SAN BERNARDINO COUNTY

INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

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

PROJECT LABEL:

APN:	0497-071-40, 0497-121-28, 0497-101-05, and 0497-101-14
APPLICANT:	EDF RENEWABLE ENERGY (DBA LONGBOAT SOLAR, LLC)
COMMUNITY:	BARSTOW/1ST SUPERVISORIAL DISTRICT
LOCATION:	WEST OF STATE ROUTE 58, EAST OF LENWOOD ROAD, AND NORTH AND SOUTH OF COMMUNITY BOULEVARD
PROJECT NO.:	P201400516/CUP
STAFF:	JOHN OQUENDO, SENIOR PLANNER
REP(S):	JAVIER DE LA GARZA, PHIL HAWTIN, AND CHRISTA HUDSON
PROPOSAL:	A CONDITIONAL USE PERMIT TO BUILD AND OPERATE A 20 MEGAWATT UTILITY SCALE PHOTOVOLTAIC FACILITY ON APPROXIMATELY 233 ACRES OF THE 324-ACRE SITE.

USGS Quad:	Barstow		
T, R, Section:	T10N T9N	R2W R2W	Sec. 33 Sec. 4&5
Planning Area:	Desert Region		
Land Use Zoning District:	Agriculture (AG), Floodway (FW), and Rural Living 5-acre Minimum (RL-5)		
Overlays:	BIO (Biological Resources, Desert Tortoise – Medium Population, Burrowing Owl, Mojave Ground Squirrel) - 0497-121-28, 0497-101-05, and 0497-101-14; Dam Inundation		

PROJECT CONTACT INFORMATION:

Lead Agency: County of San Bernardino
Land Use Services Department
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Project Sponsor: Longboat Solar, LLC
Attn: Phil Hawtin
505 14th Street, Suite 1150
Oakland, CA 94612

PROJECT DESCRIPTION:

Project Overview

The Longboat Solar, LLC Project (Project) is a proposed solar energy facility that would generate up to 20 megawatts (MW) of alternating current electricity using single axis tracker solar photovoltaic (PV) technology within an approximately 233.47-acre Project site located on four subject properties totaling 324.94 acres and consisting of previously disturbed agricultural lands. The Project is located on unincorporated lands located to the immediate northwest of the City of Barstow, and north of the community of Lenwood, in San Bernardino County, California. State Route 58 (SR-58) bounds the site to the east and north.

The Project would connect to the electrical grid by way of a line tap on an existing Southern California Edison (SCE) 33 kilovolt (kV) transmission line located adjacent to the site along Community Boulevard, at which point the power generated from the Project changes ownership from the Project developer to SCE. SCE will undertake distribution line upgrades, repairs and modifications along the 33kV lines to SCE's Barstow Substation located in the City of Barstow approximately 4.5 miles east of the Project site. SCE upgrade work will consist of up to eleven pole replacements, re-conductoring of up to 2,900 feet of electrical line, and several minor substation upgrades at existing substation facilities. These off-site interconnection improvements will be constructed by SCE, and will support the project's connection to the electrical grid. These improvements are analyzed in this initial study.

The proposed Project would generate electricity during daylight hours when electricity demand is at its peak. When fully developed, the Project would produce enough electricity to supply the energy needs of over 4,300 California residences.

Community Boulevard transects the north and south portions of the Project site. The north and south sites will be electrically connected by underground conduit beneath Community Boulevard. The Project will also receive its data service from the existing Verizon telecom lines that are currently in the public right of way adjacent to the Project.

Purpose and Need

The purpose of the Project is to develop a PV solar energy facility. Solar energy provides benefits on a national, state, and local level. Solar energy is a clean source of electricity and an inexhaustible, domestic resource that helps reduce our dependence on imports of natural gas, oil, and other fuels.

The California Renewable Portfolio Standard (RPS) legislation enacted in 2002 (Senate Bill 1078) and accelerated in 2006 required retail sellers of electricity to obtain 20 percent of their supply of electricity from renewable energy sources, such as solar, by 2010. Subsequent recommendations advocated a goal of 33 percent by 2020, which Governor Arnold Schwarzenegger set as a statewide goal when he signed Executive Order S-14-08. The following year, Executive Order S-21-09 directed the California Air Resources Board, under its Assembly Bill 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020 (CEC, 2014). The 33 percent goal was enacted into law by Governor Brown on April 13, 2011 with his signing of Senate Bill 2X. On March 1, 2012, the state's investor owned utilities (including Pacific Gas & Electric, Southern California Edison, and

San Diego Gas & Electric) reported that they served 20.6 percent of their power demand with renewable energy sources (California Public Utilities Commission (CPUC), 2012). In September 2015, SB 350, the Clean Energy and Pollution Reduction Act which calls for a 50 percent RPS by 2030, passed the California legislature and was sent to Governor Brown for signature.

The proposed Project supports adopted plans, policies, and regulations of the State of California intended to reduce greenhouse gas emissions because it generates renewable electricity. SCE has selected this Project over several others by issuing a twenty (20) year PPA in order to help meet this goal.

The Project site is an optimal location for the proposed PV facility. The siting of solar energy facilities is dependent upon adequate solar resources, proximity to existing transmission electrical facilities, and a flat, consistent grade. The proposed site consists of previously disturbed former agricultural lands that are adequate in size and grade to site a 20 MW solar facility.

Project Location and Setting

The Project is located in unincorporated San Bernardino County, approximately 1.6 miles north of the community of Lenwood and immediately northwest of the City of Barstow (Figure 1). The Project site includes portions of County Assessor's Parcel Numbers (APNs) 0497-071-40, 0497-121-28, 0497-101-05, and 0497-101-14 (Table 1 and Figure 2). The Project site is located within the U.S. Geological Survey (USGS) 7.5-minute Barstow quadrangle (Township 10 North, Range 2 West, Section 33 and Township 9 North, Range 2 West, Sections 4 and 5). The site is mostly flat with the elevation only increasing slightly from 2,167 feet above mean sea level (MSL) in the eastern portion of the site to 2,185 feet above MSL in the western portion. The Project site is bounded to the north and east by SR-58, Community Boulevard bounds much of the northern boundary and the south is bounded by undeveloped land adjacent to the Mojave River.

Vegetation on the site is generally disturbed and consists of fallow agriculture fields with disturbed saltbush scrub, partially stabilized dunes, tamarisk/ornamental windrows, and abandoned agriculture. Three agricultural residences are located adjacent to the Project site, south of Community Boulevard. Adjacent land uses include scattered rural properties and undeveloped land, light industrial use including a Green Valley Foods Product Inc. cheese factory to the north, and active agriculture to the northwest.

Table 1. Project Site APNs

Assessor's Parcel Number	Gross Acreage	Owner	Address (Barstow, CA 92311)
0497-071-40	40.34	Hill's Ranch, Inc.	25749 Community Blvd.
0497-101-05	77.51	Hill's Ranch, Inc.	25749 Community Blvd.
0497-101-14	99.77	Soppeland Revocable Trust	25409 Community Blvd.
0497-121-28	107.32	Hill's Ranch, Inc.	25749 Community Blvd.
0497-101-09*	9.85 (3.83 acres leased to Project)	Max Eddy	25499 Community Blvd.

* Temporary construction laydown and lease area proposed on up to 3.83 acres. No permanent use is proposed.

Figure 2 depicts the proposed limits of construction, which includes construction work areas that extend beyond the Project site (e.g., staging areas, access, interconnections).

Land Use Regulatory Environment

The Project would require a conditional use permit (CUP) and an encroachment permit. The current General Plan land use element and zoning designations of the parcels in which the Project site is located are Agriculture (AG), Floodway (FW), and Rural Living 5-acre minimum (RL-5). No development is proposed within the FW designation. The AG and RL-5 designations allow for the development of renewable energy generation facilities with the processing and conditional approval of a CUP. The CUP would authorize the solar facility use. The Project's Site Plan (Figure 3) depicts a solar energy project that encompasses multiple parcels. In all cases, the required setback from property lines to Project facilities is maintained; thus, a Lot Merger is not required for the Project. A reciprocal access agreement will be required between the respective property owners within the Project and applicant as a condition of project approval.

The encroachment permit would authorize electrical conduits under Community Boulevard to link the northern and southern segments of the Project. Micro-siting of solar panels and inverters would be determined by constraints including, but not limited to, environmental, cultural, topographic, site-specific engineering, and construction best management practices.

Project Components

Solar Modules
The proposed solar energy generating facility will be a ground mounted tracking photovoltaic system, with a nominal capacity of up to 20 MW AC. The PV panels would be mounted on tracker technology, which tilts the panels to follow the course of the sun in order to optimize the incident angle of sunlight on their surface. Figure 4 provides a representative example of a ground mounted tracking photovoltaic system on a similar 20MW solar facility on approximately 123 acres in San Bernardino County, near Helendale, California. The modules are mounted on steel support posts that are driven into the native soils. The top of the arrays would be up to 12 feet above grade at the tallest point and approximately 20 inches above the grade at the lowest point. Depending on the ultimate PV design selected, the facility may consist of up to twenty separate one (1) MW ground-mounted PV system blocks.

Inverters
The wiring from each solar module delivers direct current (DC) power along a proposed underground trench or aboveground conduit to the inverters located on electrical equipment pads. The inverters convert the DC power to alternating current (AC) where the power is stepped up in voltage. Concrete supports will be used for the footings, foundations, and pads for the inverters. Underground cables would be installed in conjunction with internal access roads and panel arrays in order to connect each inverter to a feeder circuit, with the exception that the Project may use overhead collector and communication lines where it crosses two natural gas pipelines on the southern portion of APN 0497-101-14. The different solar panel circuits would gather at the switchyard and would then be sent by overhead electrical lines to a grid interconnection point.

Control and Storage Containers
The Project will have a prefab modular air conditioned container for control system and sensitive electronics measuring approximately 10' wide x 40' long x 9' high, and a metal storage container measuring approximately 10' wide x 40' long x 9' high for spare parts and maintenance materials. Both containers will be unmanned and non-habitable. These features would be located in the laydown and parking area proposed near the central portion of the Project site; immediately south of Community Boulevard.

Control System
The site would have a Supervisory Control and Data Acquisition (SCADA) system that would allow for remote monitoring and control of inverters and other Project components. The SCADA system would be housed within the prefab modular air conditioned container and be able to monitor Project output and availability as well as run diagnostics on the equipment.

Onsite Meteorological Station
The site would contain two or more on-site solar meteorological stations (SMS), up to 12 feet in height, which would consist of solar energy (irradiance) meters as well as air temperature and wind meters. Power for each SMS would be provided by the plant auxiliary power system or a dedicated PV module with a small battery.

Interconnection
Collector lines from each inverter would gather at the Project's switchgear, from which electricity would then be sent by overhead line to the electrical grid via a line tap on the existing 33kV transmission line located adjacent to the Project site along Community Boulevard. To safely facilitate the transition from the underground collection system and the Project switchgear, SCE will place up to three additional 40-foot wooden poles south of the existing pole on Community Boulevard through APN 0497-101-05 to accommodate various switching and control mechanisms. At this point, the power generated from the Project changes ownership from the Project developer to SCE. SCE will undertake distribution line upgrades, repairs and modifications along the 33kV lines to SCE's Barstow Substation located in the City of Barstow approximately 4.5 miles east of the Project site. SCE upgrade work as part of the Project will consist of up to eleven pole replacements, re-conductoring of up to 2,900 feet of electrical line and several minor substation upgrades. These off-site interconnection improvements will be constructed by SCE, and will support the project's connection to the electrical grid. These improvements are analyzed in this initial study.

Access
Access to the Project site would be directly from Community Boulevard by two main driveways, one for the portion of the Project south of Community Boulevard and one for the portion of the Project site north of Community Boulevard. In addition, a secondary access driveway and a temporary access driveway into the temporary storage and laydown area are also located on the south side of Community Boulevard along the parcel frontages. These additional access points would also be used for emergency access. Typical site access will consist of a 30-foot-wide driveway to accommodate wide turning radii in both directions. The proposed site access will include a 60-foot-long drive apron off of Community Boulevard. Internal roads for access around the perimeter and within the solar field will be built of compacted native soil roads per the geotechnical report recommendations. Both the perimeter access road and the internal access roads would be constructed in conformance with County Fire Department standards required for fire prevention. In accordance with County standards,

a 26-foot-wide perimeter road and 20-foot-wide internal roads have been incorporated into the site design. These access roads would remain in place for ongoing operations and maintenance activities after construction is completed. Final service road alignments would depend on the final placement of the solar panels and on the results of the environmental report documenting the results of field investigations, including topography and any other site-specific details to be incorporated into the final design. A reciprocal access agreement will be required between the respective property owners within the Project and the applicant as a condition of project approval.

Lighting, Fencing and Signage
The proposed Project will provide external safety lighting for both normal and emergency conditions at the primary access points. Lighting will be designed to provide the minimum illumination needed to achieve safety and security and will be downward facing and shielded to focus illumination in the immediate area. The Project perimeter will be secured with 8-foot-tall security fencing. All Project fencing will be set back 15 feet from the property line or public right-of-way. Additional setbacks incorporated into the site plan for APN 0497-101-09 include 74 feet on the east, 34 feet on the south, and 55 feet on the western property line, which will allow for retaining existing wind rows and other existing natural screening. Additional fencing requirements by local ordinance, rule or Project-specific Condition of Approval will be incorporated as applicable, including fencing slats where necessary to minimize wind-blown dust at adjacent residences. All Project signage requirements would be evaluated, and the best-fit scenario would be incorporated into the Project based on the final Project design.

Water Use
Water will be required during construction to support concrete manufacturing, dust control, module washing, and sanitary use. The Project will use the majority of water during construction for dust mitigation, estimated to require approximately 40 acre feet (AF) of water for construction activities and dust suppression. The Project will also require up to three AF of water per year for module washings, and up to 40 AF of water would be used during Project decommissioning. The Project will source its water from an on-site private well located in the southwest corner of APN 0497-071-04. This well is rated for approximately 920 gallons per minute (gpm). According to the Mojave Water Agency, Hill's Ranch, Inc. produced 40 AF of water during the 2013-2014 Water Year in the Centro Subarea. The Hill's Ranch, Inc. has a 1,868 AF stipulated water right within the adjudicated Mojave basin as well as a 1,868 AF of Carryover Right available for the 2014-2015 Water Year, resulting in an available water right of 3,736 AF in 2015, more than 90 times the amount of water required for construction of the Project. This water source would be used over the lifecycle of the Project for construction, panel washing, maintenance, and decommissioning.

Construction

Phasing
Construction of the project is expected to begin in the fourth quarter of 2015 and last up to 10 months, with a peak workforce of 181 construction workers on the site. Construction would be comparable to other renewable energy projects and is anticipated to be divided into the following sequence: (1) roads, grading, and fencing (2) electrical infrastructure, (3) PV assembly and installation, (4) substation interconnection, (5) electrical system upgrades, (6) PV commissioning, and (7) project finalization. Table 2 provides a summary of the Project's construction phases, anticipated construction equipment and maximum vehicle daily trips. Various elements of the Project would be

constructed concurrently on the property. The total duration of construction is not expected to exceed 10 months.

Table 2. Construction Phases and Anticipated Construction Equipment

Phase Name/Duration	Equipment Quantity	Trips/Day
1: Site Preparation (1 month/22 working days) Staging areas established; set access points; runoff controls, barriers, and fencing installed; minimal grading and scraping.	1 Bore/Drill Rig 1 Cement/Mortar Mixer 2 Excavators 3 Graders 2 Rollers 1 Skid-Steer Loader 5 Generator Sets 3 Off-Highway Trucks (Pick-up) 1 Off-Highway Truck (Water) 2 Tractor/Loader/Backhoes 2 Rubber-Tired Dozers	**Worker:** 16 (78.2-mile round trip) **Vendor:** 0 **Total:** 16
2: Underground Work (6.5 months/141 working days) Set manholes, excavate, concrete backfill, surface restoration, pulling cable, splicing, temporary preparation work on existing utility circuit, structure installation, transfer other utilities and conductor installation, wire clipping.	2 Dumper/Tender 5 Generator Sets 1 Roller 3 Off-Highway Trucks (Pick-up) 1 Off-Highway Truck (Water) 3 Trenchers 4 Compactors 3 Tractors/Loaders/Backhoes	**Worker:** 50 (78.2-mile round trip) **Vendor:** 4 (62.0-mile round trip) **Total:** 54
3: System Installation (5.5 months/120 working days) Installation of support beams, module rail assemblies, PV modules, inverters, transformers, and buried electrical cables. Concrete for footings, foundations, and pads for the transformers and inverters.	4 Forklifts 5 Generator Sets 6 Off-Highway Trucks (Pick-up) 3 Off-Highway Truck (Other) 7 Off-Highway Trucks (Concrete) 1 Off-Highway Truck (Flatbed) 1 Off-Highway Truck (Water) 4 Augers 3 Pile Drivers 1 Other General Industrial Equipment	**Worker:** 115 (78.2-mile round trip) **Vendor:** 7 (62.0-mile round trip) **PV-Panel Delivery:** 50* (120-mile round trip) **Total:** 172
4: Testing (1 month/21 working days) Test facility generation and connection to grid.	2 Generator Sets 3 Off-Highway Trucks (Pick-up) 5 Off-Highway Trucks (Other)	**Worker:** 30 (78.2-mile round trip) **Vendor:** 0 **Total:** 30
5: Clean-up/Restoration (1 month/23 working days) Removal/recycling of construction waste and debris; re-seeding as needed.	1 Grader 1 Off-Highway Truck (Water) 3 Off-Highway Trucks (Pick-up)	**Worker:** 20 (78.2-mile round trip) **Vendor:** 0 **Total:** 20

* Approximate maximum daily rate. Approximately 180 truck trips for PV solar panel delivery are anticipated over a 20- to 30-day period. Day-to-day trip amounts will vary widely from as much as 50 to as little as one.

The Project construction sequence is expected to begin with land preparation for installation of the PV module structures. Any large vegetation and brush that currently exists on the site will be removed and the surface graded flat where necessary for safe construction practices. In areas of the Project site where feasible, existing low-lying vegetation will be mowed and rolled where possible to provide ground cover and minimize dust generation. A stabilized entrance/exit will be provided to clean vehicle wheels prior to exiting the construction area.

Site Grading
Minimal site grading is proposed for the majority of the site with finished topographical grades being similar to existing conditions. Minor cuts may be required at the locations of inverters and other equipment to provide level foundations. Grubbing would occur on all access roads, and in any areas where the roots would impede a project structure. The installation of the solar panels also requires trenching for the installation of multiple cable systems. Within the Project site there are two earthen irrigation impoundments that will be demolished and the soil from these impoundments will be rebroadcast through the Project site. Initial grading work will include the use of excavators, graders, dump trucks, and end loaders, in addition to support pickups, and water trucks.

Construction Access and Staging Areas
It is anticipated that construction workers would utilize Community Boulevard as points of ingress/egress to the Project site and, once on the Project site, these workers would access various sections via the existing and improved network of gravel roads. As shown in Figure 2, Community Boulevard would be used to facilitate construction access to and from the north, south, east, and west portions of the Project site.

Staging areas may be required for material handling, temporary storage, and staging activities. Figure 2 depicts the proposed limits of construction, which includes construction work areas that extend beyond the proposed solar field (e.g., staging areas, access, interconnections). One staging yard, proposed on the south side of Community Boulevard (APN 0497-101-09), is under a short-term lease with the applicant and would be used for parking and construction staging. Upon the completion of construction, this temporary staging yard would no longer be a part of the Project. All other construction staging will occur within the proposed solar field site. Temporary containers with equipment will be placed in the staging and lay-down areas. There may be a temporary modular construction office onsite during construction. Disturbed areas, temporary roadways, and equipment laydown sites that are not required as part of the ongoing operation of the facility would be restored to pre-project conditions. Temporary access roads would be restored following completion of construction. Permanent disturbance is related to operational facilities and would include the permanent roadways, parking areas, access roads, and equipment that would remain in place for the life of the Project.

Water Quality
A stormwater pollution prevention plan (SWPPP) incorporating best management practices (BMPs) for erosion control will be prepared by a qualified practitioner prior to the start of construction. During site preparation, the SWPPP will be implemented and preliminary erosion and sediment control features will be installed and maintained. The Project would also comply with applicable post-construction water quality requirements adopted by the Regional Water Quality Control Board (RWQCB), Region 6.

Hazardous Materials
No hazardous wastes will be generated during the construction of the Project. The following wastes are anticipated to be generated: common household trash, cardboard, wood pallets, copper wire, scrap metal, paper, glass, plastics from packing material, waste lumber, insulation, concrete, empty non-hazardous containers, and vegetation wastes and wood wire spools. The Project applicant will prepare a Construction Demolition Waste Management Plan (CDWMP) to facilitate the recycling of as much of the generated waste as feasible. Although construction is not expected to generate hazardous waste, field equipment used during construction will contain limited amounts of hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products contained in construction vehicles. Standard best management practices will be utilized to contain and dispose of these materials in accordance with applicable regulations. Any hazardous materials would be stored in appropriate storage locations and containers. For example, flammable materials, such as paints and solvents, would be stored in nonflammable material storage cabinets with proper secondary containment.

The Project would be constructed by several contractors specializing in renewable energy projects. Construction employees are expected to arrive from respective population centers such as Barstow and Victorville, California, and report to the designated construction staging yards prior to the beginning of each work day. Employees will be encouraged to carpool to the project site, when feasible. As stated previously, it is anticipated that the employees would utilize Community Boulevard as points of ingress/egress to the property and that, once on site, they would access various sections via the existing and improved network of gravel roads.

The Project is designed so that all stationary equipment and machines with the potential to generate a significant increase in noise or vibration levels such as inverter/transformer would be located away from noise receptors to the extent practicable. The contractor shall, to the extent practicable, conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed established noise standards. (§83.01.080).

