation Measure **AQ-3** – Final Inspection/Planning]

BIO-1 **Worker Environmental Awareness Program.** Prior to any construction activities on the project site or within the gen-tie improvement corridor, the Applicant will implement a

Worker Environmental Awareness Program (WEAP) to educate on-site workers about sensitive environmental issues associated with the Project. The program will be administered to all on-site personnel, including the Applicant's personnel, contractors, and all subcontractors, on the first day of work prior to the employee's commencing work on the site. The WEAP will place special emphasis on the protected species that have potential to occur within the Alamo site, including the Mojave desert tortoise, burrowing owl, nesting birds, and desert kit fox, among other plant and wildlife species.

The program will include the following elements:

- A presentation, developed by or in consultation with a qualified biologist, discussing the sensitive biological resources with potential to occur on-site, and explaining the reasons for protecting these resources and penalties for non-compliance;
- Brochures or booklets, containing written descriptions and photographs of protected species as well as a list of site rules pertaining to biological resources, to be provided to all WEAP participants;
- Contact information for the project biological monitor, and instructions to contact the monitor with any questions regarding the WEAP presentation or booklets;
- An acknowledgement form, to be signed by each worker indicating that they received WEAP training and will abide by the site rules protecting biological resources; and,
- Conspicuous stickers, identifying the project and signifying WEAP completion, to be distributed immediately following WEAP training and required on personnel hard hats.

The project Applicant will be responsible for ensuring that all on-site personnel, throughout the duration of project construction, receive WEAP training. A training log, to be signed by all on-site personnel immediately following WEAP training, will be maintained on the project site during construction to document compliance with this measure.

BIO-2 **Biological Monitor.** Prior to issuance of a grading permit, a qualified biologist shall be retained by the Applicant as the biological monitor subject to the approval of the County of San Bernardino. The biological monitor shall be present at all times during vegetation clearing or ground disturbance, and shall ensure that impacts to biological resources are avoided or minimized to the fullest extent possible. When construction activities have progressed to the point where biological resources are no longer present, as determined by the biological monitor, biological monitoring in the area may be reduced or discontinued with approval from the County of San Bernardino. The biological monitor shall have the authority to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected.

BIO-3 **Mojave Desert Tortoise Exclusion Fencing.** Prior to initiation of construction activities along the gen-tie improvement corridor, the activity footprint of each work location will be surveyed for the Mojave desert tortoise by a qualified biologist. If Mojave desert tortoises or their recent sign are detected, the Applicant shall not initiate construction, and shall instead contact the USFWS and CDFW to develop an avoidance strategy. No relocation of other take of desert tortoise is anticipated or proposed. Within 24 hours following completion of the survey (assuming negative survey results), either a desert tortoise exclusion fence shall be installed surrounding the disturbance area or all construction activities shall be subject to 100% biological monitoring if fencing proves impractical along the long gen-tie improvement corridor. Any exclusionary fencing used shall be installed in accordance with the specifications set forth in Chapter 8 of the USFWS' *Desert Tortoise Field Manual* (USFWS 2009), and installation of the fence shall be overseen by a biologist familiar with the installation of tortoise exclusion fencing. If tortoise exclusion fences are left in place for a period exceeding one week at any location, the fences will be inspected weekly for any signs of damage or wear that could potentially compromise the integrity of the exclusion perimeter. If damage or excessive wear is observed, the exclusion fence will be repaired immediately. Results of any necessary fence inspections will be maintained to document compliance with this provision.

As noted, should exclusionary fencing prove impractical along the long gen-tie improvement corridor, SCE may elect instead to have all vehicular movements and construction activities monitored by qualified biologists to ensure desert tortoise are avoided. The monitors shall have authority to slow, halt or re-direct all construction traffic to ensure avoidance. No tortoise relocation or other forms of take are anticipated or proposed.

BIO-4 **Pre-construction Mojave Desert Tortoise Surveys and Avoidance.** Within 14 days prior to construction-related ground clearing and/or grading, the Applicant shall retain a qualified biologist to conduct surveys for signs of occupancy by the Mojave desert tortoise. Surveys shall cover the entire area proposed for disturbance, shall be conducted by walking parallel transects spaced no more than 10 meters apart, and shall focus on detecting any live tortoises or their sign, including carcasses, burrows, palates, tracks, and scat. Should any sign indicating the presence of Mojave desert tortoise be detected, the Applicant shall not proceed with ground clearing and/or grading activities in the area of the find, and shall instead contact the USFWS and CDFW to develop an avoidance strategy and/or seek authorization for incidental take of Mojave desert tortoise.