Operation and Maintenance

The Project would be operated on an autonomous, unstaffed basis and monitored remotely from an existing off-site facility. It is anticipated that maintenance requirements will be minimal as the proposed Project's PV arrays will operate with limited moving parts. No full-time staffing would be required to operate the facility; however one or two employees are expected to visit the site five days per week for routine maintenance and check-ups. Operational activities are limited to monitoring plant performance and responding to utility needs for plant adjustment along with preventative and

unscheduled maintenance. The Project will operate during daylight hours only. Periodic module cleanings and quarterly maintenance activities might utilize six to eight full-time workers for one to two weeks per quarter, or up to 40 days per year. No heavy equipment will be used during routine Project operation. Operation and maintenance vehicles will include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar module washing. Large heavy-haul transport equipment may be brought to the site infrequently for equipment repair or replacement.

Any required maintenance will be scheduled so as to avoid peak electric load periods, with unplanned maintenance activity as needed depending on the event. Preventative maintenance kits and certain critical spare components will be stored at the Project site, while all other necessary maintenance components will be available at an offsite location. On an as-needed basis, SCE will make necessary inspections, maintenance and improvements to their facilities that are on-site connecting the project to the distribution grid.

Vegetation is sparse with little potential for vegetative fuel buildup. The applicant will prepare a weed abatement plan for the Project in compliance with applicable County regulations. The Project would produce a small amount of waste associated with maintenance activities. PV solar farm wastes typically include broken and rusted metal, defective or malfunctioning modules, electrical materials, empty containers, and other miscellaneous solid materials including typical household type refuse generated by workers. These materials will be collected and recycled to the extent possible.

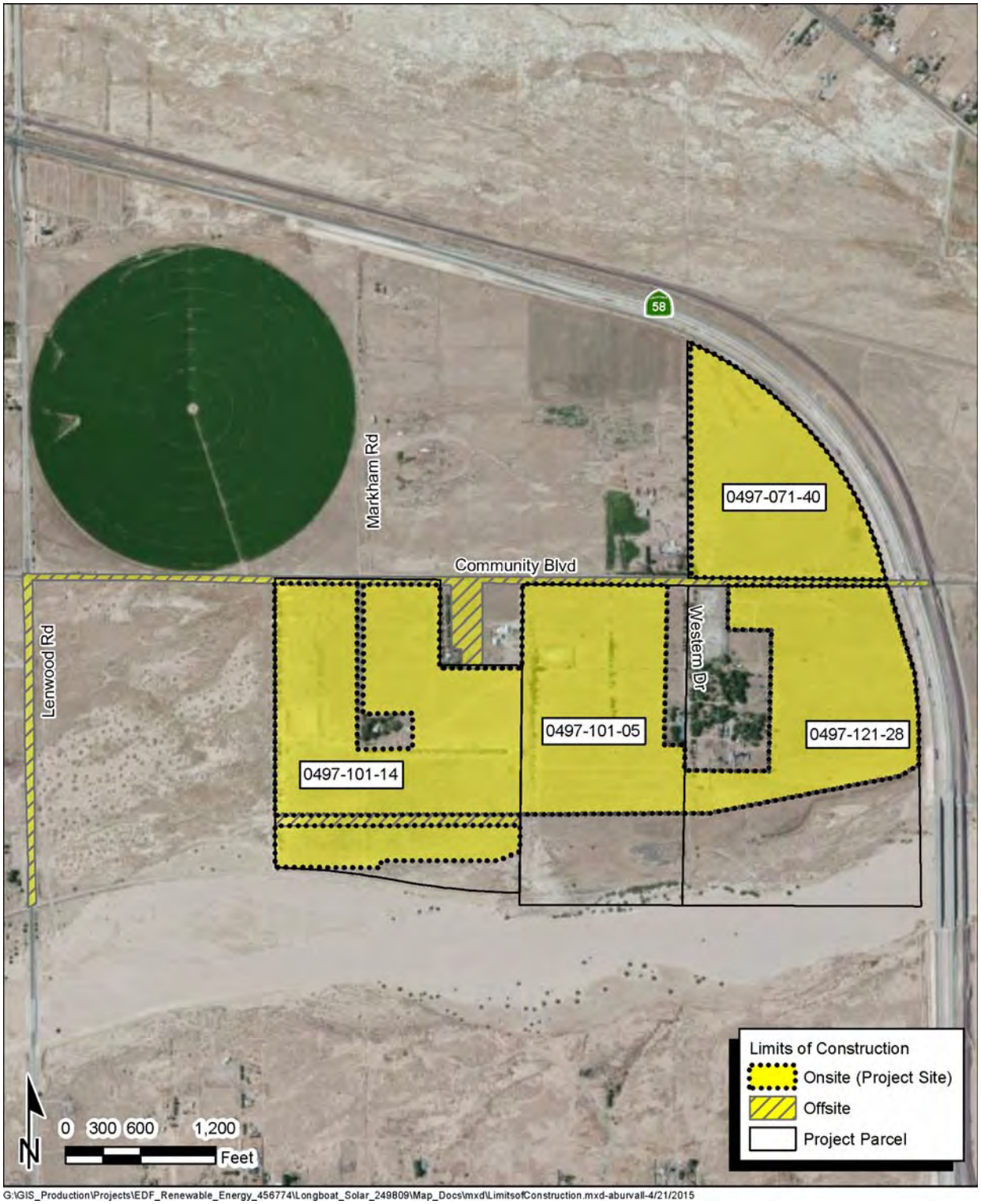
Decommissioning

At the end of the Project site's operational term, the applicant may determine that the site should be decommissioned and deconstructed, or it may seek an extension of its PPA and/or revision to its CUP, as applicable. When the solar arrays, panels, fencing, etc. are removed after the Project's lifetime, the land will be largely restored to its pre-project condition. The Project would utilize BMPs to ensure the collection and recycling of the solar arrays, panels, fencing, etc. to the extent feasible. As noted above, up to 40 acre feet of water would be used for Project decommissioning.

All decommissioning and restoration activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Following the implementation of a decommissioning plan, all equipment, foundations, and fencing would be removed and the Project site would be re-vegetated so that the end use and site condition are consistent with the surrounding agricultural landscape. End uses would be consistent with the existing zoning. The funding requirements for the implementation of the decommissioning plan will be provided in the form of a bond estimate by the project proponent prior to construction of the Project.

Figure 1
Regional Location

Figure 2
Site Location Map



APNs: 0497-071-40, 0497-121-28, 0497-101-05, and 0497-101-14
Applicant: EDF Renewable Energy – Longboat Solar, LLC
Project #: P201400516
October 5, 2015

Figure 3
Site Plan

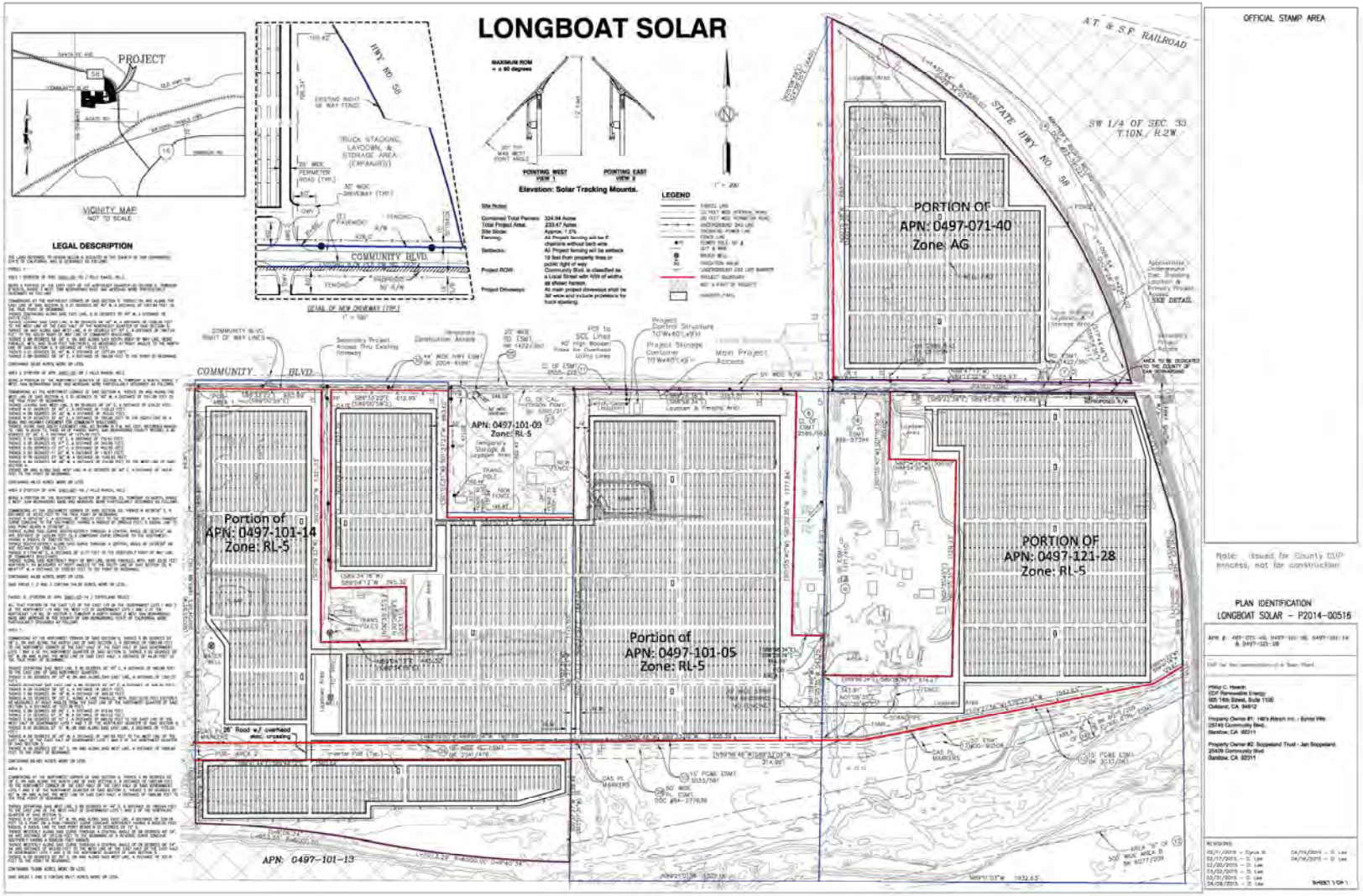


Figure 4
Representative Example of Ground Mounted Tracking Photovoltaic System

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 site is mostly level with minimal changes in elevation (approximately 18 feet). Elevations on the east portion of the site are situated at 2,167 feet above mean sea level (MSL) and grade upward to 2,185 feet above MSL on the western portion of the site. The site is bounded to the north and east by SR-58. Community Boulevard bisects the Project site and defines much of the northern boundary west of Assessor's Parcel Numbers (APN) 0497-121-28. The site is bounded on the south by undeveloped land and the Mojave River.

The Project site consists of fallow agricultural lands. Vegetation on-site is generally disturbed and consists of disturbed saltbush scrub, partially stabilized dunes, tamarisk/ornamental windrows, and ruderal vegetation. The site is associated with portions of County APNs 0497-071-40, 0497-121-28, 0497-101-05, and 0497-101-14.

Existing Land Uses

There are three existing agricultural residences located on APNs 0497-121-28 and 0497-101-14 immediately adjacent to the Project site. The Project site includes leased portions of these properties, but excludes the existing residences. The Project parcels are zoned Agriculture (AG), Floodway (FW), and Rural Living 5-acre Minimum (RL-5). The Project site excludes portions of the project parcels containing the FW zoning overlay and is restricted to the AG and RL-5 zones, which allow development of renewable energy generation facilities with the processing and conditional approval of a conditional use permit (CUP). The CUP would authorize the solar facility use subject to compliance with the conditions of approval. Other adjacent land uses include scattered rural residential properties and undeveloped land, light industrial use, including the Green Valley Foods Product Inc. cheese factory to the north, SR-58 and railroad to the east, and active agriculture to the northwest.

Area	Existing Land Use	Official Land Use District
Project parcels	Three agricultural residences	Agriculture (AG), Floodway (FW), and Rural Living (RL-5)
Project site	Vacant	Agriculture (AG) and Rural Living (RL-5)
North	Largely vacant, scattered rural properties, highway, light industrial, Green Valley Foods Product Inc. cheese factory	Agriculture (AG), Regional Industrial (IR)
South	Vacant, residences south of Community Boulevard, Mojave River	Rural Living (RL-5) and Floodway (FW)
East	Highway, Railroad, single family residences	Rural Living (RL), Rural Living (RL-5)
West	Largely vacant, scattered single family residences	Rural Living (RL)

Figure 5
Site Photos

Photo 1: Facing southeast from south side of Community Boulevard near the point of interconnection to SCE lines

Photo 2: Facing southwest from eastbound SR-58 bridge

Photo 3: Facing north from Community Boulevard near the SR-58 bridge toward APN 0497-071-40

Photo 4: Facing north from the southern perimeter of the Project site

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

Federal Government: None

State of California: Lahontan Regional Water Quality Control Board (RWQCB), Mojave Desert Air Quality Management District (MDAQMD), California Department of Fish and Wildlife (CDFW)

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 eighteen (18) 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 format for determining the effect of the project on each 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 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.

APNs: 0497-071-40, 0497-121-28, 0497-101-05, and 0497-101-14
Applicant: EDF Renewable Energy – Longboat Solar, LLC
Project #: P201400516
October 5, 2015

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

☐ Aesthetics	☐ Agricultural 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 will be prepared.
☒	Although the proposed project could have a significant effect on the environment, there will 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 will 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 JOHN OQUENDO — Date 10/1/2015

Signature: prepared by HEIDI DURON — Date 10/1/2015

	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) **No impact**. No designated scenic vistas as identified by San Bernardino County are located within visible distance of the Project site. 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 background view of the mountains from the Project site contain visible mining scars from existing and abandoned mining operations. These mining scars decrease the visual quality of the background mountain view in the area. The Project site itself as viewed from multiple vantages is already developed for agricultural uses with other existing agricultural, rural residential, transportation (SR-58 and railroad) and industrial uses surrounding the Project site. Additionally, given that SR-58 and the railroad are raised approximately 15 to 20 feet above the prevailing ground surface, views of the Project site from the north and east are generally obstructed. The solar arrays developed on site would consist of PV modules mounted on single axis tracker units up to 12 feet in height and enclosed by an 8-foot chain link perimeter fence. The off-site interconnection improvements would generally be limited to the in-kind replacement of existing utility poles using similar wooden poles and re-conductoring existing 33 kV lines. Substation improvements would be contained within SCE's existing substation facilities. Based on these considerations, including the low profile of the Project facilities combined with the existing degraded visual conditions on-site and presence of existing development in surrounding areas, the Project would not result in a substantial adverse effect on a scenic vista and no impact would result.

b) **Less than Significant Impact.** The analysis of Project-related effects to visual resources is based on the Visual Impact Analysis (VIA) for the Longboat Solar Project prepared by HDR (2015). The complete assessment is provided as Appendix A of this Initial Study. Discussion of the Project's potential visual changes to views from SR-58 and SR-66 is provided below. Historic Route 66, aka National Trails Highway and Main Street, is the nearest County-designated scenic route.

State Route 58 (SR-58) bounds the Project site to the east and north. Based on a review of the California Department of Transportation (Caltrans) California Scenic Highway Mapping System, SR-58 is not an officially designated scenic highway; however, it is identified as an eligible state scenic highway (Caltrans, 2011). The Project is located in a relatively flat area and does not contain scenic resources such as significant trees, rock outcroppings, or historic buildings. Community Boulevard defines much of the northern boundary. The Project site would be visible from drivers traveling both northbound and southbound on SR-58. Figures 6 and 7 illustrate the location of the key observation points (KOPs) and the pre- and post-Project views from SR-58 (KOP3) with the visual changes discussed below.

Existing views from SR-58 as depicted in Figure 7 for KOP 3 illustrate the following visual characteristics:

- *Scenic Attractiveness – (Class B – Typical).* This area has a typical landform that includes vacant land consisting of previously cultivated agricultural land, a cheese factory that is presumed to include a residence, two SR-58 bridge structures and several agriculture-related structures.
- *Scenic Integrity – (Low).* The views from this KOP include vacant land, agricultural structures, including a residence, and undulating hill features. The vegetation in the area consists of non-native disturbed habitat and a few windrows containing non-native trees. This view contains background[1] views of the hills (barren) and mountains; however, no distinctive landforms exist in the middle- or foreground views; with the exception of the SR-58 western embankment. The vegetation patterns are consistent with a disturbed desert landscape and are intact across the Project site and south to the Mojave River. Multiple visual encroachments currently exist and include fencing, utility poles, SR-58, and scattered residential structures in the background.
- *Landscape Visibility - (Foreground).* The Project site is contained in the foreground and middleground of KOP 3 and is readily visible from SR-58. This view contains some background views of the mountains to the south.

[1] For this analysis, the following four viewing distances were used, as described and defined by the U.S. Department of Agriculture Forest Service (USDA Forest Service 1995): (1) Immediate Foreground (from the viewer to 300 feet away); (2) Foreground (300 feet to 0.5 mile away); (3) Middleground (between 0.5 and 4 miles away); and Background (4 miles to the horizon). Additional detail is provided in Appendix A.

Figure 6
Key Observation Points

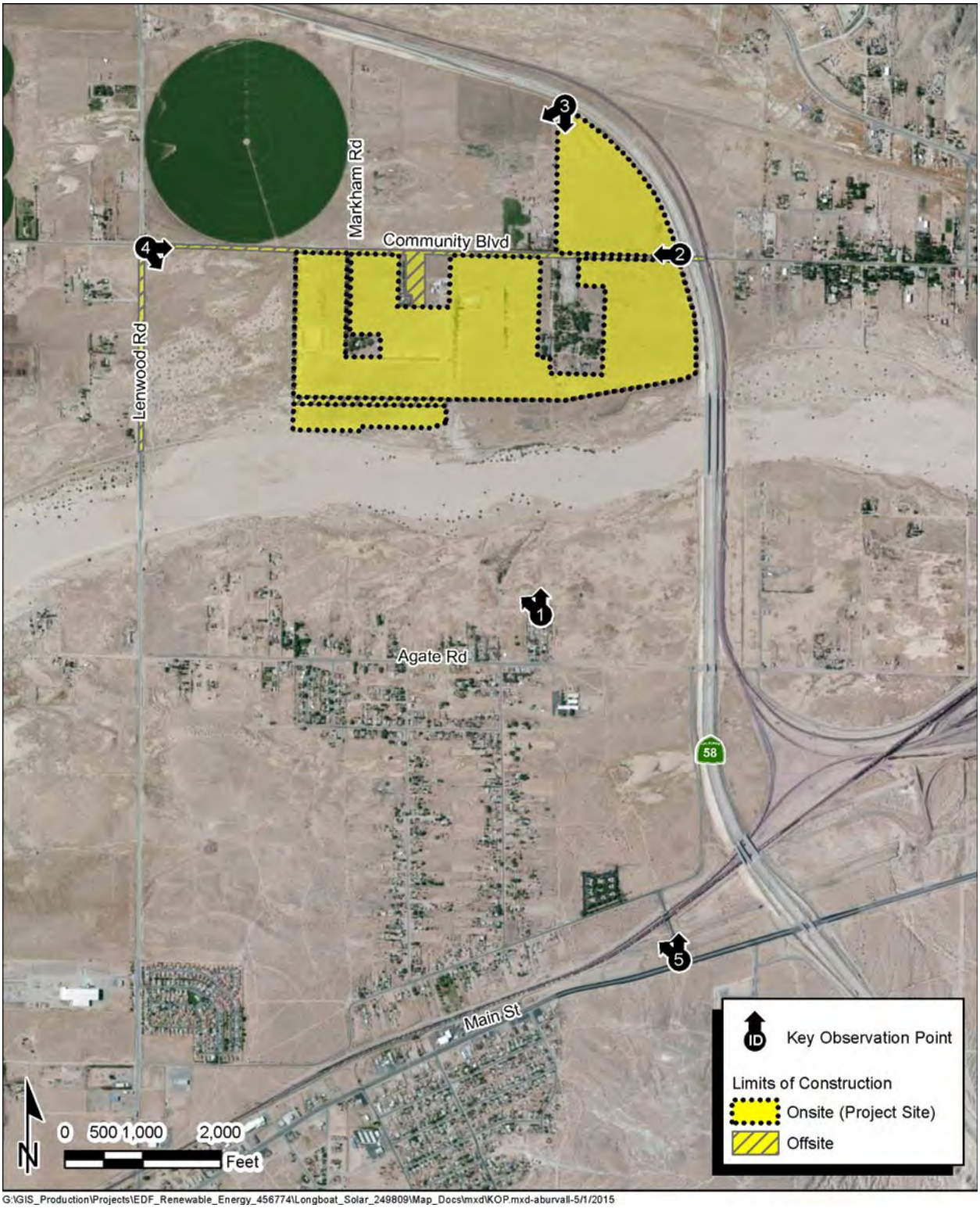
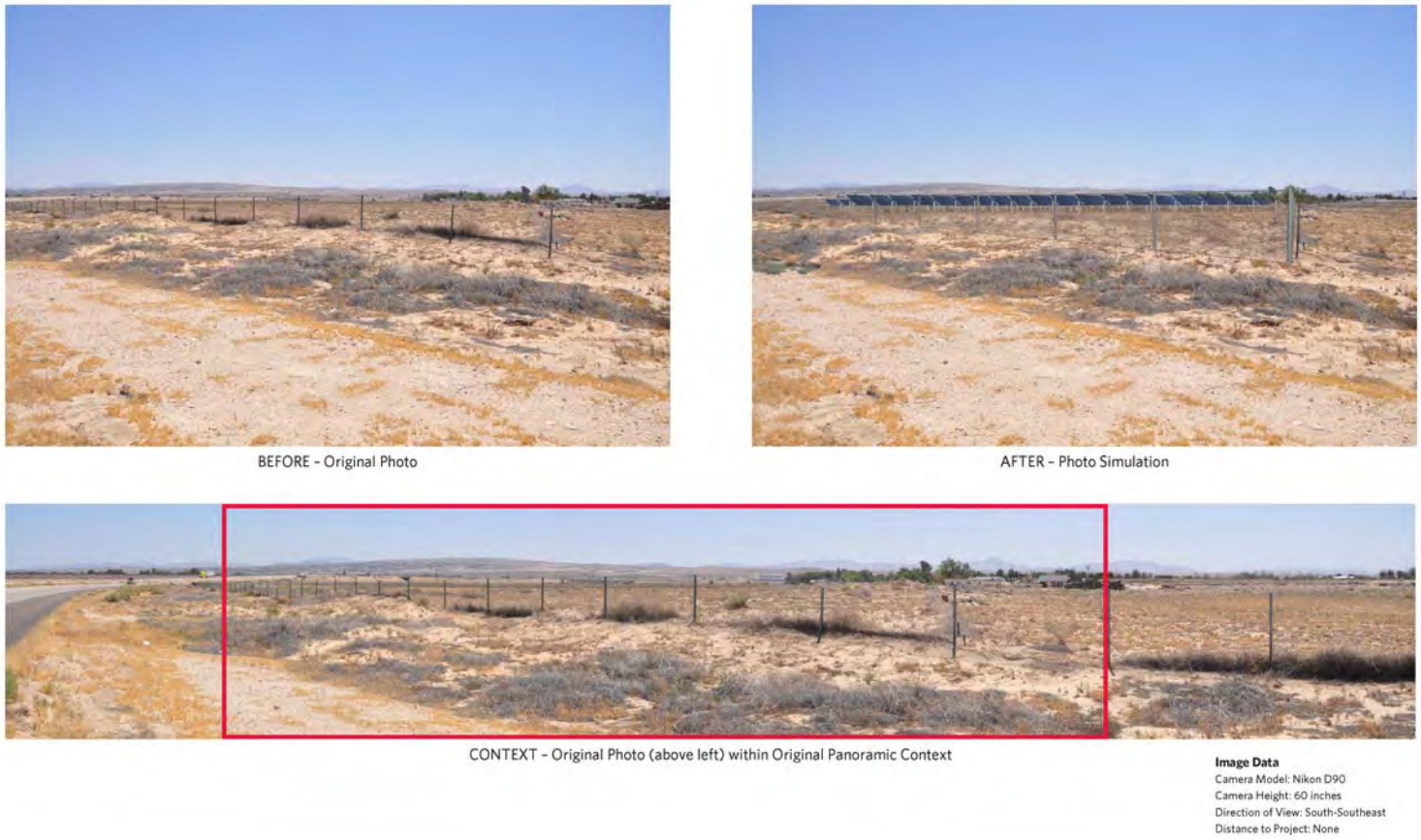


Figure 7
Key Observation Point 3 – SR-58



- *Constituent Analysis – (Low)* This KOP provides a typical view for a motorist traveling southbound on SR-58, likely traveling at a high rate of speed based on the posted speed limit. Considering the short duration of viewing, viewers would have a low constituent concern level to the visual changes in the area; partially obstructed by the existing windrows.

As shown in Figure 7, the visual simulation for KOP 3 indicates that the solar arrays would be visible in the foreground view with the solar panels partially blending into the vegetation at this distance. Although the solar arrays are visible from SR-58, they do not obstruct the views of the hill slopes and mountains to the south. In addition, the vehicles traveling on this southbound portion of SR-58 are traveling at a high rate of speed and would only have a brief view of the Project site. The three new utility poles constructed south of Community Boulevard would be masked by the existing windrows. Given the typical attractiveness, low scenic integrity based on the numerous existing visual encroachments, and low constituent concern level, no significant landscape change is identified for KOP 3.

The Project site may also be visible, albeit to a limited degree, from drivers traveling on historic SR-66 (also referred to as National Trails Highway), which traverses through Lenwood as Main Street. Figure 8 (KOP 5) illustrates the pre- and post-Project views from SR-66 with the visual changes discussed below. Existing views from SR-66 (Main Street) as depicted in Figure 8 for KOP 3 reflect the following visual characteristics:

- *Scenic Attractiveness – (Class C - Indistinctive).* This KOP is situated adjacent and to the south of SR-66 and contains an active railway in the middleground. The viewshed lacks variety, unity, and uniqueness in the landscape, with no water characteristics or cultural landscape features in view. The vegetation in the area consists of native, non-native disturbed habitat, and some non-native trees to the north of the railroad. The existing ridgelines in the background are partially obstructed by the existing roadway embankment and overcrossing.
- *Scenic Integrity – (Very Low).* The views from this KOP include vacant land, and previously cultivated agricultural lands. The landscape character appears to have been moderately altered over time from agricultural uses, although, the native vegetation is reestablishing itself with sage scrub in the immediate foreground. This view contains background views of the hills and mountains; however, no distinctive landforms are contained in the middle- or foreground views. Multiple visual encroachments exist and are generally associated with the existing railroad lines, over-crossing, and signaling equipment.
- *Landscape Visibility – (background)* – The southern boundary of the Project site is located approximately 1.5 miles north of KOP 5. The Project site is contained within the background of this KOP and barely visible due to the presence of the existing railroad embankment and the dominance of Mount General and the Waterman Mountains to the north.

Figure 8
Key Observation Point 5 – Pettit Road at Main Street

BEFORE – Original Photo

AFTER – Photo Simulation

CONTEXT – Original Photo (above left) within Original Panoramic Context

Image Data
Camera Model: Nikon D90
Camera Height: 60 inches
Direction of View: North-Northwest
Distance to Project: 1.3 miles

HDR

KOP 05 – Pettit Rd. at Main St.
Longboat Solar Project

- *Constituent Analysis – (Low).* This KOP provides a view from a typical motorist on SR-66. Considering the short duration of viewing combined with the presence of existing development, viewers would have a low constituent concern level to the visual changes in the area.

As shown in Figure 8, KOP 5, the solar arrays are not visible in this background view. The vehicles traveling on Main Street do not have a direct line of sight due to the visual encroachment from the elevated railroad embankment and overcrossings. Given the indistinctive scenic attractiveness, the very low scenic integrity as a result of multiple visual encroachments, lack of visibility of the Project site, and low constituent concern level, no significant landscape change is identified for KOP 5.

Based on these considerations, the Project would not damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state-designated scenic highway. Therefore, the Project would result in a less than significant impact.

c) **Less than Significant Impact.** The Project site is rural in character with a wide variety of visual encroachments, including scattered ranch structures, electrical distribution lines, well structures, roadways, and vegetated and non-vegetated berms. The Project site is located in an area that has been subjected to significant alteration due to prior agricultural uses along with urbanization originating from Barstow and Lenwood to the east and south, respectively. Figure 9 (KOP 1) illustrates the pre- and post-Project views of the Project site from a vantage to the south. Existing views from KOP 1 as depicted in Figure 9 reflect the following visual characteristics:

- *Scenic Attractiveness – (Class B – Typical).* Views from KOP 1 are characterized by a typical landform that includes large rural residential lots previously utilized for agricultural uses, open space associated with the Mojave River, and ridgelines associated with Mount General and the Waterman Mountains in the background. Although the Mojave River is located between this KOP and the Project site, most of the year the river is dry and provides minimal scenic attractiveness beyond its contribution as undeveloped space.
- *Scenic Integrity – (Low).* There are no distinctive land forms in the surrounding area with the exception of the mountains in the background. The mountains in the background contain heavy scarring from mining activities and are not considered to have high scenic integrity as they have been altered over time. The viewshed illustrated in KOP 1 depicts a relatively uniform desert landscape with altered vegetation in the foreground; transitioning to desert sage scrub in the middleground. The power lines in the immediate foreground represent a visual encroachment that partly detracts from the views in the middle and background.
- *Landscape Visibility (Middleground).* This KOP is located approximately 0.65 mile from the southernmost boundary of the Project site. The Project site is contained within the middleground; just in front of a row of trees that partially block the ridgelines in the background.
- *Constituent Analysis – (Medium).* This KOP provides a view from a residential viewer. Considering a resident would have a prolonged view of the project components, they would have a medium concern level as to changes to the open space of the area.

Figure 9
Key Observation Point 1 – Terminus of Western Drive

BEFORE - Original Photo

AFTER - Photo Simulation

CONTEXT - Original Photo (above left) within Original Panoramic Context

Image Data
Camera Model: Nikon D90
Camera Height: 60 inches
Direction of View: North
Distance to Project: 0.4 miles

HDR

KOP 01 - Terminus of Western Drive
Longboat Solar Project

As shown in Figure 9, KOP 1, the solar arrays on the Project site are barely visible at this distance and blend with the existing embankment of SR-58 and row of trees in the middle; both the perimeter and internal fencing are not discernable. The solar arrays do not obstruct any background views of the mountains or degrade any views of the undeveloped land within the middleground. Although a few residents have a prolonged view of the area, the view does not have any high scenic attractiveness and integrity. Considering the typical scenic attractiveness, the low scenic integrity of the area, the distance from the residences to the Project site, the Project's low profile, and the intervening features shown in Figure 9, the resulting landscape change is considered less than significant.

Figure 10 (KOP 2) illustrates the pre- and post-Project views from the eastern edge of the Project site. Existing views from KOP 2 as depicted in Figure 10 reflect the following visual characteristics:

- *Scenic Attractiveness – (Class C – Indistinctive).* This KOP depicts a typical landform that includes vacant land that has been used for agricultural uses with some residences intermixed. This view does not contain background views of the mountains. The view contains several existing visual encroachments including fencing, power poles and lines, Community Boulevard, and disturbed habitat in the foreground view. The landform and vegetation patterns have a low visual quality.
- *Scenic Integrity – (Low).* The views from this KOP include vacant land, agricultural uses, and a few residences. The vegetation in the area consists of disturbed agricultural land with direct roadways and several rows of non-native trees. The existing tree rows obstruct any views of the ridgelines in the background. There are no distinctive land forms in the surrounding area.
- *Landscape Visibility - (Immediate Foreground).* This KOP contains the Project site in the immediate foreground to the north and south of Community Boulevard.
- *Constituent Analysis – (Medium)* This KOP provides a view from a vehicle driver on a local road and a resident. Considering a local resident would have a prolonged view of the project components, they would have a medium concern level as to changes in the vacant land of the area. In addition, the vehicle driver on a local road would be similar to a resident because they would most likely live in the surrounding area.

As shown in Figure 10, KOP 2, the solar arrays are visible on both sides of Community Boulevard. Although the solar arrays are visible, the existing power lines continue to dominate the foreground thereby contributing to the low level of scenic attractiveness of the area. Additionally, there are no background views of the mountains from this KOP that would be obstructed. The solar arrays and associated perimeter fencing would be set back from Community Boulevard such that a vehicle driver's view of the Project will be short-term and attenuated in the foreground by the required setbacks (e.g., fencing 15 feet from property line).

The solar arrays to the south of Community Boulevard would be punctuated by treetop views in the middleground; thereby retaining these landscape features in the post-Project condition. Additionally, no new utility poles would be required along Community Boulevard. The three new utility poles constructed south of Community Boulevard would be masked by the existing windrows in addition to blending with the existing overhead lines due to their close placement, adjacent to existing utility poles.

Figure 10
Key Observation Point 2 – SR-58 at Community Boulevard

Although a few residents would have a prolonged view of the Project site, the existing view has an indistinctive scenic attractiveness with low scenic integrity, and the broad vegetated setback and intervening vegetation obscure viewing of the Project site. For example, the closest property with a potential residence, the Green Valley Foods Product Inc. cheese factory located to the north of Community Boulevard, is separated from the road by a thick windrow that prevents viewing of the Project. One of the residences who have leased their lands to the project proponent for the duration of the project along with the proposed internal fencing is not visible due to the presence of the existing windrows. A second residence in the vicinity of the proposed off-site laydown area is visible just south of Community Boulevard and is setback from the proposed construction area. However, Project-related improvements, including internal fencing would not be visible. With regard to local residences east of SR-58, the existing embankment substantially obstructs views of the Project site from the rural residential neighborhood located to the east with the exception of a small viewing area at the Community Boulevard overcrossing. The landscape change is, therefore, considered less than significant.

Figure 11 (KOP 4) illustrates the pre- and post-Project views from the intersection of Community Boulevard and Lenwood Road to the west of the Project site. Existing views from KOP 4 as depicted in Figure 11 reflect the following visual characteristics:

- *Scenic Attractiveness – (Class C - Indistinctive).* This KOP depicts a typical landform that includes vacant land that has been previously used for agricultural uses within a desert landscape. The area lacks variety, unity, and uniqueness in the landscape, with no water characteristics or cultural land attributes. The vegetation in the area consists of native and non-native disturbed habitat. No residences or agricultural structures are visible within the immediate surrounding. Shallow, barren hill slopes are visible in the background in the vicinity of Barstow, but lack any distinctive characteristics.
- *Scenic Integrity – (Very Low).* The views from this KOP include vacant land, previously used for agricultural uses, with some areas containing disturbed native habitat in the middleground in the vicinity of the Mojave River. Windrows are visible on the western edge of the Project site in the middleground, but lack any uniformity or visually distinctive characteristics. The landscape character appears to have been moderately altered over time from agricultural uses, although, vegetation appears to be reestablishing in the immediate foreground. This vantage contains background views of the shallow undulating hills and mountains; however, no distinctive land forms exist in middle- or foreground views.
- *Landscape Visibility - (Middleground).* The western boundary of the Project site is located approximately 0.75 mile from this KOP 4. The Project site would be considered in the middleground view. This view contains some background views of undulating hill slopes.
- *Constituent Analysis – (Low)* This KOP provides a view from a vehicle driver on a local roadway. Although there are no residences directly located at this vantage, there are several residential structures to the south and west of this KOP. Based on the distance of the Project from these locations, the Project's low profile, and the long duration of viewing, this vantage would have a low constituent concern level to the visual changes in the area.

Figure 11
Key Observation Point 4 – Community Boulevard and Lenwood Road

BEFORE - Original Photo

AFTER - Photo Simulation

CONTEXT - Original Photo (above left) within Original Panoramic Context

Image Data
Camera Model: Nikon D90
Camera Height: 60 inches
Direction of View: Southeast
Distance to Project: 0.4 miles

HDR

KOP 04 – Community Blvd. and Lenwood Rd.
Longboat Solar Project

As shown in Figure 11, KOP 4, the solar arrays are barely visible in this middleground view and blend in with the tree windrows in the background. Project-related perimeter and internal fencing would be indiscernible from KOP 4. The vehicles traveling on Lenwood Road and Community Boulevard would barely notice the solar arrays from this distance, if at all. Residences would be subjected to a longer duration of viewing. The three new utility poles constructed south of Community Boulevard and adjacent to the existing pole would blend in with the existing overheads lines and would not be visible. The off-site utility poles, where replaced, would be replaced in kind with similar wooden pole structures. Given the indistinctive scenic attractiveness, the very low scenic integrity, low constituent concern level, and minimal level of visual change as depicted in Figure 11, a less than significant landscape change would result from the Project.

Given that the Project is relatively low in height (less than 12 feet) and largely blends with the existing vegetation and developments in the surrounding area, visual changes attributable to the Project would be minimal. Therefore, the proposed Project will have a less than significant impact to existing visual character or quality of the site and its surroundings.

d) **Less than Significant Impact.** The Project is not expected to create a substantial new source of nighttime lighting or daytime glare that would adversely affect day or nighttime views in the area. The Project will provide external safety lighting for both normal and emergency conditions at the primary access points. Lighting will be designed to provide the minimum illumination needed to achieve safety and security and will be downward facing and shielded to focus illumination in the immediate area. 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. Therefore, the Project will have a less than significant impact associated with nighttime lighting.

The Project would generally avoid the use of materials such as fiberglass, aluminum or vinyl/plastic siding, and brightly painted steel roofs, which have the potential to create on- and off-site glare impacts. Unlike solar thermal facilities, which rely on large fields of mirrors to reflect light, the potential reflection from solar PV modules used on a tracker mounting system is inherently low due to the materials of its construction and its mode of operation. PV cells are designed to capture (rather than reflect) nearly all sunlight. Reflected light from the surface of standard PV modules is between 10 to 20 percent of the incident radiation (lower than free water and glass surfaces), while steel (used in industrial roofs) is between 40 to 90 percent (Aztec 2014). In addition, because tracker systems follow the sun, the underside of the PV panels and most of the structure supporting them are shadowed throughout the day.

Moreover, light reflected from the PV panels would travel above the line of site of most, if not all, viewers. PV tracking systems position the array so that the sun’s rays are always perpendicular to the face of the panel. What light is reflected from the panels is reflected back towards the sun. During midday conditions, when the sun is high in the sky, the rays of the sun are reflected directly upwards. When the sun is low on the horizon (near dawn or dusk), the sun's angle in the sky is low; however, reflected rays would still be directed away from ground-level receptors because the maximum downward angle of the arrays would not be below 30 degrees. Similarly,

and also due to their low reflectivity, the panels are not expected to cause visual impairment for motorists on area roadways or engineers for passing freight trains because reflected rays would not be below 30 degrees and would pass well above the line of sight of drivers and engineers. In addition, because both SR-58 and the railroad are oriented in a south-easterly direction north of the Project site, southeast-bound motorists and train operators would not directly view light reflected westwards from the Project because they would pass the project site at an oblique angle.

The Project will comply with San Bernardino County Code section 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 (County of San Bernardino, 2007a). Compliance with San Bernardino County Code section 84.29.040 will minimize any potential impacts associated with glare to roadway travelers and the adjacent railway. Viewers are not expected to experience substantially increased glare or glint as a result of the Project. Therefore, the proposed Project will have a less than significant impact in terms of light and glare.

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.				
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) **No Impact.** The State of California Department of Conservation, Division of Land Resources, California Important Farmland Finder designates the Project site as "Grazing Land" (California Department of Conservation, 2014). The interconnection upgrades will occur within the existing public roadway right-of-way and at existing pole locations. Therefore, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. No impact is identified for this issue area.

b) **No Impact.** The Project site is currently vacant and is not used for agricultural uses. The Project site is not under the provisions of a Williamson Act contract (California Department of Conservation, 2013). The interconnection upgrades will occur within the existing public roadway right-of-way and not on lands under the provisions of an active Williamson Contract. Therefore, the Project's implementation will not conflict with an existing Williamson Act contract. The property is zoned Agriculture (AG), Floodway (FW), and Rural Living 5-acre Minimum (RL-5). Under County Code Section 82.03 and 82.04, renewable energy generation facilities are allowed in the AG and RL-5 zone upon approval of a CUP. No development is proposed within the subject property containing the FW zoning. The proposed Project therefore does not conflict with existing zoning for agricultural use. No impact is identified for this issue area.

c) **No Impact.** The proposed Project is not located on forest lands as defined in Public Resources Code section 12220(g). There are no existing forest lands, timberlands, or timberland zoned Timberland Production either on-site or in the immediate vicinity. Therefore, 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)). No impact is identified for this issue area.

d) **No Impact.** There are no existing forest lands either on-site or in the immediate vicinity of the Project site. Therefore, the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact is identified for this issue area.

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 Important Farmland to a non-agricultural use because the Project is limited to the existing site. The off-site improvements are within an existing public right-of-way and will not result in the conversion of Farmland (as defined in the questionnaire above) to non-agricultural uses. There are no existing forest lands either on-site or in the immediate vicinity of the Project site. Because the Project is limited to the existing site and off-site improvements are within an existing public right-of-way, it will not induce other changes in the existing environment which, due to their nature, could result in conversion of forestland to non-forest use. No impact is identified for this issue 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*
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.				
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 Mojave Desert Air Quality Management Plan, if applicable):*

a) **Less than Significant Impact.** CEQA requires that certain proposed projects be analyzed for consistency with all applicable air quality plans. The Mojave Desert Air Quality Management District (MDAQMD) Guidelines provide that, "A project is conforming if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast (MDAQMD, 2011)."

The Project site and off-site interconnection is located within the Mojave Desert Air Basin (MDAB) and is within the jurisdiction of the MDAQMD. MDAQMD's 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. The Project is consistent with the existing Land Use Zoning District on the Project site, does not require a General Plan Amendment, and will not generate the demand to construct additional housing or substantial employment opportunities that will change the County's growth projections. Further, the proposed Project would meet the State's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. Because the Project is consistent with the planning assumptions on which the AQMP is based, and considering the Project's negligible emissions once operational, the proposed Project would not conflict with or obstruct implementation of MDAQMD's AQMP and, therefore, the impact will be less than significant.

b) **Less than Significant with Mitigation Incorporated.** The analysis of Project-related air quality emissions is based on the *Air Quality/Greenhouse Gas Assessment for the Longboat Solar Project* prepared by GC Environmental, Inc. (2015a). The complete assessment is provided as Appendix B1 of this Initial Study. Discussion of the Project's potential impacts to air quality is provided below in the context of short-term construction, long-term operation, and future decommissioning.