The results of the pre-construction surveys, including graphics showing the locations of any tortoise sign detected, and documentation of any avoidance measures taken, shall be submitted to the USFWS, CDFW, and the County of San Bernardino within 14 days of

completion of the pre-construction surveys or construction monitoring to document compliance with applicable federal and state laws pertaining to the protection of Mojave desert tortoise.

BIO-5 **Pre-construction Nesting Bird Surveys and Avoidance**. Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant shall retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys shall be conducted no more than seven days prior to initiation of disturbance work. If ground disturbance activities are delayed, then additional pre-disturbance surveys shall be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities.

If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the USFWS) shall be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers shall be established in the field with highly visible construction fencing or flagging, and construction personnel shall be instructed on the sensitivity of nest areas. A qualified biologist shall serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, shall be submitted to the County of San Bernardino and CDFW within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

BIO-6 **Pre-construction Desert Kit Fox Surveys and Passive Relocation.** To avoid unauthorized take of the desert kit fox, the project Applicant shall retain a qualified biologist to conduct preconstruction surveys for this species within 14 days prior to ground disturbance. The survey shall be conducted by walking parallel transects spaced no more than 20 meters apart, and shall be focused on detecting any desert kit fox individuals or dens within the disturbance footprint. If dens are detected, each den shall be classified as inactive, potentially active, or definitely active based on field observations. If necessary, motion-sensitive cameras or a tracking medium shall be used to determine whether a den is active.

Inactive dens in areas that would be impacted by construction activities shall be excavated

by hand and/or mechanically and backfilled to prevent reuse by desert kit fox.

Active and potentially active dens in areas that would be impacted by construction activities shall be monitored by a qualified biologist for three consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) and/or infrared camera stations at the entrance. If no tracks are observed in the tracking medium or no photos of the target species are captured after three nights, the den shall be excavated and backfilled by hand to prevent reuse. If tracks are observed, the den shall be classified as active. Outside the desert kit fox pupping season (January 15 through July 31, unless determined otherwise by a qualified biologist based on observations in the region), the den may be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next three to five nights to discourage the kit fox from continuing to use the den. After verification that the den is unoccupied, it shall then be excavated and backfilled by hand to prevent reuse, while ensuring that no kit fox are trapped in the den. No excavation of active desert kit fox dens shall be permitted during the pupping season.

The Applicant shall submit a report to the County of San Bernardino and CDFW within 30 days of completion of preconstruction desert kit fox surveys describing the survey methods, results, and details of any dens backfilled or foxes observed.

BIO-7 **Authorizations for Impacts to Ephemeral Washes.** If feasible, the Applicant shall avoid filling or altering the ephemeral desert washes that traverse the gen-tie improvement corridor during construction. If avoidance is not feasible, prior to undertaking any activity that would divert, fill, obstruct, or substantially alter any of the washes, the project Applicant will enter into a Streambed Alteration Agreement with the CDFW authorizing the proposed activity as required by Section 1602 of the California Fish and Game Code. The project Applicant will ensure that all project personnel comply with all stated terms and conditions of the Agreement, including any seasonal or weather-related restrictions on work activities within the streambeds, construction site housekeeping practices, or other limitations the CDFW may impose. The Applicant shall also contact the Los Angeles District of the U.S. Army Corps of Engineers, and shall obtain a Section 404 Permit for the proposed work if required.

BIO-8 **Avoidance of Joshua Trees and Cacti.** If feasible, the Applicant shall avoid the need to remove Joshua trees, Mojave yucca, or cacti during construction activities along the gen-tie improvement corridor. If avoidance is not feasible, the Applicant shall acquire a permit from the County of San Bernardino as required by Section 88.01.050 of the San Bernardino County Development Code prior to removing these species.

BIO-9 **Migratory Bird Fund Contribution.** The Applicant shall work with the USFWS to make a mutually agreeable contribution to a fund designed to identify and reduce sources of

mortality of migratory birds in the region. The contribution level shall reflect that project impacts to migratory bird populations are expected to be small and less than significant.

BIO-10 **Raven Management.** Alamo Solar Project, LLC and SCE shall implement the following measures to mitigate project-specific impacts that could result in a local increase in common ravens:

- Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.
- Use water for construction, operation and maintenance in a manner that does not result in puddling.
- The biological monitor identified in mitigation measure BIO-2 shall implement the following at the project site:
    - Remove and dispose of road kills of common wildlife species from the project site and access road. No species subject to the Endangered Species Act would be removed.
    - Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.
    - Remove any inactive raven nests in the project site or along the access road.
- SCE will address common raven nests according to existing procedures or permits applicable to transmission line upgrades and maintenance activities.

Alamo Solar Project, LLC and SCE would implement the following measure to mitigate indirect and cumulative impacts it cannot fully eliminate:

Contribute to the Regional Raven Management Plan. The contribution shall consist of a one-time total payment of $105 per acre of disturbance, including the project site and gen-tie improvement corridor.

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BIO-11 **Avian Mortality Monitoring.** In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant shall perform construction-phase and operations-phase avian mortality monitoring at the Alamo project site. Prior to issuance of a grading permit for the project, the Applicant shall submit

an Avian Protection Plan to the County of San Bernardino and the USFWS ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan shall include the following elements:

1. *Bird Encounter Protocol during Construction*

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird;
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior to discovery.

2. *Construction-Phase Reporting Requirements*

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan shall require that the USFWS be notified immediately. Additionally, the applicant shall not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or CDFW.

3. *Operations-Phase Mortality Monitoring*

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the Alamo site, and will detail the methods by which this monitoring should be conducted. The plan shall require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events shall be conducted during each year, and will be scheduled to coincide with peak migration periods. However, one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

4. *Adaptive Management*

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances

or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the Project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan shall direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

CUL-1 **Avoid CA-SBR-183.** CA-SBR-183 and adjacent areas outside of the solar facility footprint shall be illustrated on construction site plans as an Environmentally Sensitive Area to be avoided during construction. Temporary exclusionary fencing shall be used to keep construction personnel and equipment outside the recorded site boundary.

CUL-2 **Archaeological and Native American Monitoring.** Prior to construction, an archaeological monitoring plan shall be prepared and implemented to the satisfaction of the San Bernardino County Museum. Archaeological and Native American monitors shall be present during ground-disturbing activities during construction, including vegetation clearing, grubbing, grading, filling, drilling, and trenching. At a minimum, monitors shall be present during ground-disturbing activities that affect surface and near-surface soils, defined here as 0 to 24 inches below grade. If deeper A-horizon soils are discovered, or if actual subsurface archaeological deposits are discovered, archaeological and Native American monitoring shall continue until the archaeologist determines daily monitoring can be shifted to periodic spot checks.

If potentially significant archaeological deposits are encountered, all ground disturbance near the find shall halt and the Project Archaeologist shall contact the San Bernardino County Museum and interested Native Americans to develop and implement a plan that would reduce potential impacts through avoidance or, if avoidance is not practicable, data recovery. Archaeological remains shall be recorded on the appropriate California Department of Parks and Recreation (DPR) 523 Series Forms. Discovery of potentially significant archaeological deposits and subsequent investigations may result in the preparation of additional archaeological technical reports. After ground-disturbing construction activities have been completed, an archaeological construction monitoring report shall be completed. Technical reports, the monitoring report, collected artifacts, and other necessary archaeological documentation shall be submitted to the San Bernardino County Museum for permanent curation.

CUL 3 **Construction Worker Educational Workshop.** Prior to construction, the qualified archaeological monitor or qualified designee shall conduct a brief educational workshop such that all construction personnel understand monitoring requirements, roles and responsibilities of the monitors, and penalties for unauthorized artifact collecting or intentional disturbance of archaeological resources. The construction worker training shall include an overview of potential cultural and paleontological resources that could be encountered during ground-disturbing activities to facilitate worker recognition, avoidance, and subsequent immediate notification to a designated on-site cultural monitor for further evaluation and action, as appropriate.

CUL-4 **Human Remains.** In the event human remains are encountered during implementation archaeological investigations or during construction, ground disturbance in the area of the remains shall cease, and the remains shall be protected in place pending identification by the San Bernardino County Coroner. The San Bernardino County Coroner shall be contacted to determine the origin of the remains. In the event the remains are Native American in origin, the Native American Heritage Committee (NAHC) shall be contacted to determine necessary procedures in conjunction with the on-site Native American Monitor for protection and preservation of the remains, including reburial, as provided in the State of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(e), "CEQA and Archaeological Resources," CEQA Technical Advisory Series (California Resources Agency 2004).