Construction (Short-Term)
Construction of the proposed Project, including the off-site interconnection, would generate air quality emissions through the use of heavy-duty construction equipment and vehicle trips generated from construction workers traveling to and from the Project site. Fugitive dust emissions would primarily result from demolition and earthwork activities. Limited paving operations associated with the proposed access driveways and the application of coatings and other building materials would emit VOCs. Construction 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 (ROGs) or volatile organic compounds (VOCs), 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 is expected to begin construction in the fourth quarter of 2015 and last up to 10 months. The proposed Project's construction phases would overlap with the cumulative duration of construction not expected to exceed 10 months and would include the following phases:

- Site Preparation (1 month)
- Underground Work (6.5 months)
- System Installation (5.5 months)
- Testing (1 month)
- Clean-up/Restoration (1 month)

Estimated construction emissions were modeled using CalEEMod to identify maximum daily emissions for each pollutant during each project construction activity, including off-site construction. Construction emissions include all emissions associated with the construction equipment, worker trips, and on-road diesel truck traffic including deliveries and equipment

transport based on the assumptions provided in Table 2 (see Appendix B1). Table 3 provides the maximum daily emission rate (lbs/day) of construction-related criteria pollutants generated by the proposed Project. As shown in Table 3, construction emissions would exceed the daily MDAQMD thresholds for NOx. Table 4 provides the total annual construction emissions (tons/year) generated by the proposed Project. As provided in Table 4, construction emissions would not exceed MDAQMDs annual threshold for any criteria air pollutants. In the absence of mitigation, the exceedance of MDAQMD's daily thresholds for NOx would be a significant impact. Mitigation Measure AQ-1 reduces this impact to less than significant by requiring the Project's off-road diesel construction equipment to comply with the Tier 3 emission standards of the California Air Resources Board. By requiring equipment to be designed to meet certain maximum NOx emission standards, the Tier 3 requirements more than halve the Project's NOx emissions during construction to a level below the MDAQMD threshold of significance.

The proposed Project will include dust abatement measures that will limit the generation of pollutants, including PM_{10}, consistent with Rule 403.2 Fugitive Dust Control for the Mojave Desert Planning Area. The proposed Project will be required to comply with MDAQMD Rules 402 and 403 to control fugitive dust, including preparation of a dust control plan pursuant to MDAQMD Rule 403.2(c)(3). 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 occurs, within the staging areas, and on any unpaved roads used during project construction. In areas of the Project site where feasible, mowing and rolling techniques would be used to maintain plant root systems for soils stabilization. Temporary wind fencing would be erected to minimize wind blown dust at adjacent residences. With the implementation of these measures in conjunction with Mitigation Measure AQ-1, emissions of criteria air pollutants during construction would be less than significant (see Tables 3 and 4).

Table 3. Project-related Daily Unmitigated/Mitigated Construction Emissions by Construction Phase (lbs/day)

Construction Activity	VOCs		NO_x		CO		SO_x		$PM_{2.5}$		PM_{10}	
	UM	M	UM	M	UM	M	UM	M	UM	M	UM	M
Site Preparation	12	3	123	46	63	60	<1	<1	14	6	31	13
Underground Work	11	3	108	42	73	68	<1	<1	7	3	9	5
System Installation	17	6	161	84	111	126	<1	<1	9	5	15	11
Testing	6	2	62	34	37	46	<1	<1	3	2	4	3
Clean-Up Restoration	3	1	34	15	20	22	<1	<1	2	1	6	3
Maximum Daily Emission Rate	28	8	259	126	180	192	1	<1	21	8	40	18
Significance Threshold	137	137	137	137	548	548	137	137	82	82	82	82
Significant?	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note: Unmitigated emissions (UM); Mitigated emissions (M)

Table 4. Project-related Annual Unmitigated/Mitigated Construction Emissions by Construction Phase (tons/year)

Construction Activity	VOCs		NO_x		CO		SO_x		$PM_{2.5}$		PM_{10}	
	UM	M	UM	M	UM	M	UM	M	UM	M	UM	M
Site Preparation	0.13	0.03	1.35	0.51	0.70	0.66	<0.01	<0.01	0.15	0.08	0.34	0.19
Underground Work	0.74	0.19	7.22	2.93	5.13	4.84	0.01	0.01	0.44	0.12	0.64	0.28
System Installation	1.04	0.33	9.58	5.03	6.79	7.71	0.01	0.01	0.53	0.20	0.87	0.51
Testing	0.06	0.02	0.68	0.37	0.41	0.52	<0.01	<0.01	0.03	0.01	0.05	0.05
Clean-Up Restoration	0.04	0.01	0.36	0.16	0.22	0.24	<0.01	<0.01	0.02	0.01	0.06	0.03
Total Annual Emissions	2.01	0.58	19.19	9.00	13.25	13.97	0.01	0.03	1.17	0.41	1.96	1.03
Significance Threshold	25	25	25	25	100	100	25	25	15	15	15	15
Significant?	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Note: Unmitigated emissions (UM); Mitigated emissions (M)

Operation (Long-Term)

Long-term operational emissions would be generated from mobile sources associated with scheduled maintenance, semi-annual solar panel washing, and any necessary repairs throughout the lifecycle of the Project. The operational-related maximum daily and annual emissions, as calculated by CalEEMod, are shown on Tables 5 and 6, respectively. As shown in Tables 5 and 6, the Project's operations emissions are below the daily and annual MDAQMD thresholds of significance for criteria pollutants.

Table 5. Project-related Unmitigated Operational Emissions (lbs/day)

	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational On-road	<1	<1	2	<1	<1	<1
Operational Off-road	2	21	11	<1	1	1
Maximum Daily Emission Rate	2	22	13	<1	1	2
MDAQMD Significance Threshold	137	137	548	137	82	82
Significant?	NO	NO	NO	NO	NO	NO

Table 6. Project-related Unmitigated Operational Emissions (tons/year)

	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
Operational On-road	0.01	0.08	0.23	<0.01	0.01	0.04
Operational Off-road	0.09	0.86	0.44	<0.01	0.05	0.05
Total Annual Emissions	0.10	0.94	0.67	<0.01	0.05	0.09
MDAQMD Significance Threshold	25	25	100	25	15	15
Significant?	NO	NO	NO	NO	NO	NO

Decommissioning
When the arrays are removed after the Project's lifetime, the land will be returned to pre-project conditions. Following the implementation of a decommissioning plan, all equipment, foundations, and fencing would be removed and the site would be restored so that the end use and site condition are consistent with the surrounding landscape. The project would utilize BMPs to ensure the collection and recycling of solar arrays, panels, fencing, etc. to the extent feasible. All decommissioning activities would adhere to the requirements of the appropriate governing authorities and in accordance with all applicable federal, State, and County regulations. Although emission standards are likely to be more stringent by the time the Project would be decommissioned, the emissions generated from the decommissioning of the Project have been conservatively assumed to be similar to those generated during the construction phase. As a result, the conclusions regarding the emissions of the project's construction phase and decommissioning phase are the same. Similar to construction, mowing and rolling techniques would be used in areas of the site where feasible to maintain plant root systems for soils stabilization. Therefore, with implementation of Mitigation Measure AQ-1, emissions generated during the decommissioning of the Project are anticipated to be less than the daily and annual MDAQMD thresholds of significance for criteria pollutants.

c) **Less than Significant with Mitigation Incorporated.** The air basin in which the Project site is located is classified as "nonattainment" for PM_{10}, $PM_{2.5}$, and O_3. Construction of the Project would generate criteria air pollutants that would contribute to the existing nonattainment status. Therefore, the proposed Project would exacerbate nonattainment of air quality standards within the air basin and contribute to adverse cumulative air quality impacts. However, as shown in Tables 3 through 6, the Project's construction and operations emissions would be less than the MDAQMD significance thresholds with the exception of daily emissions of NOx during construction and, with the implementation of the Mitigation Measure AQ-1, these emissions would be mitigated to levels that are less than significant.

The proposed Project does not contain a residential or commercial component; therefore, the Project would not result in an increase in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent (conditionally) with the planned land use for the project site under San Bernardino County's General Plan (e.g., Agriculture) and during operation would generate far less daily emissions as compared to a typical agricultural use (e.g. farm equipment use), because only periodic maintenance will be required for project operation. Additionally, the Project would meet the State's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The proposed Project would result in desirable air quality benefits once operational. Once constructed, the Project would produce negligible operational emissions and would assist the State in achieving its renewable energy goals thereby providing a cumulative benefit to the region.

Of all the projects considered in the cumulative analysis (see Appendix B1), a proposed project at Green Valley Foods facility (the cheese-making facility) and the SR-58 Hinkley Expressway Project are the most likely to generate air quality pollutants concurrently with

Project construction and within a 6-mile radius for regionally-based impacts and a 1-mile radius for sensitive-receptor cumulative impacts. However, the Green Valley Foods project is unlikely to be constructed due to its ability to haul wastewater off-site. If constructed concurrently, the SR-58 Hinkley Expressway Project would carry the greatest potential for cumulative effects; however, the timing for construction remains uncertain. The Martinsville specific plan is within the 6-mile radius for regionally-based impacts, but is outside the one-mile cumulative range for assessment of potential cumulative impacts to sensitive receptors. The duration of overlap with these cumulative projects would be limited to a period equal to or less than 10 months; corresponding to the Project's construction schedule.

Based on the above analysis, the Project would not conflict with the land use assumptions in the current AQMP and its approach for meeting federal and state air quality standards. Additionally, the Project would be in conformance with all applicable MDAQMD rules and regulations. Through the implementation of Mitigation Measure AQ-1, measures to reduce NOx during construction and decommissioning would effectively reduce daily and annual emissions such that the Project would not exceed MDAQMD thresholds. As indicated in Tables 5 and 6, above, emissions would be negligible during the Project's operational time frame.

Based on regional modeling analyses performed for MDAQMD's Ozone Attainment Plan (2008), with the implementation of control measures contained in the Ozone Attainment Plan (as proposed in Mitigation Measure AQ-1), the Project would conform with the Attainment Plan's projections for attainment by the year 2020. Therefore, cumulative air quality impacts from the proposed Project and other local, reasonably foreseeable projects are not anticipated to be significant because the implementation of required control measures is expected to result in net emission reductions and overall air quality improvement. As a result, the Project would not result in a cumulatively considerable net increase in NOx during construction. Additionally, the Project would result in negligible emissions of criteria pollutants over its operational life. For these reasons, the Project's contribution to significant cumulative air quality impacts within the MDAB would not be considerable in conjunction with other known existing, planned, or reasonably-foreseeable projects (see Appendix B1) within the cumulative-impact study area.

d) **Less than Significant Impact.** The MDAQMD defines sensitive receptors as residences, schools, daycare centers, playgrounds and medical facilities (MDAQMD, 2011). Sensitive receptors considered in this analysis are depicted in Figure 12. Residences in the Project area may be exposed to short-term construction air quality emissions associated with construction exhaust emissions generated from construction equipment, vegetation clearing, construction workers' commute, and construction material hauling during the construction period. To assess the Project's potential impact to these receptors associated with substantial pollutant concentrations during construction, a health risk assessment (HRA) was completed in accordance with MDAQMD's Criterion Number 4 (industrial projects located within 1,000 feet of a sensitive receptor), as referenced in the August 2011 CEQA and Federal Conformity Guidelines (Environmental Intelligence, LLC 2015; see Appendix B2).

Construction activities would result in emissions of diesel particulate matter from heavy construction equipment used on site and truck traffic to and from the site, as well as minor amounts of toxic air containment (TAC) emissions from motor vehicles (such as benzene, 1,3-butadiene, toluene, and xylenes). Health effects attributable to exposure to diesel particulate matter are long-term effects based on chronic (i.e., long-term) exposure to emissions and are generally evaluated based on a lifetime (70 years) of exposure. Based on the results of the HRA, the maximum cancer risks at Sensitive Receptors 1 through 5 are less than the MDAQMD CEQA significance threshold of 10 in one million and the corresponding chronic hazard index (HIC) values are less than the significance threshold of 1.0 (see Appendix B2). These results would also apply to the off-site interconnection, which would have a shorter duration of construction, and would involve substantially less equipment. Based on these results, no long-term adverse health effects would be anticipated from short-term diesel particulate emissions.

Once operational, the solar generating facility would not generate any emissions with the exception of those associated with periodic motor vehicle traffic. However, motor vehicle emissions would not be concentrated in any one area, would be dispersed along travel routes and therefore would not pose a significant health risk to receptors. Electricity generation via the use of photovoltaic systems does not generate chemical emissions that will negatively contribute to air quality. Wind fencing would be installed, where appropriate, along the western and southern perimeters of adjacent residences to minimize windblown dust. Therefore, a less than significant impact is identified for this issue area.

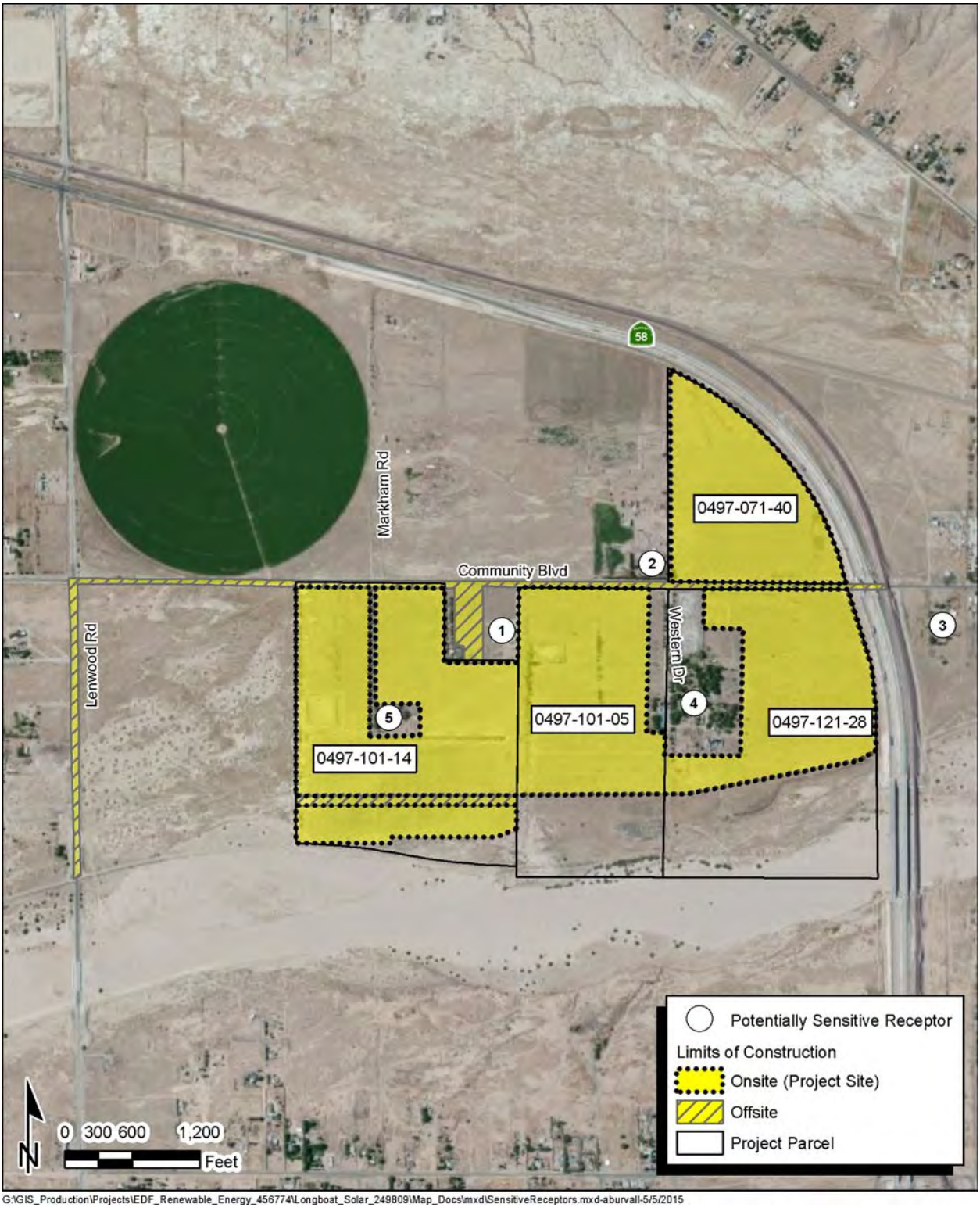
e) **Less than Significant Impact.** The proposed Project would not create objectionable odors that will affect a substantial number of people. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. 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 would be limited to construction sources such as diesel exhaust and dust. However, any odor generation would be intermittent and would terminate upon completion of the construction activities. No significant odor impacts related to Project implementation are anticipated due to the nature of the Project and short-term duration of construction. Therefore, the proposed Project would have a less than significant impact associated with the creation of objectionable odors affecting a substantial number of people.

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

AQ-1: Mitigation for NOx. During construction and decommissioning of the Project, all off-road diesel-powered pieces of equipment used by the construction contractors shall comply with the California Air Resources Board Tier 3 standard for off-road engines.

Figure 12
Sensitive Receptor Locations



	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.** The following information is summarized from the *Biological Resources Technical Report for the Proposed Longboat Solar Project* prepared by Environmental Intelligence (2015b). This report is provided as Appendix C of this Initial Study.

Biologists with Environmental Intelligence visited the Project site on multiple occasions starting in August 2014 through July 2015 to assess current habitat conditions and evaluate the potential for the Project site (and limits of proposed construction) to support special-status biological resources. The Survey area included the Project site and a 150-foot buffer, as well as the areas subject to the off-site improvements, where accessible or could be viewed from on-site or public locations. The survey involved driving along accessible roads within the Project site and walking where not accessible by vehicle to ensure that all habitat types and features within the study area were identified. Appendix C provides a complete listing of the plant and wildlife species considered as part of this analysis.

Sensitive Plant Species

Construction and Decommissioning
Vegetation on the Project site is generally disturbed and consists of fallow agricultural fields in various stages of succession to more natural habitats (see Figure 13). Four vegetation alliance-based groups were identified on the site including disturbed saltbush scrub/ruderal, partially stabilized dunes, tamarisk/ornamental windrows, and abandoned agriculture. California joint fir scrub was observed within the off-site improvement area (Appendix C). Approximately 230.7 acres of disturbed saltbush scrub were documented; 194.2 acres on the Project site and 36.6 acres off-site. Approximately 4.4 acres of desert panic grass patches and 6.4 acres of ornamental windrows were observed on partially stabilized dunes on the Project site. Areas north of Community Boulevard on the Project Site include an additional 28.3 acres mapped as abandoned agriculture (see Figure 13).

All desert panic grass patches (California Native Plant Society [CPNS] Ranking G3 S3) occur on the Project site along the southernmost boundary and adjacent to the Mojave River. The Project site plan, as presented in Figure 4, purposely avoids all desert panic grass areas. A small stand of California joint fir scrub (*Ephedra californica* Shrubland Alliance) totaling 1.9 acres is found off-site and within the off-site ROW immediately west of the Project site and may be subject to disturbance during construction (Appendix C).

Due to the degraded nature of the Project site and off-site improvement areas combined with the avoidance of sensitive plant communities, the Project would have minimal affect to special status plants. Additionally, given the widespread distribution of high quality, non-disturbed saltbush scrub and other common vegetation in the surrounding region, the combined impacts of the Project would be less than significant following the implementation of Mitigation Measure BIO-1, BIO-2, BIO-3, BIO-4, and HWQ-1. These measures will provide for pre-construction surveys and species monitoring during Project-related construction and decommissioning in addition to erosion control BMPs. Based on this circumstance, construction of the Project is unlikely to result in disturbance of candidate, sensitive, or special status species and the impact to sensitive plant species is considered less than significant.

Operations
Vegetation management and fuel modification will be conducted using mechanical mowers or trimmers, and/or hand removal within these areas, rather than from the application of herbicides. Additional requirements pertaining to the removal of brush and dead plant

materials, removal of non-native plant species, and periodic maintenance of vegetation management zones would be included in a Weed Abatement Plan.

Throughout the developed portions of the Project site, mowing is anticipated, particularly directly beneath PV arrays and within fuel modification areas. Mowing these areas in the late spring would ensure that most annuals would have sufficient time to flower and set seed. However, many late season annuals and perennial plants might not. Because mowing would occur during the growth period of late season annuals and many perennials, these species would not have the time or resources to set out new shoots, flower, and set seed. For those individuals that are able to mature and set seed, colonization rates are expected to lessen due to competition from non-native annual grasses. These annual grasses can quickly and efficiently grow, set seed, and die, often leaving a thick layer of litter on the soil surface. The shallow and vast root systems of annual grasses rapidly absorb shallow soil moisture preventing the germination of other seeds during this time (Appendix C). This recruitment limitation has been observed in numerous California plant species, particularly native perennial grasses (Appendix C). As such, it is expected that this mowing would select for spring annuals, particularly non-native annual grasses (e.g. bromes (*Bromus* spp.), oats (*Avena* spp.), foxtail barley (*Hordeum murinum*)) as well as native and non-native forbs adapted to disturbed environments (e.g. fiddlenecks (*Amsinckia* spp.,), filaree (*Erodium* spp.), hedgemustard (*Sisymbrium altissimum*)). Coincidentally, it is anticipated that the dominance of late season annuals and perennials would lessen. However, given the pre-existing disturbance regime across the Project area, this impact is considered less than significant.

Sensitive Wildlife Species

Construction and Decommissioning
A combination of database search, literature review, and field reconnaissance was conducted to determine the potential for special status wildlife species to occur on the Project site and areas subject to the off-site improvements (Appendix C). No federally threatened, endangered, or candidate species were observed within the Project site during extensive field surveys conducted from August 2014 through July 2015 (Appendix C). One State-listed species, Swainson's Hawk, was observed flying off-site during a series of bird surveys. A complete list of observed wildlife species and survey methods is presented in Appendix C.

A total of three listed species are known to occur in the Project vicinity. Potential Project-related impacts to listed species, including desert tortoise (*Gopherus agassizii*), Mohave ground squirrel (*Xerospermophilus mohavensis*), and Swainson's Hawk (*Bueto swainsoni*), are discussed in detail below.