CUL-5 **Paleontological Monitoring.** A qualified paleontologist shall develop a paleontological mitigation program including, but not limited to, a field survey before grading, monitoring during grading, and recovery, preparation, identification, reporting, and curation of recovered fossils. The paleontological monitor shall have the authority to halt grading to collect uncovered paleontological resources. However, if geotechnical evidence prior to construction reveals that undisturbed Pleistocene sediments will not be impacted by excavations, paleontological monitoring would not be required.

TR-1 **Traffic Control Plan.** A Traffic Control/Traffic Management Plan would be prepared to minimize project impacts on public roads and highways. The traffic plan may include provisions for signage and noticing to inform the public about work before any disruptions occur, the use of flagmen and/or escort vehicles to control and direct traffic flow, and scheduling roadway work during periods of minimum traffic flow.

GENERAL REFERENCES

Alquist-Priolo Special Studies Zone Act Map Series (PRC 27500)

California Environmental Quality Act (CEQA) Guidelines, Appendix G.

California Fish and Game Code, Migratory Bird Treaty Act and Section 3503.

California Standard Specifications, July 1992

California Natural Diversity Database, accessed at www.dfg.ca.gov/biogeodata/cnddb/.

California Department of Resources Recycling and Recovery (CalRecycle) Accessed at http://www.calrecycle.ca.gov/SWFacilities/Landfills/ on August 17, 2012.

California Department of Conservation. County of San Bernardino Important Farmland Map. 2010.

California Geological Survey. Alquist-Priolo Earthquake Fault Zones Maps. Assessed at http://www.consrv.ca.gov/cgs/rghm/ap/Pages/index.aspx on August 16, 2012.

Water Quality Control Plan – Colorado River Basin Region 7. Colorado River Regional Water Quality Control Board (CRRWQB) approved by the State Water Resources Control Board on February 17, 1994

Federal Emergency Management Agency (FEMA). *Flood Insurance Rate Map and Flood Boundary Map*.

Mojave Desert Air Quality Management District California Environmental Quality Act (CEQA) and Federal Conformity Guidelines (2009)

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San Bernardino Associated Government's *Congestion Management Plan – 2007 Update.* Adopted December, 2007.

San Bernardino County. *Greenhouse Gas Emissions Reduction Plan*, Adopted December 6, 2011.

San Bernardino County. *Development Code*, 2007

San Bernardino County. *General Plan*, adopted 2007.

San Bernardino County. *General Plan Environmental Impact Report*, 2007.

San Bernardino County. *Lucerne Valley Community Plan*. Adopted March 13, 2007.

San Bernardino County. Identified Hazardous Materials Waste Sites List, April 1998

San Bernardino County. Countywide Integrated Waste Management Plan. Prepared by the Department of Public Works. December 2007.

San Bernardino County. *San Bernardino County Stormwater Program, Model Water Quality Management Plan Guidance.*

San Bernardino County of, Road Planning and Design Standards.

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South Coast Air Quality Management District, CEQA Air Quality Handbook, November 1993.

Mojave Basin Area Watermaster, 19th Annual Report of the published on May 1, 2013. Accessed online at www.mojavewater.org/files.

PROJECT SPECIFIC STUDIES:

Alamo Solar Site Hydrologic Analysis. Prepared by URS. December 2011.

Alamo Solar Site Hydrologic Analysis Addendum. Technical memorandum prepared by URS. March 2013.

Archaeological Subsurface Survey Report, Alamo Solar Project, San Bernardino County, California. Prepared by URS. July 2013.

Architectural History Survey and Evaluation Report for the Alamo Solar Project, San Bernardino County, California. Prepared by URS. February 2013.

Comprehensive Biological Resources Assessment Report – Alamo Solar Project. Prepared by URS. August 2013.

Criteria Pollutant Emissions from the Proposed Alamo Solar Project, CUP Application (P201300204). San Bernardino County, California. Technical memorandum prepared by URS. April, 2013.

Draft Water Quality Management Plan. Prepared by URS. April 2013.

Greenhouse Gas Emissions from the Proposed Alamo Solar Project, San Bernardino County, California. Technical memorandum prepared by URS. April 2013.

Paleontological Resources Assessment of the Alamo Solar Project, San Bernardino County, California. Prepared by URS. July 2013

Phase I Cultural Resources Survey Report, Alamo Solar Project, San Bernardino County, California. Prepared by URS. December 2011.

Phase I Cultural Resources Survey Report Addendum for the Alamo Solar Project, San Bernardino County, California. Prepared by URS. April 2013.

Phase I Environmental Site Assessment for the Alamo Solar Site, San Bernardino County, California. Prepared by URS. March 2013.

OTHER REFERENCES:

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