- **Desert Tortoise.** No desert tortoise sign or desert tortoise burrows were observed within the Project site or areas containing the off-site improvements during focused protocol surveys. The Project site is located within the County's Desert Tortoise – Medium Population Overlay, but has been used historically for agriculture and has since been left fallow. The historic agricultural use has reduced the area's ability to support desert tortoise by eliminating habitat and introducing hazards. Hazards to desert tortoise associated with agricultural use include increased vehicular traffic, soil

manipulation (disking, plowing, etc.), harvesting (mowing, baling etc.) and predator attraction (to agricultural water and food sources) (Appendix C). For these reasons, desert tortoise is presumed absent from the Project site and areas containing the off-site improvements.

Implementation of the Project would result in the removal of 175.2 acres of substantially degraded habitat, previously used for agricultural cultivation. An additional 0.3 acre of marginal habitat is located in the off-site improvement areas. Potential desert tortoise movement to the Project site to access this habitat is restricted by surrounding roads, including Community Boulevard, Highway 58, and Lenwood Road. A tortoise depression zone generally exists along highway edges and extends away from the road 0.4 km or further due to frequent vehicle strikes (Appendix C). It is unlikely that a transient tortoise would encroach onto the Project site or off-site improvement areas from adjacent areas due to these road hazards.

Notwithstanding these circumstances, there remains a remote possibility for desert tortoise to traverse the Project site or off-site improvement areas. With the implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, and BIO-8, Project-related impacts to desert tortoise would be less than significant by conducting pre-construction surveys, training workers, erecting exclusionary fencing, where appropriate, construction monitoring and raven management.

- **Mohave Ground Squirrel**. The Mohave ground squirrel (MGS) is a state threatened species. The habitat within the Project site and off-site interconnection area is considered low quality/marginal quality habitat for MGS due to the lack of shrub cover and forage plants. Additionally, protocol level surveys for MGS on the Project site and off-site interconnection area were negative (Appendix C). However, there is a CNDDB occurrence of this species within one-half mile of the study area and the project site is included the County's MGS Overlay and, therefore, there remains a possibility, albeit low, that MGS may utilize the proposed Project site or area subject to the off-site interconnection improvements (Appendix C). As a result, Project-related construction has the potential to impact this species thereby requiring mitigation. Mitigation Measures BIO-1, BIO-2, and BIO-3 are proposed to avoid and minimize potential effects to this species through a combination of worker education, biological monitoring, and implementation of pre-construction surveys. With mitigation, project-related impacts to the Mohave Ground Squirrel would be less than significant.
- **Swainson's Hawk**. Swainson's Hawk is a State-listed threatened species and USFWS-designated bird of conservation concern. Swainson's Hawk forages in grasslands and agricultural lands and prefers to nest in riparian and isolated trees. During the spring and fall, this species uses the Pacific Flyway migration route between breeding grounds in North America and wintering grounds in South America. Birds rest and feed in grasslands and harvested fields, especially where grasshoppers are numerous, often perching on fence posts, telephone poles, and power poles, and roosting at night in trees (Appendix C). The closest breeding areas to the Project site

are the Antelope Valley (approximately 50 miles west), the Central Valley (approximately 100 miles northwest), and southern Nevada (approximately 100 miles northeast). One adult was observed soaring over the Project site on April 9, 2015. This individual was likely a migrant returning to nesting grounds in the Antelope/Central Valley, Nevada, or farther north. It is also possible that this individual may be nesting in a nearby alfalfa field. Given these factors, there is a potential for Swainson's Hawk to forage or nest in the vicinity of the Project site. The implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-9, and BIO-10 would be required to ensure that Project-related impacts to this species are less than significant by requiring pre-construction surveys and monitoring and implementing an adaptive management plan.

An additional 11 special status wildlife species, designated as either species of special concern (SSC) by CDFW or a bird of conservation concern (BCC) by USFWS, were observed during one or more field surveys or are known to exist in the vicinity of the proposed Project site: Mojave fringe-toed lizard (*Uma scoparia*), Le Conte's thrasher (*Toxostoma lecontei*), Burrowing owl (*Athene cunicularia*), Sharp-shinned Hawk (*Accipiter striatus*), Cooper's Hawk (*Accipiter cooperii*), Vaux's Swift (*Chaetura vauxi*), Merlin (*Falco columbarius*), Prairie Falcon (*Falco mexicanus*), Loggerhead Shrike (*Lanius ludovicianus*), Ferruginous Hawk (*Buteo regalis*), American badger (*Taxidea taxus*), and Desert kit fox (*Vulpes macrotis arsipus*).The potential Project-related impacts to each of these special status wildlife species are discussed in detail below.

- **Mojave Fringe-Toed Lizard.** The Mojave fringe-toed lizard is a California Species of Special Concern (SSC). Mojave fringe-toed lizard is restricted to areas with fine, aeolian sands such as dunes, riverbeds, washes, and hummocks, with creosote bush scrub habitat. A 2010 CNDDB occurrence of this species was recorded approximately 2.5 miles southwest of the Project site within the Mojave River. A small amount of suitable dune habitat occurs for this species at the western and southern boundaries of the Project site near the Mojave River. Three Mohave fringe-toed lizards were identified in this dune habitat on the Project site or on neighboring parcels during 2015 surveys. All observations were made in partially stabilized dune habitat, all of which is avoided in the Project design and will not be impacted as part of the construction of the Project. However, due to the proximity of the known occurrences to the Project site, there is a potential for the species to encroach into the development area, particularly from the avoided dune or desert wash habitats south and west of the Project site. Project-related construction therefore has the potential to impact this species thereby requiring mitigation. Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-5, BIO-6, and BIO-8 are proposed to avoid and minimize potential effects to this species through a combination of worker education, exclusion fencing, and biological monitoring. With mitigation, project-related impacts to the Mojave fringe-toed lizard would be less than significant.
- **Burrowing Owl***.* Two individual Burrowing owls, likely residents that possibly nest between February and August (Appendix C), were observed at active burrows outside, but in the vicinity of, the Project site. No burrowing owls or definitive burrowing owl

burrows or sign were identified within the Project area during the reconnaissance-level survey. Due to the species' wide range of habitats and occurrence within adjacent properties, there is a moderate likelihood that burrowing owls could occur within the study area.

Burrowing owl may be present at any time during the year; therefore, construction-related or decommissioning activities have a potential to impact this species if potential breeding habitat is removed during the breeding season; suitable burrows are present within the construction footprint; or construction activities occur within 300 feet of an active burrow during the breeding season. Direct and indirect impacts to burrowing owl would be considered significant. Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-7, and BIO-8 will reduce impacts to burrowing owl burrows through pre-construction surveys and daily clearance sweeps, avoidance using established buffer areas, and with the use of exclusion methods pursuant to CDFW guidelines if necessary. Further, burrowing owl will be monitored as part of an Avian Mortality and Injury Monitoring Plan with adaptive management provisions. The Project will also implement APLIC guidelines to reduce avian collisions with power lines and poles and a trash management program to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs. With mitigation, project-related impacts to the burrowing owl would be less than significant.

- **American Badger and Desert Kit Fox**. The American badger and desert kit fox, both SSC, are common in a wide range of habitats with friable soils suitable for burrowing. While no desert kit fox, American badger, or definitive signs (e.g., burrows, scat, tracks, etc.) were observed during protocol surveys, these species have been observed in the vicinity of the proposed Project. Further, three burrows of sufficient size for American badger or desert kit fox were observed during the surveys, but none of these burrows were active (Appendix C).

  Implementation of the Project would result in the removal of 208.3 acres of degraded but potentially suitable habitat for desert kit fox and American badger (Appendix C). While approximately 208.3 acres of degraded habitat would be permanently eliminated, Project implementation could result in substantial modification to the suitability of the remaining habitat. Construction activities may result in fugitive dust, increased run-off, soil compaction, the introduction and spread of invasive species, as well as general disturbance-type impacts such as those due to noise, vibration from equipment, and human presence on the Project site. Longer term impacts may result from the presence of PV arrays. Solar panels would permanently and substantially reduce the amount of sunlight reaching the ground beneath the panels.

  Once in construction, there is the potential for desert kit fox to encroach within the Project site and risk impacts, including injury or mortality due to pitfall traps and habitat loss/degradation. The threat of pitfall traps to individuals of these species would be eliminated at the completion of the construction phase. Additionally, the mechanical crushing of individuals or burrows by vehicles and construction equipment, entombment within burrows, and disturbance-type impacts such as noise, dust, or increased human presence are others threats. If construction occurs during the

pup-rearing season (February 15 – July 1), disturbance near active maternity dens may cause adults to flush and young to be exposed to injury or mortality through abandonment or predation. Risk of vehicle collision on access roads by operation and maintenance personnel would continue during the operational phase. Fragmentation of the habitat by Project facilities would exacerbate the risk of collision as individuals are forced to cross access roads as they move about the Site. Implementation of mitigation measures, particularly during the construction phase, would serve to off-set these impacts.

Due to the degraded nature of the habitat, lack of observations of American badger or desert kit fox, as well as an abundance of similar habitats in the surrounding landscape, impacts of this species due to habitat loss resulting from implementation of the PV Site are minimal. Impacts are further avoided following implementation of several mitigation measures BIO-1, BIO-2, and BIO-3. Pre-construction surveys and daily clearance sweeps will be used to ensure no active burrows occur within the development footprint. If occupied burrows are observed outside of the pupping season, the occupants may be passively excluded from their burrow using natural materials over a period of five consecutive days. If an occupied den is observed during the pupping season (typically, February to July), then the burrow will be clearly flagged and a minimum 200-foot no disturbance area surrounding the den shall be established. This buffer shall remain in place until the end of the pup rearing season or the den is determined inactive or abandoned by a qualified biologist. With mitigation, project-related impacts to the American badger and desert kit fox would be less than significant.

- **Townsend's big-eared bat.** Townsend's big-eared bat is a California SSC (CDFG 2015) that roosts in caves, mines, or abandoned buildings (Appendix C). As such, while not observed to date, potential roosting habitat for these bats occurs adjacent to the Site at nearby buildings, bridges, and other infrastructure. There is potential for this species to forage over the Project site, concentrating seasonally over intermittent streams and irrigated cropland.

  Because Townsend's big-eared bats are primarily nocturnal and volant, direct injury or mortality during construction and operation of the Project is expected to be minimal. Potential impacts include the destruction of a roost or construction activities occurring near a roost resulting in disturbance-type impacts such as noise, vibrations from heavy equipment, or increased human activity. Bats that forage near the ground, such as Townsend's big-eared bat, may be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. During the operational phase potential impacts to bats could include disturbance by vehicles, dust, nighttime illumination of Project facilities, or increased human presence that could result in bats abandoning their roosts or maternity colonies.

  Currently, direct impacts to Townsend's big-eared bats from solar energy development are largely unknown; however, they are generally assumed to be minimal. Solar PV is not a source of thermal solar electricity, there is no risk of bats encountering extreme heat sources during the day. Moreover, Townsend's big-eared bat forages at night.

The main risk to foraging bats would be collision with solar facility structures, but unlike most birds, which use vision as the primary sense while foraging, bats are unlikely to strike structures because they also use echolocation to navigate, which should allow them to detect and avoid fixed structures related to the solar facility.

While some impacts to habitat suitability are possible, the presence of suitable foraging habitat within the surrounding landscape suggests these impacts would be minimal. Therefore, increased mortality or injury rates to this bat species or loss of habitat resulting from implementation of the Project would be less than significant.

- **Nesting Birds**. Nests of all native birds, regardless of their regulatory status, are protected by the Migratory Bird Treaty Act (MBTA) and provisions of the California Fish and Game Code. Suitable nesting habitat is present on and adjacent to the property for native bird species including numerous perching areas and windrows. The BRTR prepared for the proposed Project identifies the following bird species as having been directly observed or could potentially use the Project site or off-site improvement areas for foraging or nesting habitat:
    - One Sharp-shinned Hawk, likely a migrant returning north to breeding grounds, was observed on the Project Site.
    - Cooper's Hawks were observed throughout the Project vicinity on multiple occasions. These birds were likely resident birds foraging and nesting in the trees surrounding the rural residences.
    - One Swainson's Hawk (previously discussed).
    - Two Ferruginous Hawks, likely a migrant pair heading north to breeding grounds, were observed on the Project Site during the Spring migration period.
    - Two individual Burrowing Owls (previously discussed).
    - Prairie Falcons were observed foraging on the Project Site on several occasions. Although there is the potential to nest in the trees or power line structures on the Project site, it is likely they nest in the mountains surrounding the Project, using the Project site as foraging habitat.
    - The Short-eared Owl was not observed during Project-related surveys, but has the potential to winter on the Project Site.
    - The American Peregrine Falcon was not observed during Project-related surveys, but has the potential to winter on the Project site.
    - One Merlin, likely a roosting migrant heading north to breeding grounds in the northern United States and Canada, was observed on the Project site during the spring migration period.
    - One adult Vaux's Swift was observed flying north through the Project Site, likely a migrant returning to breeding grounds in the northwest. It has the potential to use the Project site as foraging habitat during migration stopovers, or to simply pass over the Project site during spring or fall migration.

- The loggerhead shrike and Le Conte's thrasher are members of the medium perching bird guild. Neither of these bird species were observed during Project-related surveys, but have the potential to occur based on the presence of marginally suitable habitat (11.9 acres) and observations in the region.

Within the Project site, a total of 220.2 acres of potentially suitable foraging habitat for these raptor species would be disturbed during construction (including permanent removal of habitat within the footprint of proposed facilities and temporary disturbance in construction zones). The sensitive migratory and wintering raptor species (i.e., Sharp-shinned Hawk, Swainson's Hawk Ferruginous Hawk, Merlin, Short-eared Owl, and American Peregrine Falcon) that use the Project site for foraging occur in low numbers, range over fairly wide areas, and should easily be able to avoid coming into direct contact with construction equipment onsite.

Of the sensitive breeding raptor species present in the Project area (i.e., Cooper's Hawk, Burrowing Owl, and Prairie Falcon), only the Cooper's Hawk and Burrowing Owl are likely to nest on or immediately adjacent to the Project site. Cooper's Hawks likely nest in the trees associated with the rural residences, and Burrowing Owls likely nest in burrows in the area. No suitable nesting habitat for prairie falcon occurs on the Project site. Construction activities such as noise, dust, invasive species, increased traffic, and human presence could negatively impact nesting. Additionally, these nesting species would lose adjacent foraging habitat, possibly resulting in decreased nest success.

Impacts associated with pole replacement and wire stringing activities along paved roads will include minor disturbances to roadside ruderal habitats. Loss of habitat will be negligible. Direct impacts during ROW activities include mortality or injury due to collision with construction-related equipment and/or overhead transmission lines. Where feasible, the Project will follow Avian Power Line Interaction Committee (APLIC) guidelines (e.g., passive nest deterrents, increased visibility of power lines via line marking or other means, etc.) along new or upgraded power lines, poles, or other appurtenant features to reduce the likelihood of avian collisions with these features.

Based on these circumstances, Project-related construction and decommissioning have the potential to significantly impact nesting birds thereby requiring mitigation. Mitigation Measures BIO-1, BIO-2, and BIO-3 are proposed to avoid and minimize potential effects to these species through a combination of worker education, biological monitoring, and implementation of pre-construction surveys. Specifically, BIO-2 would require pre-construction surveys and daily sweeps to identify migratory birds and their nests. If active nests are found, a qualified biologist will determine appropriate Environmentally Sensitive Area (ESA) buffers around each nest as specified in a Nesting Bird Management Plan, to minimize disturbance and prevent potential take of the nest. The buffer will remain in place until the nest is vacated and juveniles have fledged, or the nest is no longer active, as determined by a qualified biologist. BIO-1 will require all personnel to attend a Worker Environmental Awareness Program (WEAP). This WEAP will include a discussion on migratory birds, the MBTA and Fish and Game Code, the identification of ESAs, and communications protocol in the event

a new nest is discovered. With mitigation, project-related impacts to nesting birds during construction and decommissioning activities would be less than significant.

Operations

Although avian mortalities and other adverse effects may result from the Project, they are highly unlikely to have substantial adverse direct or indirect effects on bird species identified in the Project area, because the Project's relatively small scale is unlikely to result in mortalities that would have a species- or population-level effect. Pre-construction surveys and daily sweeps will occur to identify migratory birds and their nests. If active nests are found, a qualified biologist will determine appropriate ESA buffers around each nest as specified in a Nesting Bird Management Plan (Mitigation Measure BIO-2), to minimize disturbance and prevent potential take of the nest. The buffer will remain in place until the nest is vacated and juveniles have fledged, or the nest is no longer active, as determined by a qualified biologist.

Additionally, because the effects of solar installations on avian species are still unknown, an Avian Mortality and Injury Monitoring Plan will be prepared and implemented (Mitigation Measure BIO-9). This Plan would use standardized monitoring methods and shall include an adaptive management program that identifies and implements reasonable and feasible measures to reduce levels of avian mortality or injury attributable to the Project to sustainable levels in the event such population-level effects are observed. Accordingly, impacts to avian species under the regulation of the MBTA and Fish and Game Code are less than significant with mitigation implemented.

b) **Less Than Significant with Mitigation Incorporated.** Vegetation on the Project site is generally disturbed and consists of fallow agricultural fields in various stages of succession to more natural habitats. Approximately 175.2 acres of disturbed saltbush scrub are expected to be permanently impacted following Project construction with an additional 11.8 acres temporarily lost; these vegetation communities are not sensitive natural communities. Approximately 4.7 acres of ornamental windrows would permanently impacted and 0.1 acre will be temporarily impacted; but these vegetation communities are not sensitive, either. While providing limited habitat for native plant and wildlife species, these windrows are of lesser ecological value within the Project site and the surrounding region.

A single sensitive vegetation type, desert panic grass patches was observed on the Project site (See Appendix C) and is present along the western and southern boundary of the Project site. Desert sand dune vegetation is considered sensitive by the CDFW and is located within the southern portion of the Project site adjacent to the Mojave River. However, as depicted in Figure 4, the Project's limits of construction would avoid these areas. Off-site, a 0.3 acre area of California joint fir scrub would be impacted. Through implementation of Mitigation Measures BIO-2 and BIO-3, these areas would be surveyed for any special status species prior to construction and decommissioning. With the prescribed mitigation, project-related impacts to sensitive natural communities would be less than significant.

c) **Less Than Significant Impact.** No wetlands or non-wetlands of the U. S., including depression features such as vernal pools, were observed within the Project site or off-site locations (Appendix C). All lakes and streambeds under the jurisdiction of the CDFW occur along the southernmost boundary of the Project site and are associated with the Mojave River. Neither wetland or non-wetlands waters nor riparian habitat occur within the limits of proposed construction within the Project site or the off-site–improvement areas. The implementation of Best Management Practices (BMPs) during construction as part of the project's SWPPP would prevent runoff from the Project site from indirectly affecting the Mojave River and the resulting impacts are less than significant.

Two abandoned retention basins on the Project site (located near western boundary of APN 0497-101-14 and northern portion of APN 0497-101-05) were mapped by the USDA Natural Resource Conservation Service and USFWS National Wetland Inventory (NWI). Based on the findings of the jurisdictional wetland delineation (see Technical Report A1 in Appendix C), these features were concluded to not meet the definition of waters of the State or the United States. Based on this consideration, Project-related impacts to jurisdictional features would be less than significant.

d) **Less Than Significant with Mitigation Incorporated.** The Project site and off-site improvement areas are located in close 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.

Construction and Decommissioning
Movement of small wildlife (e.g. all reptiles and small mammals) would be impeded by construction activities such as vegetation clearing, grading, excavation, and the movement of heavy construction equipment and vehicles. Impacts include the crushing of individuals, disturbance by lighting, noise or vibration caused by heavy equipment, and increased exposure to predators following grading or vegetation alterations. Following construction, movement may be adversely affected by continued use of access roads which pose a small risk of crushing these small animals which tend to sun in these areas. Alterations of habitat associated with shading and vegetation management under PV arrays and within Fuel Modification Zones, and increased exposure in disturbed and unvegetated areas are also expected to impact movement. Additionally, due to the combined use of a desert tortoise and MFTL exclusionary fence, many small terrestrial wildlife would be restricted from entering the Project site. However, most wildlife movement is anticipated to occur along the Mojave River and is already restricted by Hwy 58, Community Boulevard, and Lenwood Road. Further, because the Site is currently disturbed with low vegetative cover relative to surrounding areas, it is unlikely that the Project site is a significant contributor to wildlife movement in the region. As such, Project-wide, impacts to the movement or dispersal of small terrestrial wildlife would be less than significant.

Movement of medium-sized wildlife, such as coyotes or American badger, may be impeded by construction activities such as vegetation clearing, grading, excavation, and the movement of heavy construction equipment and vehicles. Impacts include vehicular collisions, disturbance from artificial lighting, noise or vibration caused by heavy equipment, and

increased exposure to predators following grading or vegetation alterations. Following construction, movement may be adversely effected by continued use of access roads and alterations to habitat within the Site. Additionally, due to the combined use of a desert tortoise and MFTL exclusionary fence, many medium sized terrestrial wildlife would be restricted from entering the Project site. However, most wildlife movement is anticipated to occur along the Mojave River and is already restricted by Hwy 58, Community Boulevard, and Lenwood Road. Further, because the Project site and off-site areas are currently disturbed with low vegetative cover relative to surrounding areas, it is unlikely that these areas are a significant contributor to wildlife movement in the region. As such, Project-wide, impacts to the movement or dispersal of medium-sized terrestrial wildlife will be less than significant.

Larger mammals, such as mule deer, also have a potential to occur on the Project site and off-site improvement areas. These species are particularly sensitive to human disturbance, including noise and artificial lighting and tend to avoid paved roads (Appendix C). These animals have very large home ranges and dispersal distances at the landscape scale and could easily, under appropriate conditions, traverse an area the size of the Project site in a single night. However use and movement across the site and surrounding region by large terrestrial wildlife is not anticipated. This avoidance is anticipated due to the lack of optimal habitat with good escape cover including oak woodlands and savannahs and grassland edges, within the valley floor and general avoidance of open habitats by these species (Appendix C). This lack of cover is exacerbated by the high human activity, including the presence of SR-58 which poses a serious obstacle for large wildlife trying to cross. Movement of large wildlife may be impeded by construction activities such as vegetation clearing, excavation, and the movement of construction equipment and vehicles. Because the likelihood of large mammals actually using the Project site as linkages is very low impacts to the movement or dispersal of large terrestrial wildlife will be less than significant.

Operations
Impacts to birds and bats are described by species in Checklist Issue a). The Project site is located within the Pacific Flyway, which stretches along the Pacific Coast from South America to the arctic tundra. Migratory birds use this major migratory route in the spring and fall because of stopover areas where species rest, feed, and regain their strength before continuing their migration to breeding or wintering grounds. The Project site lies between two significant stopover areas: the Salton Sea (100 miles southeast) and Mono Lake (200 miles northwest). Numerous smaller, but equally important, areas located in the Project vicinity include: local agricultural fields, when flooded (1 mile west), Barstow ponds (7 miles east), North Mojave Dry Lakes (e.g., Harper Dry Lake) (11 miles northwest), Daggett Evaporation Ponds (16 miles east), Silver Lakes (17 miles southwest), Kramer Junction Evaporation Ponds (26 miles west-northwest), Mojave Narrows (30 miles south-southwest), and Baldwin Lake (50 miles southeast). These stopover areas, some identified as California Important Bird Areas by the National Audubon Society, guide birds over the Project area. The Project is proposed on lands that are low quality, disturbed habitats surrounded by open, undisturbed lands as well as similarly disturbed rural residential lands. Based on spring and summer observations, the Project site and off-site areas do not act as a significant linkage area. However, avian movement/migration through the Project area may be impacted if the “lake effect” hypothesis, attracting birds to the Project site, is valid. Impacts would be minimized

through the implementation of Mitigation Measures BIO-9 and BIO-10 to a less than significant level following implementation of an Avian Mortality and Injury Monitoring Program. This Program will include adaptive management measures to avoid population-level effects should such "lake effect" impacts be observed.

e) **Less Than Significant with Mitigation Incorporated.** The California Desert Native Plants Act (CDNPA; See Div. 23 § 80071-80075 of the California Food and Agriculture Code) protects certain native plant species within specified Counties within California including: Counties of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego. Section 80073(d) states that all native species of the genus Prosopis (mesquites) are protected under the CDNPA. Twenty (20) mesquite trees were observed on the Project site and off-site improvement areas including eighteen (18) honey mesquite (*Prosopis* cf. *glandulosa*), one (1) Black carob tree (*Prosopis* cf. *nigra*), and one (1) screwbean mesquite (*Prosopis pubescens*) (Appendix C). All twenty individuals were planted from unknown sources as a windrow and, as such, are not considered native to the Project site. Further, all individuals fall outside of the proposed Project footprint and will not be impacted as part of the proposed Project. As such, no impacts to native mesquite would occur as part of the Project and a Desert Native Plants Harvesting Permit is not required under the CDNPA.

The Conservation Element of the County's General Plan includes goals and polices for the County's Desert Region with the intent of preserving the unique environmental features and natural resources of the Desert Region, including vegetation, water and scenic vistas (Goal D/CO 1). The Project would comply with Policy D/CO 1.2, which requires future land development practices to protect the natural vegetation by avoiding the sensitive desert panic grass patches and minimizing impacts to stands of California joint fir scrub. Mitigation Measures BIO-1, BIO-2, and BIO-3, would ensure that the Project complies with Policy D/CO 1.5, which requires that mechanical removal of vegetation be minimized to areas adjacent to permitted uses. These measures minimize the hazards to wildlife that are associated with mowing through a combination of pre-construction surveys, worker education, and on-site monitoring.

The Project Applicant has completed a desert tortoise protocol survey per USFWS requirements in accordance with Policy D/CO 1.12. Although no desert tortoises were observed, Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-5, BIO-6, BIO-7, and HWQ-1 would support the County's goal of protecting this listed species through worker education, pre-construction surveys and monitoring, and the erection of exclusion fencing. With the implementation of these measures, the Project would not conflict with any local policies or ordinances protecting biological resources and the impact is less than significant.

f) **No Impact.** The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. The Project area is within the boundaries of the West Mojave Plan (BLM, 2005). The West Mojave Plan is a federal land use plan amendment to the Bureau of Land Management's California Desert Conservation Area (CDCA) Plan that presents a comprehensive strategy to conserve and protect sensitive plants and animals and the natural communities of which they are a part. The West Mojave Plan is applicable only to

BLM-administered public lands within the West Mojave Plan area. Although the study area is within the West Mojave Plan area, it is not encompassed within BLM lands; therefore, future development would not be subject to the requirements of the West Mojave Plan. The Project site is within the planning area of the Desert Renewable Energy Conservation Plan (DRECP); however, this Habitat Conservation Plan and Natural Community Conservation Plan is still in development and has not been adopted. It is important to note that because the plan has not yet been formally approved it is without regulatory weight, and may be subject to significant change prior to approval. On March 10, 2015, the state and federal agencies preparing the DRECP decided to phase its development, with the BLM lands component of the plan being processed first, followed by processing of the private lands portion of the plan at such time as each County decides to subscribe to the DRECP. This approach was adopted to ensure better alignment with county planning priorities and goals. The expected date of a final, effective DRECP is not known but the effective date of any private lands component within San Bernardino County is likely to be substantially beyond the approval and construction timeline of the Longboat Solar project, due to the large-scale, complex nature of the plan and the degree of coordination required to align the plan with County priorities. Therefore, the proposed Project will have no impact relating to Habitat Conservation Plans, Natural Community Conservation Plans, and Recovery 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. All construction and operations staff working on the Site will be required to attend a Worker Environmental Awareness Program (WEAP) as prepared and presented by a qualified biologist. This program will emphasize the conservation of sensitive biological resources during Project construction and operations and will include, at a minimum:

- The purpose of resource protection and relevant mitigation requirements;
- A description of the existing habitats and special status species including identification tips;
- The conservation measures that will be implemented in conjunction with Project construction and operation;
- A protocol for documenting and reporting dead or injured wildlife encountered during construction and at least one year of operation;
- Contact information for Project biologists and monitors; and
- fire protection measures;
- measures to minimize the spread of weeds;
- hazardous substance spill prevention and containment measures; and
- Penalties for violation

A copy of the worker education training materials shall be provided to San Bernardino County prior to the issuance of a grading or construction permit.

The names of all personnel who attend the training shall be recorded and workers shall be issued hardhat decals denoting they have received the workshop training as well as informational fliers for quick reference. No personnel shall be permitted to operate equipment within construction zones unless they have completed the WEAP and are displaying hardhat decals denoting this attendance.

BIO-2: Pre-Construction Surveys and Daily Sweeps. Before initiating any ground-disturbing task (e.g., mechanized clearing, trenching, grading, etc.) associated with Project-related construction activities, pre-construction surveys will be conducted by a qualified biologist, in all Project areas slated for vegetation clearing or ground disturbing Project activities and the appropriately sized buffer. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat. Should sensitive resources be observed, biologists will establish Environmentally Sensitive Area (ESA) buffers and no construction activities will be allowed within said ESA until the sensitive resource has left on its own accord or until otherwise authorized by the responsible trustee agency. Biological monitors will conduct daily sweeps prior to construction activity to verify no new sensitive resource occurs within that day's construction activity site.

(a) Desert tortoise. Focused desert tortoise surveys, as described in Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (USFWS, 2010) will be conducted in areas of potentially suitable habitat within 30 days of initial ground-disturbing activities. All tortoise sign will be mapped and all scat collected during the first clearance survey. If fresh scat is found during the second clearance survey, the surrounding area will be searched.

If encountered, tortoise burrow locations will be georeferenced in the field using Global Positioning System (GPS), and the size and approximate age of the burrow identified. Where possible, tortoise burrows would also be flagged only if the flagging would not attract poaching.

No more than 24 hours prior to fence installation and vegetation removal, all disturbance areas would be surveyed to ensure no desert tortoise individuals or burrows are present. Should desert tortoise be observed on the Project site, all potential activities with the possibility to impact an observed desert tortoise shall cease until the individual has left the area on its own accord. A report shall be sent to the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service within five calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;
- Monitoring methods used to ensure no impacts to desert tortoise have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to desert tortoise.

If a dead desert tortoise is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service shall be contacted immediately to determine the appropriate course of action under the respective statutory and regulatory endangered species regimes administered by each agency.

(b) Mohave fringe-toed lizard. Focused Mohave fringe-toed lizard (MFTL) surveys will be conducted in areas of potentially suitable habitat. These surveys shall occur within 30 days of initial ground-disturbing activities and during the seasonal activity period (typically, March to September). A qualified MFTL biologist will prepare a Mohave Fringe-toed Lizard Management Plan. This Plan shall be submitted to San Bernardino County and the CDFW for approval prior to the issuance of a grading or construction permit. This Plan will include, at a minimum:

- A discussion on the species' biology including known distribution maps;
- Minimum qualifications for biologists to work with the species;
- Measures to avoid impacts to MFTL during Project construction including, but not limited to survey requirements, MFTL exclusionary fencing, speed limit enforcements, WEAP requirements, and avoidance of dune habitats.
- MFTL relocation requirements in the event an MFTL is observed within the Project disturbance area. These relocation requirements will include, at a minimum: handler requirements and qualifications, means of relocation and necessary equipment, clear microhabitat description and map of an approved receptor site, and relevant restrictions. All MFTL will be relocated to a County- and CDFW-approved receptor site.
- Reporting requirements. All MFTL encountered during surveys shall be reported to the County and CDFW in monthly monitoring reports. Should an individual require relocation, additional information shall be included including: date and time of capture, date and time of release, name and qualifications of the MFTL biologist, GPS coordinates and photo-documentation of capture and receptor microhabitat, and additional relevant information.

All observations will be mapped and all observed MFTL will be relocated to a County- and CDFW-approved receptor site.

(c) Burrowing Owl. Pre-construction burrowing owl surveys will be conducted by a qualified biologist, in conformance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) within 500 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 500-foot buffer zones. If burrowing owls are observed using burrows during the non-breeding season (September 1 – January 31) or breeding season (February 1 – August 31), an ESA buffer shall be established around each burrow, and no activities will be allowed within the buffer until the nest is complete (young have fledged or the nest fails). Nest buffer distance will be a minimum of 300 feet. All ESAs will be clearly identified using visible markers such as orange snow fencing, flagging, signage or other visual cues. This protected area will remain in effect until August 31 or until the young owls are foraging independently. If disturbance of owls and their burrows is unavoidable, owls will be excluded from all active burrows as described in a Burrowing Owl Relocation Plan. All relocation will be passive in nature using burrow exclusion methods and all relocation will be performed in conformance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) after conferring with the CDFW and County of San Bernardino.

(d) Nesting Birds and raptors. Pre-construction surveys for nesting birds will be conducted if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (February 1 to August 31). A qualified avian biologist shall conduct the surveys no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 500-foot buffer zones. If active nests are found, a qualified biologist will determine appropriate buffer distances around each nest as specified in the Nesting Bird Management Plan, to minimize disturbance to the nest and prevent potential take of the nest. The buffer distance will be based on the species behavior characteristics and conservation status, nest location, and nature of anticipated project activities nearby. The buffer area will be conspicuously demarcated on the ground and the Permittee will ensure that all project activities in the vicinity of the site are monitored to prevent incursion into the buffer area. The buffer will remain in place until the nest is vacated and juveniles have fledged, or the nest is no longer active, as determined by a qualified biologist. An inactive nest is characterized by no longer containing viable eggs and/or living young and is not being used by a bird as part of the reproductive cycle (eggs, young, fledging young still dependent upon nest). All fledglings must leave the nest on their own accord (e.g., without take) to be considered inactive. In some cases, a nest can be abandoned by the bird constructing it and become inactive prior to egg laying. In such cases, determination that the nest is inactive is made on a case-by-case basis based on consistent observations and the determination of an avian biologist.

A qualified biologist will prepare a Nesting Bird Management Plan describing the measures to avoid nests in the event they are observed. This Plan is applicable to all nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. This Plan shall be submitted to San Bernardino County and the CDFW for approval prior to the issuance of a grading or construction permit. This Plan will include, at a minimum:

- Minimum qualifications for biologists to work with the species;
- Measures to avoid impacts to nesting birds during Project construction including, but not limited to survey requirements, monitoring requirements, WEAP requirements, and avoidance of dune habitats.
- Communications protocol in the event of a nest discovery;
- A list of potentially occurring avian species (or guild) and minimum no disturbance buffer for each. Buffer sizes will be site-specific and based on the sensitivity of specific species or guilds and not based on generalized assumptions regarding all nesting birds;
- Contingency and emergency activity measures; and
- Reporting requirements. All nests and their status (active versus inactive), species descriptions, date of inactivity, location (including GPS coordinates), and other information will be provided in monthly construction monitoring reports.

If for any reason a bird nest must be removed during the nesting season, the Project proponent(s) shall provide written documentation of concurrence from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife authorizing the nest relocation to the County of San Bernardino. This documentation will include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and

condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and outcome (whether or not the chicks survived and fledged).

(e) Mohave ground squirrel. Presence/absence pre-construction surveys for Mohave ground squirrel will be conducted no more than one (1) year before disturbance activities are scheduled to begin within suitable Project habitat. If a Mohave ground squirrel is observed during pre-construction surveys or at any point, work shall be halted and redirected to other areas of the Project Site that would not affect the individual observed. A report shall be sent to the California Department of Fish and Wildlife within five calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;
- Monitoring methods used to ensure no impacts to Mohave ground squirrel have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to Mohave ground squirrel.

If a dead Mohave ground squirrel is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted immediately to determine the appropriate course of action under the California Endangered Species Act.

(f) Desert Kit Fox and American badger. Focused surveys for American badger and desert kit fox will be conducted by a qualified biologist within 500 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities. The surveys will be conducted no more than 30 days before disturbance activities are scheduled. The surveys shall be performed by walking parallel transects spaced no more than 20 meters apart within areas of suitable habitat, and shall be focused on detecting dens that are occupied, or are suitable for occupation, by either species. Potential burrows will be monitored for 72 hours using motion detecting infrared cameras or similar trackers to determine activity.

Inactive dens are burrows that have largely collapsed or the end of the burrow is clearly visible. Inactive dens that will be directly impacted by construction activities shall be excavated and backfilled by hand to prevent reuse by American badger or desert kit fox.

If occupied burrows are observed outside of the pupping season, the occupants may be passively excluded from their burrow using natural materials over a period of five consecutive days. Once the den is confirm vacated, it shall be excavated to ensure no wildlife are trapped within the den and then backfilled by hand to prevent reuse by American badger or desert kit fox.

If an occupied den is observed during the pupping season (typically, February to July), then the burrow will be clearly flagged and a minimum 200-foot no disturbance area surrounding the den shall be established. This buffer shall remain in place until the end of the pup-rearing season or

the den is determined inactive or abandoned by a qualified biologist. At this point, passive exclusion methods (see above) shall be used.

If an American badger or desert kit fox is observed, a report shall be sent to the California Department of Fish and Wildlife within 30 calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;
- Monitoring methods used to ensure no impacts to American badger or desert kit fox have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to American badger or desert kit fox.

If a dead or injured American badger is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted within eight hours to determine the appropriate course of action.

To minimize the likelihood of the transmission of canine distemper, no pets shall be allowed on the site. If a dead, sick, or injured desert kit fox is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted within eight hours to determine the appropriate course of action.

(g) Bats. Focused surveys for bats, including Townsend's big-eared bat, will be conducted by a qualified biologist within 300 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities where roosting habitat occurs. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 300-foot buffer zones surrounding rocky outcrops, buildings, bridges, large trees, or any other habitat capable of supporting roosts or hibernacula.

If active maternity roosts or hibernacula are found on site, the roost shall be avoided (i.e., not removed) by the project, if feasible. If avoidance of the roost is not feasible, the bat biologist shall notify the California Department of Fish and Wildlife in writing and additional surveys (via Anabat telemetry or other -approved methods) for nearby alternative roosting sites will be conducted. If the bat biologist identifies, in consultation with and with the approval of the California Department of Fish and Wildlife, that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required.

If no active alternative roosts are found, substitutive roosting habitat for the colony shall be provided on, or in close proximity to, the Project Site. Following establishment of the substitutive roosting site for a period of no less three months, then exclusion of the bats from the original roost may occur. Following the exclusionary period, the demolition of the roost site must commence before maternity colonies form (typically, March) or after young are flying (typically, August).

If accidental take should occur, the California Department of Fish and Wildlife and/or the United States Fish and Wildlife Service shall be notified within 30 days.

BIO-3 Biological Monitoring. The Project proponent will retain a qualified Biological Monitor for all activities associated with ground disturbance, grading, construction, decommissioning, and restoration throughout the Project lifetime. The Biological Monitor must be knowledgeable of general and focused species issues on the Project, qualified by the County of San Bernardino to conduct such work, and must be competent to monitor all biological mitigation measures. The Biological Monitor will have the authority to ensure compliance with mitigation measures set forth in this report including the authority to halt work as necessary to ensure full compliance.

Duties of the Biological Monitor will include, but will not be limited to the following:

- The Biological Monitor will ensure that all established buffers surrounding identified ESAs are maintained.
- Conduct daily pre-construction clearance sweeps for plants and wildlife (including nests) to determine the need for any new no disturbance buffers.
- All dead wildlife will be immediately removed and disposed of properly as to not attract dogs, ravens, raptors, and other opportunistic scavengers and predators.
- To prevent entrapment, all potential wildlife pitfalls (i.e., steep trenches, bores, and other excavations) will be inspected daily (i.e., morning and/or evening) and immediately before backfilling to monitor for wildlife entrapment. Large/steep excavations will be covered and/or fenced nightly to prevent wildlife entrapment. If the excavation cannot practicably be covered or fenced, excavations will be sloped at a 3:1 ratio at the ends, or an earthen ramp will be provided to allow wildlife to escape. If any wildlife species become entrapped, construction will not continue until the animal has left the trench voluntarily or the Biological Monitor has removed the animal.
- No listed species will be handled without the appropriate permits.
- The Biological Monitor will inspect the site to ensure trash and food-related waste is placed in closed-lid containers and that workers do not feed wildlife.

BIO-4 Weed Abatement Plan. Prior to the initiation of vegetation removal within the Project, the Applicant will submit to the County of San Bernardino a copy of the final Weed Abatement Plan and letter of approval from the appropriate fire authority. This plan will describe all requirements pertaining to weed abatement, fire protection, and fuel modification including periodic clearance of the site of all non-complying vegetation under San Bernardino County Desert Area Fire Hazard Abatement regulations [County Code 23.031-23.043]. These measures may include, but will not be limited to, the removal of brush and dead plant materials, removal of non-native plant species, and other periodic management measures including mowing, particularly beneath PV arrays. The location of fuel modification zones and/or fire breaks to minimize impacts to sensitive biological resources will be identified within the Plan. To the degree practicable, mowing or any other vegetation maintenance will occur between August 15 and February 15 to minimize impacts to nesting birds.

BIO-5 Trash Abatement Program. A Trash Abatement Program will be initiated during pre-construction phases of the Project, and would continue through the lifetime of the Project. Trash and food items would be contained in closed containers and removed regularly (at least once per week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

BIO-6 Other Biological Resource Protection Measures. The following additional measures will be implemented during Project construction:

- All equipment maintenance, staging, and the dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas within the Project impact limits. These designated areas will be located in previously compacted and disturbed areas to the maximum extent possible in such a manner as to prevent runoff from entering existing native vegetation areas. These areas will be clearly designated in the construction plans and SWPPP (See HWQ-1)
- Twenty miles per hour speed limits will be enforced for all vehicles traveling on the Project site.
- Trash will be stored properly (i.e., in a manner that is inaccessible to scavengers including condors, ravens, crows, and raccoons), in accordance with the Construction General Permit, and removed from the construction site on a regular basis.
- Pets will not be permitted on the Site during construction.
- Entry to all areas flagged, staked, or otherwise marked as special status by the Environmental Monitor will be prohibited.

BIO-7 Raven Management Plan. The Project proponent adhere to the following measures to ensure that the construction, operation, maintenance, and decommissioning of the Project does not adversely impact regional desert tortoise populations by attracting common ravens to the Project area and increasing the probability of tortoise predation. The following measures shall be implemented to mitigate project-specific impacts that could result in a local increase in common ravens:

- All trash and food-related waste will be disposed of 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 pooling or puddling.
- The biological monitor identified in BIO-3 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 protected by federal or state endangered species laws would be removed.
    - Document common raven use of the project site and access road on a daily basis, during vegetation clearing and ground disturbance [BIO-2]. 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.
- Implement Avian Power Line Interaction Committee (APLIC) guidelines [BIO-10].

- Implement the following measure to mitigate indirect and cumulative impacts: Contribute to the Regional Raven Management Plan fund managed by the National Fish & Wildlife Fund. 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.

BIO-8 Exclusionary Fencing Plan. The Project proponent will submit an Exclusionary Fencing Plan, describing permanent desert tortoise and Mohave fringe-toed lizard exclusionary fencing to be used at the Project, to the County of San Bernardino prior to the issuance of a building or grading permit. This plan will describe fencing materials, locations, access areas, monitoring requirements, and other information pertaining to the erection and maintenance of these fences.

BIO-9: Avian Mortality and Injury Monitoring. The Project proponent shall perform operations-phase avian mortality and injury monitoring at the Project site. The program shall be initiated upon commencement of commercial operation and continue for one year following commercial operation. Prior to issuance of a grading permit for the project, the Project proponent shall submit an Avian Mortality and Injury Monitoring Plan to the County of San Bernardino and USFWS that, at a minimum, includes the following elements:

1. Monitoring Protocol
    a. A description and summary of the baseline survey methods, raw data, and results.
    b. Full survey methodology and field documentation, identification of appropriate survey locations, control sites, and seasonal considerations.
    c. Avian mortality and injury monitoring that includes:
        i. Onsite monitoring that will periodically survey representative locations within the facility, and, in combination with an integrated carcass detection trial, will produce accurate project-wide impact estimates.
        ii. Statistical methods used to generate facility estimates of potential avian impacts based on the observed number of detections during standardized searches and adjusted by integrated detection trials.
        iii. Field detection and mortality or injury identification, cause attribution, handling and reporting requirements.
        iv. Detailed specifications on data and carcass collection protocols and a rationale justifying the proposed schedule of carcass searches.
    d. All monitoring studies included in the program shall be conducted by a third party contractor for one year following commencement of commercial operation. At the end of the one year period, USFWS shall determine whether the survey program must be continued.
    e. Monitor the death and injury of birds and bats from collisions with facility features.

2. Adaptive Management Program. The Project shall be subject to additional, adaptive management mitigation in the event mortality and injury survey results indicate the Project fails to meet applicable performance standards. Appropriate performance standards for mitigation of impacts to any species regulated by BGEPA, ESA, and CESA exist through required

consultation with USFWS and CDFW under their respective regulatory and permitting frameworks. For impacts to all other special-status avian species, mitigation measures must reduce or offset mortalities caused by the Project to a level that avoids a substantial, long-term reduction in the demographic viability of the local population of the species in question, as estimated through the results of implementation of the monitoring protocol required in by this mitigation measure.

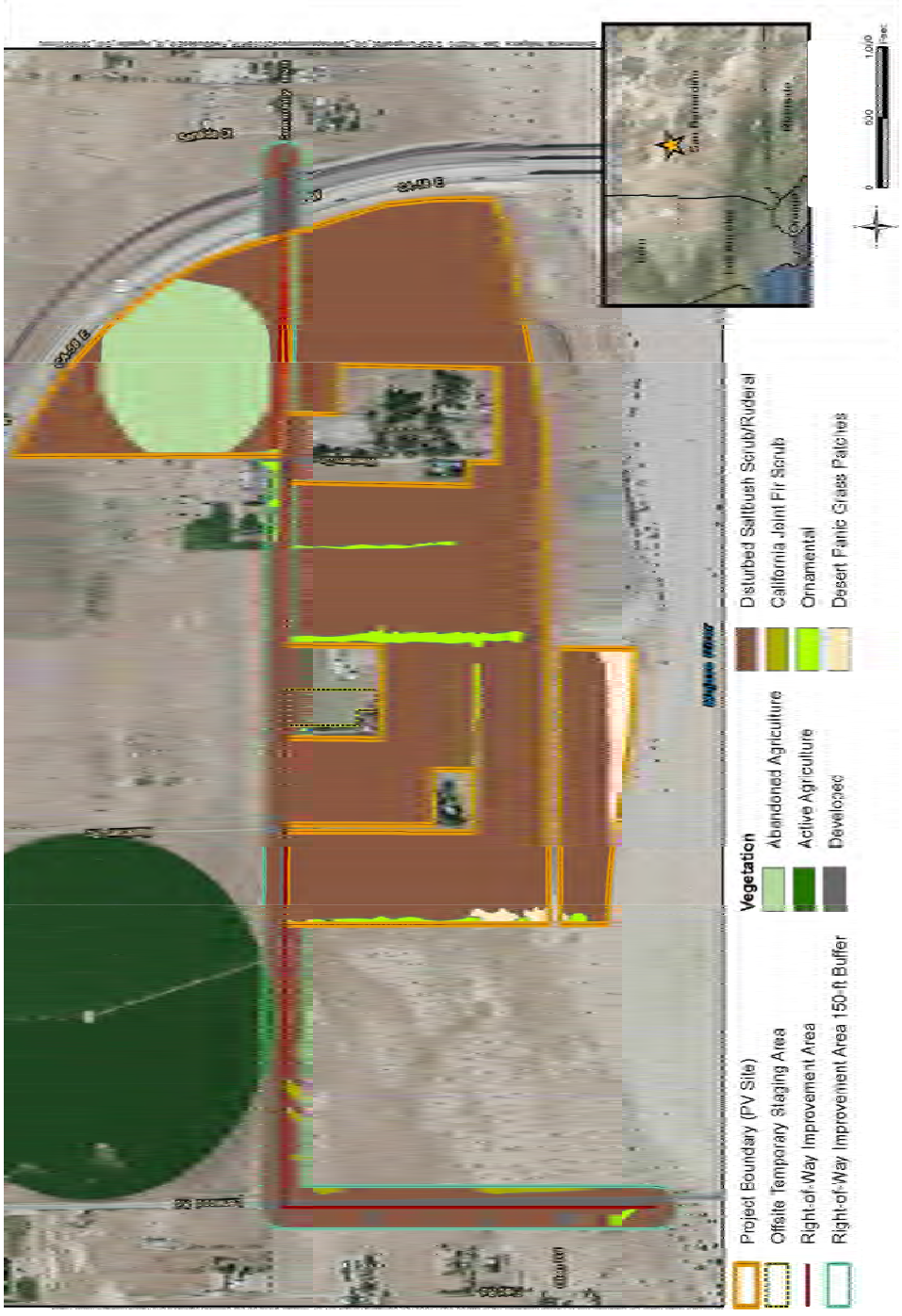
The Plan shall include an adaptive management program that identifies and implements reasonable and feasible measures to reduce levels of avian mortality or injury attributable to the Project (whether project-specific or cumulatively considerable) to levels that accomplish the performance standards referenced above. To that end, the adaptive management program shall include (i) reasonable measures for characterizing the extent and importance of detected mortality and injuries clearly attributable to the Project; and (ii) potential measures that the Project owner could implement to adaptively respond to detected mortality and injuries attributable to the Project. Undertaken adaptive actions will be discussed and evaluated in survey reports.

Any impact reduction measures must be commensurate (in terms of factors that include geographic scope, costs, and scale of effort) with the level of avian mortality or injury that is specifically and clearly attributable to the Project facilities in excess of the performance standards referenced above, consistent with the proportionality requirements of California statutory and constitutional law and of U.S. constitutional law. Such measures may include, but not be limited to:

a. The Project owner shall initiate consultation with USFWS and CDFW if there is project-attributed injury or mortality to any species regulated by BGEPA, ESA or CESA.
b. Passive avian diverter installations along the perimeter or at other locations within the Project to reduce or minimize bird use of the site.
c. The use of sound, light or other means to discourage site use consistent with applicable legal requirements.
d. Onsite habitat management or prey control measures consistent with applicable legal requirements.
e. Modifications to support structures or other facilities to exclude nesting birds (e.g., netting or shielding around framework; capping open pipes or tubing).
f. Incorporation of visual cues to panels, such as UV-reflective or solid contrasting bands if proven to be effective and economically and technically feasible.
g. Additional mortality monitoring to assess impact reductions achieved through adaptive management.
h. Such other reasonable, feasible measures required by USFWS under its regulatory authority that are applicable to special-status avian species.

BIO-10 APLIC Guidelines. The Project will implement Avian Power Line Interaction Committee (APLIC) guidelines to reduce avian collisions with power lines and poles installed as part of the Right-of-Way Improvement Area.

Figure 13
Vegetation Map



	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 Impact.** The Project, including the off-site interconnection, will not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines. Cogstone prepared a Cultural and Paleontological Resources Assessment for the Project site in December 2014 (Appendix D1). The purpose was to identify potential adverse impacts to cultural and paleontological resources resulting from construction of the proposed Project. A Supplemental Cultural and Paleontological Resources Assessment (May 2015) was also prepared by Cogstone to assess the off-site interconnection (Appendix D2). The following information is summarized from the *Cultural and Paleontological Resources Assessments for the Longboat Solar Project* (Appendices D1 and D2 of this Initial Study).

A search for archaeological and historical records, including Sacred Lands file maintained by the Native American Heritage Commission (NAHC), was completed by Cogstone on August 7, 2014 at the South Central Coastal Information Center (SCCIC). The record search covered a one-mile radius around the Project boundary. Eight additional sources, including the National Register of Historic Places and California Register of Historical Resources, were consulted to obtain additional cultural resource data regarding the Project.

Additional research completed by Cogstone revealed that none of the eight additional sources displayed any areas of concern or historical significance to the Project area.

The records search indicated a total of 22 cultural resources investigations have been completed previously within a one-mile radius of the Project and no survey reports are on file for the Project. The results of these studies indicate that 17 cultural resources were previously identified and documented within a one-mile radius of the Project. These

resources include five prehistoric sites, seven prehistoric isolates, a multicomponent site, and four historical built environmental resources. One built environment resource, the historic Atchison Topeka and Santa Fe Railroad, has been previously determined eligible for listing in the National Register of Historic Places.

The records search completed by Cogstone indicated that one historical property (P-36-002294) had been previously identified and documented within the Project's area of potential affect (APE). This site was originally recorded in 1949 and subsequently updated in 2003 and 2007. The 1949 and 2003 site boundaries are mapped as covering approximately 119 acres of the Project. However, a 2007 survey determined that the 1949/2003 site boundaries were no longer correct due to extensive disturbance from agricultural activities and that only a remnant of the site located along flood control property south of the Project still remains. P-36-002294 was field verified by Cogstone staff and determined not to be within the Project's development area. Following a field survey of the APE, no new historically-significant resources, including architectural features, were identified. This includes the on-site water retention/containment structures. Also, the adjacent rural residences are located outside the APE. Based on the intensive pedestrian survey and subsurface exploration conducted within the APE, the Project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5. Therefore, a less than significant impact would occur.

b) **Less than Significant with Mitigation Incorporated.** Based on the results of the Cultural and Paleontological Resources Assessment (2014; Appendix D1), one of the identified resources, P-36-002294, was previously recorded within the Project boundary. This prehistoric site was originally recorded in 1949 and subsequently updated in 2003 and 2007. The 1949 and 2003 site boundaries are mapped as covering approximately 119 acres of the Project. However, a 2007 survey determined that the 1949/2003 site boundaries were no longer correct due to extensive disturbance from agricultural activities and that only a remnant of the site located along flood control property south of the Project still remains. P-36-002294 was field verified by Cogstone staff and determined not to be within the Project's development area. Based on the results of the Supplemental Cultural and Paleontological Resources Assessment (Cogstone 2015; Appendix D2), no archaeological resources were encountered in the off-site improvement area.

A sacred lands record search was requested by Cogstone staff from the Native American Heritage Commission (NAHC) on August 1, 2014 to identify all California Native American tribes (as defined in Section 21073 of the Public Resources Code) that are traditionally and culturally affiliated with the geographic area of the Project site. The NAHC responded on September 4, 2014 that there were no known cultural resources within a half-mile of the Project. The NAHC recommended contacting seven Native American individuals and or tribes indigenous to the surrounding area. Cogstone mailed a letter to each of the seven contacts with tribes on September 9, 2014 requesting any information on heritage resources and followed up by phone and by email on several occasions over a nine-month period thereafter. A response letter was received by the Morongo Band of Mission Indians on June 18, 2015, indicating that the Project site is within an area considered to a traditional use area or one in which the tribe has cultural ties (Appendix D3). In its response letter, the tribe also requested a formal records search be performed and a comprehensive cultural resources survey be

conducted for the APE. In addition, the tribe requested that the County impose specific conditions on the Project in the event that native American cultural resources are discovered during Project-related construction.

Archaeological fieldwork on the Project site occurred from October 20 through October 23, 2014. Fieldwork consisted of an intensive pedestrian survey and subsurface exploration. A majority of the Project site contained no prehistoric artifacts at the surface. One surface assemblage (150 by 120 meters in extent) was documented in the northwest quadrant of the Project and consisted of a sparse scatter of approximately 20 artifacts, including cryptocrystalline (ccs), quartzite, and other primary and secondary flakes, one small core fragment, fire-cracked cobbles, one complete brown ccs projectile point, and a possible brownware ceramic body sherd (Cogstone 2014).

According to the *Cultural and Paleontological Resources Assessment for the Longboat Solar Project* (Appendix D1), a projectile point documented in this area is similar to a Humboldt concave base point but the characteristics were not definitive and, therefore, it is not possible to assign this feature to a cultural period. Subsurface testing revealed modern refuse materials in one of the trenches (Trench 9) with the remaining trenches determined to be negative for subsurface materials. Based on the findings of the assessment, no intact cultural deposits were determined to be present and those materials present were determined to have no potential to contribute new information to prehistory (CRHR criterion 4). No resources were encountered with the areas defined for the off-site interconnection (Appendix D2) Therefore, the proposed Project would not cause a substantial adverse change in the significance of a known archaeological resource pursuant to §15064.5.

Assembly Bill No. 52 (AB 52) took effect on July 1, 2015. AB 52 requires a lead agency to make best efforts to avoid, preserve, and protect tribal cultural resources. The bill states that tribal cultural resources are:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either (i) included or determined to be eligible for inclusion in the California Register of Historical Resources; or included in a local register of historical resources;
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c);
3) A cultural landscape that meets one of the criteria of 1), above, and is geographically defined in terms of the size and scope of the landscape; and/or
4) A historical resource described in PRC 21084.1, a unique archaeological resource described in PRC 21083.2(g), or a non-unique archaeological resource as defined in PRC 21083(h) if it conforms with the criteria of 1), above.

Based on Cogstone's analysis as documented in the Cultural and Paleontological Resources Assessment for the Longboat Solar Project, Cogstone did not identify any tribal cultural resources fitting the definition above. Further, Cogstone also contacted the NAHC and four

tribes, including seven individual representatives, to identify potential tribal cultural resources. The NAHC "failed to indicate the presence" of Native American resources in the immediate Project area and no tribal cultural resources have been identified within the Project area by the representatives contacted. As such, the proposed Project is not expected to result in a significant effect to a tribal cultural resource.

Prior to the release of the CEQA document for a project, AB 52 requires the lead agency to initiate consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

As of the date of this document, two California Native Tribes identified by the NAHC as potentially having knowledge of the Project area have requested that the County inform them of projects in the geographic area of the Project. These tribes include the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians. Letters notifying the tribes of the Project were sent by the County to the San Manual Band of Mission Indians and the Morongo Band of Mission Indians on July 29, 2015. Letters were also sent by Cogstone to the Soboba Band of Luiseño Indians on July 23, 2015 and the Gabrieleno Band of Mission Indians – Kizh Nation on July 24, 2015. These letters are provided in Appendix D3. The San Manuel Band of Mission Indians, the Morongo Band of Mission Indians and the Soboba Band of Luiseno Indians each requested consultation under AB 52, which consultation the County has since initiated.

Although, the proposed Project would not cause a substantial adverse change in the significance of a known archaeological resource pursuant to CEQA Guidelines §15064.5 or an identified tribal cultural resource pursuant to PRC §21082.3, there is a potential for Project-related construction to impact unknown or previously unrecorded archaeological resources. Mitigation Measure CR-1 requires tribal monitoring of all ground-disturbing Project activities and a stop-work provision to ensure protection of any inadvertently discovered archaeological and/or tribal cultural resources during construction of the Project. Mitigation Measure CR-2 requires worker training and, in the event of a discovery, the on-site presence of a qualified archaeologist to monitor ground-disturbing activities and excavations in the vicinity of the find and temporarily redirect activities in order to evaluate the significance of the resource, with tribal notification of any significant finds. Mitigation Measure CR-3 specifies provisions for the treatment of discovered archaeological resource in the event a find is made. The implementation of Mitigation Measures CR-1 through CR-3 would reduce the potential for impacting archaeological and tribal cultural resources to a less than significant level by including provisions for the monitoring, discovery and treatment of such resources.

c) **Less than Significant Impact.** Paleontological resources are considered to be significant if they provide new data on fossil animals, distribution, evolution or other scientifically important information. Best current professional practice to characterize paleontological sensitivity utilizes the federal Potential Yield Classified (PYC) system which has a multi-level scale based on demonstrated yield of fossils. Knowledge of the geological formations gleaned from

geological maps and records of previous fossils recovered from the area were the basis for determining the paleontological sensitivity of the sediments found within the Project site (Cogstone 2014).

The Project site is underlain with Holocene alluvium, active wash sediments of the Mojave River, and wind-blown sand deposits. These deposits may be underlain by older, Pleistocene sediments at depth. According to the *Cultural and Paleontological Resources Assessment for the Longboat Solar Project* prepared by Cogstone, the Holocene alluvium, active wash, and wind-blown sand deposits of the Project site are assigned a low potential on the PYC system as they are too young to contain fossils although they likely cover Pleistocene sediments that may contain fossils (Appendix D). These Pleistocene sediments have a moderate and patchy potential based on fossils known from the area (Cogstone, 2014). The Project site is relatively flat, and will only require minimal site grading for the majority of the site. Surface grading or shallow excavations in the uppermost few feet of the Holocene alluvium, active wash sediments, and wind-blown sand deposits are unlikely to uncover significant vertebrate fossils. Given that Project-related excavation would not extend below five feet, there is a low likelihood for encountering paleontological resources. Therefore, the proposed Project is unlikely to directly and indirectly destroy paleontological resources and the corresponding impact is considered less than significant.

d) **Less than Significant Impact.** It is unlikely that any human remains would be found or disturbed on the Project site. However, California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction. The procedures for consulting with Native American tribes are outlined in AB 52, as described in checklist question (b), with the treatment of Native American human remains contained in California Health and Safety Code Section 7050.5 and 7052 and California Public Resources Code Section 5097. In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the contractor and/or the Project proponent are required to immediately halt potentially damaging excavation in the area of the burial and notify the San Bernardino County Coroner and a professional archaeologist to determine the nature of the remains. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. The coroner is required to examine all discoveries of human remains with 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Following the coroner's findings, the property owner, contractor or Project proponent, an archaeologist, and the NAHC-designated Most Likely Descendant (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The MLD will make recommendations concerning the treatment of the remains within 48 hours as provided in Public Resources Code 5097.98. If the landowner cannot come to an agreement with the MLD, Public Resources Code Section 5097.98(e) requires the landowner to reinter the human remains and items associated with Native American remains with appropriate

dignity on the property in a location not subject to further and future surface disturbance. The responsibilities for acting on notification of a discovery of Native American human remains are identified in California PRC Section 5097.9. Compliance with the above-referenced requirements will ensure a less than significant impact is identified for this issue area.

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

CR-1: Tribal Monitoring. There will be one comprehensive training session to present needed information about coordinating with San Manuel for cultural resources and related issues about this project as part of the Project's WEAP training prior to any ground disturbing activities. The meeting shall be recorded for use in future orientation sessions relating to the project. Tribal monitoring shall be conducted during all ground-disturbing activities, which includes but is not limited to, archaeological studies, auguring, excavation, geotechnical investigations, vegetation clearing, ground surface leveling, trenching, and conventional mass grading. Tribal monitors will be from the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians with San Manuel taking the lead. One tribal monitor from each Tribe shall be present on the project site during ground-disturbing activities. A single tribal monitor shall be assigned to each simultaneous ground-disturbing activity on site. Additional tribal monitors shall be assigned if more than two simultaneous ground-disturbing activities occur on site. If simultaneous ground-disturbing activities require an odd number of more than two tribal monitors, the Tribes shall bring in additional monitors representing each tribe according to the number needed. The tribal monitors will represent the Tribes' interests and will follow the Native American Heritage Commission Guidelines for Monitors, which shall include daily completion of the Native American Monitoring Daily Activity Report/Log.

CR-2: Discovery of Archaeological Resources. On-site workers will be informed of the potential for discovery of archaeological resources or human remains during excavation or trenching as part of the Project's WEAP training.

If an archaeological or cultural resource is encountered during ground-disturbing activities for the Project, tribal monitors and/or the Applicant are empowered to stop excavation activities within 50 feet of the discovery until a qualified archaeologist can evaluate whether the resource is a unique archaeological resource or historical resource as defined in Public Resources Code Section 21083.2 and/or 14 C.C.R. Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 in consultation with the tribes. Work may continue in other areas. The project archaeologist in consultation with the tribal representatives shall determine importance and significance of the resource as tribal cultural resources, historical resources or unique archaeological resources, defined above. Tribal monitors will cooperate with the qualified archaeologist to locate all cultural materials exposed during ground disturbing activities. Recovery of artifacts or excavation for resource evaluations will be the responsibility of the qualified archaeologist.

CR-3: Treatment of Archaeological Resources. If the qualified archaeologist determines that the discovery is a historic resource (as defined in MM CR-2) of an archaeological nature, then the mitigation standards of 14 C.C.R. 15126.4(b) specifying preservation in place shall be the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within open space;
3. Covering the archaeological sites with a layer of chemically stable soil; or
4. Deeding the site into a permanent conservation easement.

If preservation in place is not feasible, a cultural resources treatment plan shall be prepared pursuant to 14 C.C.R. 15126.4(b) and The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. The treatment plan shall include (i) provisions for assessment and treatment of the resources identified; (ii) reporting of results in a timely manner; and (iii) the opportunity for Tribes to engage in the recovery of material and provide comments on the draft report. The plan must be submitted to the County Land Use Services Department prior to excavation of the historical or unique archaeological resource. The Final Cultural Resources Mitigation report(s) shall be provided to the Lead Agency and disseminated to the regional CHRIS system Information Center and interested professionals and tribes upon request.

Each landowner or their assigned representative will confer with the Tribes on the disposition of all non-human burial related tribal cultural resources, historical resources and unique archaeological resources, including ceremonial items, which may be found at the portion of the Project located on the subject property. The property owner is entitled to keep all artifacts not covered and defined above. If the landowner wishes to keep and curate the materials in an institution meeting Federal and State curation guidelines, the Landowner agrees to do so at the San Bernardino County Museum.

If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur in the vicinity of the find(s) until the San Bernardino County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the San Bernardino County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then identify the "most likely descendant(s)". The landowner shall confer with the most likely descendant (MLD). The MLD will make recommendations concerning the treatment of the remains within 48 hours as provided in Public Resources Code 5097.98. If the landowner cannot come to an agreement with the MLD, Public Resources Code Section 5097.98(e) requires the landowner to reinter the human remains and items associated with Native American remains with appropriate dignity on the property in a location not subject to further surface disturbance."

The assessment of resources collected shall be conducted in a timely manner, which will not exceed three months from the date of discovery of the materials and/or the completion of all fieldwork and monitoring. Possession of all cultural materials by the qualified archeologist, if necessary, shall not exceed 90 calendar days after the final report has been submitted. No photography of human remains and associated artifacts is permitted.

A preliminary draft report shall be submitted within three months of the end of the Project fieldwork, and that two copies of the draft archaeological report shall be provided to Tribes by the Lead Agency. Should the qualified archaeologist need an extension of time, approval of a justified time extension shall be permitted at the discretion of the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians. The Tribes shall be given an opportunity to provide comments for inclusion in the final report. All surface and subsurface artifacts and features are to be mapped and described in a final report prepared by the qualified archaeologist following the Secretary of the Interior's Standards and Guidelines for archaeological documentation.

Data recovery shall not be required for an historical resource if the County Land Use Services Department determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the studies are deposited with the California Historical Resources Regional Information Center.

If the qualified archaeologist determines that the excavated sediments were previously disturbed or are unlikely to contain significant cultural materials, the qualified archaeologist can specify that construction activities are no longer limited and may resume.

All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) at California State University Fullerton. The qualified archaeologist will prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SCCIC. The report will include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. At that time, the Applicant, in consultation with the Lead Agency and qualified archaeologist, will designate repositories in the event that resources are recovered.

	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.** San Bernardino County is a seismically active region of California and susceptible to strong ground shaking and related geologic hazards from multiple earthquake fault zones, including the San Andreas Fault (see Figure 14). As shown in Figure 15, according to the California Geological Survey's Alquist-Priolo Earthquake Fault Zones Maps for the Barstow Quadrangle (California Geological Survey, 2012), the proposed Project is located in the vicinity of an Alquist-Priolo Earthquake Fault Zone for the Mt. General fault, which parallels SR-58 0.5 miles northeast of the Project site. 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 and because no full-time staffing would be required to operate the facility, the Project does not pose a substantial risk of injury or death as a result of earthquake rupture. Additionally, the design of any structures onsite will incorporate measures to accommodate seismic loading and reduce the risk of loss, pursuant to existing California Building Code (CBC) and local building regulations. The CBC requires extensive geotechnical analysis and engineering for grading, foundations, retaining walls, and other structures, including criteria for seismic design, and the San Bernardino County Code requires submission of soil and geologic reports before building permit approval. A Geotechnical Engineering Report (September 2014) prepared by BARR Engineering Company (Appendix E) includes specific seismic design parameters for use in constructing the project. With the incorporation of these

geotechnical recommendations into Project design and construction, impacts are considered less than significant.

ii) **Less than Significant Impact.** The Project site is within a seismically active region and is potentially subject to strong ground acceleration from earthquake events along major regional faults. For an earthquake return period of approximately 2,500 years (equivalent to a probability of exceedance of 2 percent in 50 years), the peak ground acceleration (PGA) is 0.552 g for the general project site (Appendix E). Given that the proposed Project will not include any habitable structures and because no full-time staffing would be required to operate the facility, the Project does not pose a substantial risk of injury or death as a result of strong seismic ground shaking. With the incorporation of applicable recommendations from the Geotechnical Engineering Report into Project design and construction, potential Project impacts associated with strong seismic ground shaking are considered less than significant.

iii) **Less than Significant Impact.** Liquefaction is a seismic phenomenon in which loose, saturated, fine-grained granular soils behave similarly to a fluid when subjected to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: (1) shallow groundwater; (2) low density, fine, clean sandy soils; and (3) high-intensity ground motion. Geologic hazard maps produced by the County of San Bernardino identify a low liquefaction potential for the project site (Geologic Hazards Map EHFH C- Victorville/San Bernardino). According to the project Geotechnical Engineering Report (Appendix E), there is an absence of saturated conditions at shallow depth and the potential for liquefaction of soils supporting the proposed structures is very low (Appendix E). For this reason, the impact of liquefaction to the project is less than significant.

iv) **No Impact.** The proposed Project will not include any habitable structures and because no full-time staffing would be required to operate the facility, the Project does not pose a substantial risk of injury or death as a result of landslide. 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 site is located within the Hinkley Valley and characterized by 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.** Construction activities could result in substantial soil erosion if the site is not properly designed or phased correctly over the duration of construction and decommissioning. Although mowing and rolling techniques would be employed in areas of the site where feasible to maintain existing root systems, Project construction would require the removal of the existing vegetative cover across portions of the Project site. In the absence of erosion control best management practices (BMPs), the erosion of soil materials from either rainfall or wind could result in the off-site migration of soil materials. This could result in impacts to adjacent uses (e.g., nuisances from excessive dust) and effects to the Mojave River from sedimentation.

The potential impacts of soil erosion from rainfall would be minimized through implementation of the County's Development Code requirements (§ 88.02 – Soil and Water Conservation). Specifically, the Project would be conditioned to include erosion control practices that would be implemented throughout construction. The Project will also be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit requirements, including preparation of a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion control BMPs to address soil erosion. The implementation and maintenance of erosion control BMPs consistent with the County's Code and Project SWPPP would minimize the areas of topsoil subject to erosion from water during construction activities associated with the proposed Project such that the impact would be less than significant.

Wind erosion is also a concern for the Project given the site's exposure to high winds during the summer and fall months. To address potential impacts resulting from wind erosion, the Project Applicant will be required to comply with Rule 403.2 Fugitive Dust Control for the Mojave Desert Planning Area. Compliance with Rule 403.2(c)(3) will require the preparation of a dust control plan. Preparation of a dust control plan would include BMPs, including wind fencing for adjacent residences, and associated performance standards to minimize the loss of topsoil from wind such that the resulting impact would be less than significant.

c) Less than Significant Impact. Young alluvium underlies the Project site, which is composed primarily of sand and gravel with some local finer and coarser deposits. In general, poorly consolidated alluvium is especially susceptible to settlement. Because poorly consolidated alluvium underlies the Project site, there is a potential for settlement to occur on the Project site with the placement of the project facilities. Hazards related to settlement and/or differential settlement are typically addressed through adhering to standard engineering practices and would be addressed through compliance with the recommendations in the Geotechnical Engineering Report (Appendix E). Additionally, the hazard of hydroconsolidation (or subsidence) resulting from oil/gas extraction, groundwater pumping, or unique geologic conditions is considered to be low (Appendix E). For these reasons, risks related to geologic instability would be less than significant.

d) **No Impact.** Based on the results of the Geotechnical Investigation prepared by BARR Engineering (2014), soils within the Project site are generally comprised of sandy materials intermixed with thin layers of gravels, silts, and lean sands (see Appendix E). These soils are mapped as Victorville Sandy Loam and Villa Sandy Loam in the Soil Survey for San Bernardino County, California, Mojave River Area (CA671). These soil types are composed primarily of sandy materials within the upper 60 inches of the profile with a low fraction of clay materials by weight. These soils are unlikely to contain expansive clays and, therefore, no impact would result.

e) **No Impact.** The proposed Project will be an unmanned facility. No septic or other wastewater disposal systems will be utilized as part of this Project. Portable toilets would be used for the duration of construction and removed upon completion. No impact is identified for this issue area.

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

Figure 14
Regional Fault Map

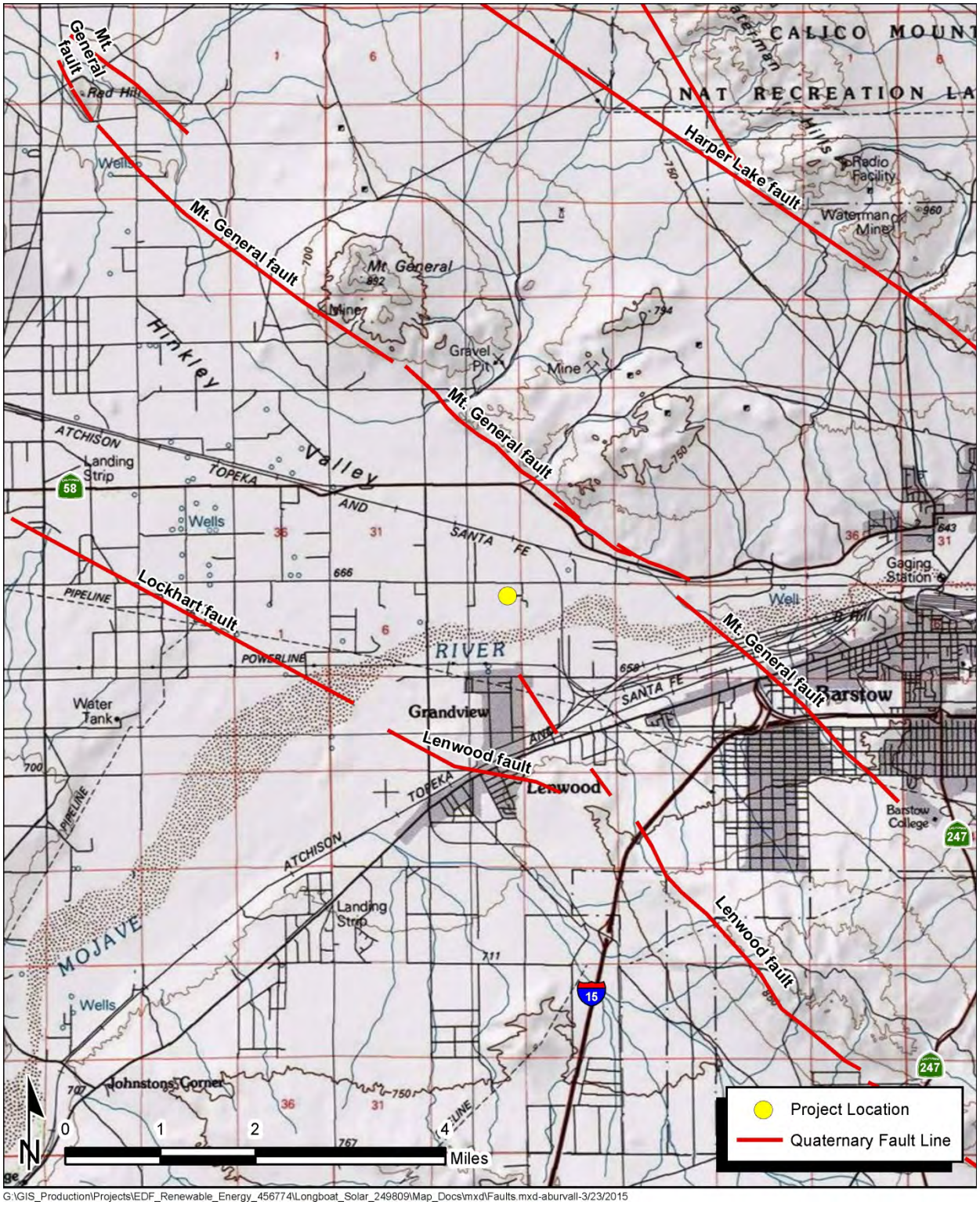
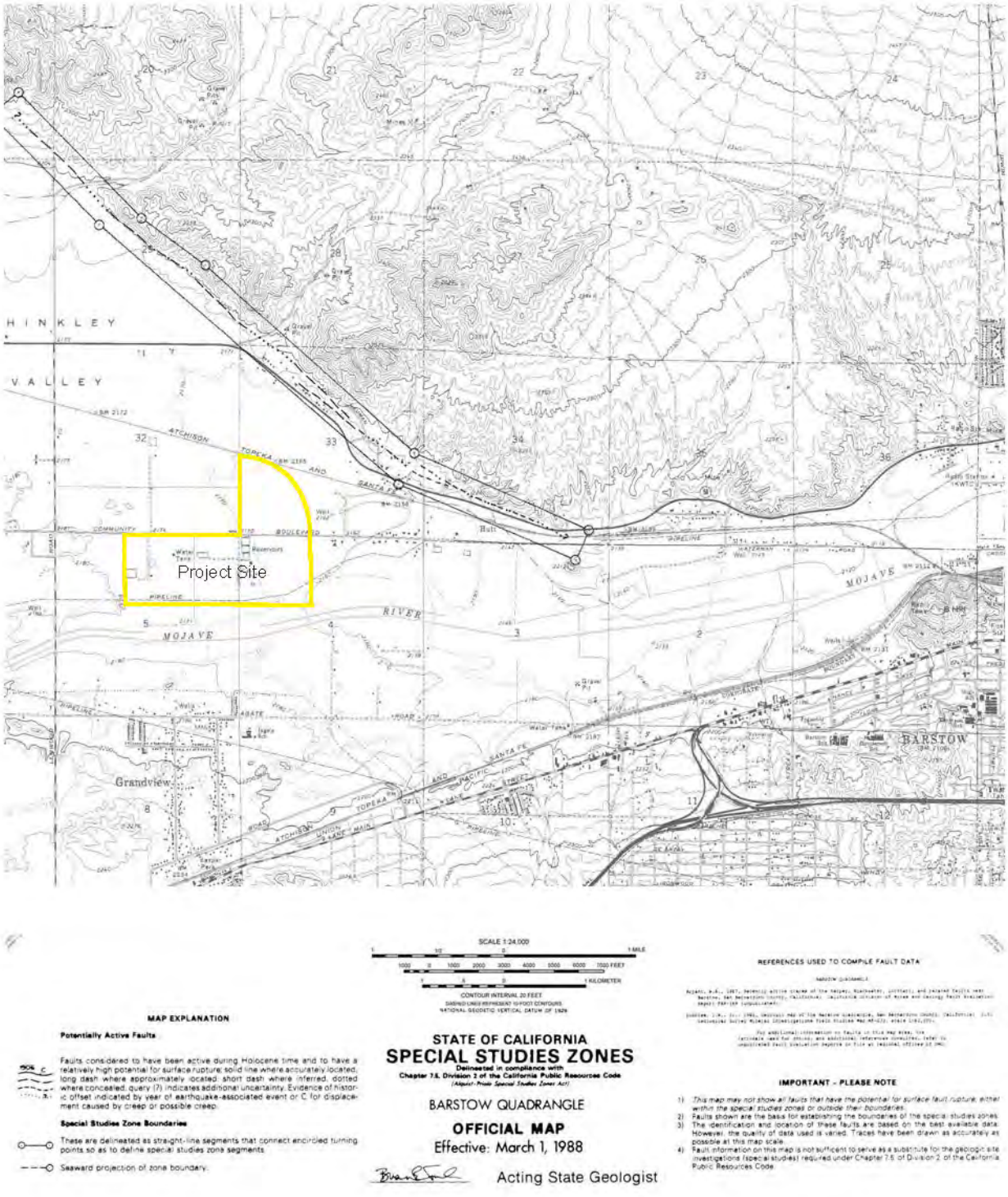


Figure 15
Alquist-Priolo Earthquake Fault Zone (Adapted)



	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 following information is summarized from the *Air Quality/Greenhouse Gas Assessment for the Longboat Solar Project* prepared by GC Environmental, Inc., dated May, 2015. This assessment is provided as Appendix B of this Initial Study.

The threshold used to evaluate GHG emissions from the Project was the Project's compliance with the County's Greenhouse Gas Emissions Reduction Plan, adopted on 6 December 2011 and effective 6 January 2012 (GHG Plan). The GHG Plan establishes a GHG emissions reduction target for the year 2020 that is 15 percent below 2007 emissions. The GHG 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. 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 (MT) of carbon dioxide equivalents (CO2e) per year is used to identify and mitigate project emissions. For projects exceeding 3,000 MT CO2e 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. According to the GHG Plan, small projects that do not exceed 3,000 MTCO2e per year are considered to be consistent with the GHG Plan and have a less than significant individual and cumulative impact for GHG emissions.

To be consistent with the MDAQMD thresholds of significance, greenhouse gas emissions for the project are expressed in short tons (tons, 1 ton = 2,000 pounds). Using a conversion factor of 1 metric ton = 1.102 tons, the GHG Plan threshold of 3,000 MT CO2e per year is equivalent to 3,306 tons per year. The equivalent daily threshold is 18,115 pounds CO2e.

Greenhouse gas emissions resulting from the construction and operation of the project are quantified and reported in the CalEEMod output (see Appendix B of this Initial Study). Table 7 presents a summary of the CO_{2e} project emissions reported in Table 7 by amortizing the construction CO_{2e} over the anticipated 30-year project life. This allows a direct comparison of

the construction and operational emissions. Also included in the operational emissions is an accounting of sulfur hexafluoride (SF_6). This greenhouse gas can slowly leak from electrical components such as switch gears. It is conservatively estimated that the amount of SF_6 emitted annually over the project's lifetime will have the same global warming potential as 1.10 tons of CO_2.

Table 7. Project-related Greenhouse Gas Emissions (tons/year)

	Bio-CO_2[1]	NBIO-CO_2[1]	Total CO_2	CH_4	N_20	CO_{2e}[2]
Construction Emissions	0	2,515.73	2,515.73	0.56	0	2,527.59
Construction Emissions/30 years[3]	0	83.86	83.86	0.02	0	84.25
Operational Emissions	0	131.22	131.22	0.03	0	131.79
Operational SF_6 gas[4]						1.10
Combined Lifetime Annual Average						217.14
Significance Threshold						3306*
Significant?						NO

Notes: *This is the GHG Plan annual threshold for $CO_{2(e)}$ of 3,000 metric tons expressed as short tons. 1 metric ton = 1.102 short tons.
[1] Bio-CO_2 = Biologically-derived; NBio-CO_2 = Human-generated (e.g., construction equipment).
[2] CO_2 equivalent; the sum of CO_2 plus the amount of CO_2 that has the equivalent global warming potential as the stated amount of CH_4.
[3] Estimated construction emissions divided by a 30-year project life.
[4] Assumed based on scaling of other solar projects and standard leakage rate.

As shown in Table 7, construction and operation emissions over the 30-year life of the project will be approximately 217.14 tons (197.04 metric tons) of CO2e per year. This is far below the San Bernardino GHG Plan threshold of 3,306 tons (3,000 metric tons) CO2e per year. These project GHG emissions are consistent with the County of San Bernardino's September 2011 Greenhouse Gas Emissions Reduction Plan.

Moreover, construction of the solar facility will generate "green" electric power that would otherwise be produced with fossil fuels with much higher GHG emissions. The project would produce an average of 16,059 megawatt-hours (MWh) of electricity per year. Using an emission factor of 0.61 tons CO2e per MWh, generating the same amount of electricity using natural gas would produce approximately 9,796 tons (8,889 metric tons) CO2e per year. When taking into account the annual emissions of approximately 217 tons CO2e that would be produced in the construction and maintenance of the project, the project would prevent the emission of approximately 9,579 tons (8,692 metric tons) of CO2e per year over electricity produced with natural gas. Therefore, the project would entail a net greenhouse gas benefit and, therefore, the impact is considered less than significant.

b) **No impact**. See VII. a), above. The proposed Project would not exceed the San Bernardino GHG Plan threshold of 3,306 tons (3,000 metric tons) CO2e per year. Therefore, the Project is consistent with the County of San Bernardino's September 2011 Greenhouse Gas Emissions Reduction Plan. Furthermore, construction of the solar facility will generate "green" electric power that would otherwise be produced with fossil fuels with much higher GHG emissions. The Project therefore would result in a net environmental benefit regarding GHG emissions.

	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 with Mitigation Incorporated**. Due to the limited quantities required for use in the construction; operation and decommissioning of the Project, the Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The quantities and concentrations of these hazardous substances are not expected to reach regulated levels. Further discussion is provided for construction, operation, and decommissioning of the Project.

Construction
Construction of the proposed Project, including the off-site interconnection, would involve the use of hazardous materials. The following non-hazardous wastes are anticipated to be generated during construction of the Project: common household trash, cardboard, wood pallets, copper wire, scrap metal, paper, glass, plastics from packing material, waste lumber, insulation, concrete, empty non-hazardous containers, and vegetation wastes and wood wire spools. The Project applicant will recycle as much of the generated waste as feasible in accordance with the approved Construction Demolition Waste Management Plan (CDWMP), required as a condition of approval by County Public Works, Solid Waste Management Division (or similar). Field equipment used during construction will contain limited amounts of hazardous materials such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, and other petroleum-based products contained in construction vehicles.

The quantity of hazardous wastes generated during construction of the proposed Project would include an estimated 1 cubic yard per week of empty hazardous materials containers and approximately 100 gallons of used oil, spent solvents, and oily rags every 2 to 3 months. This activity will require a hazardous materials permit from the County Fire Department, Hazardous Materials Division. Fuel tanks and hazardous materials would be stored at staging areas, and wastes, such as empty hazardous materials containers and used oil, spent solvents, and oily rags, would also be gathered prior to disposal and stored in metal, wind-proof and wildlife-proof containers per County Fire Department standards. On-site fueling of vehicles and/or equipment would occur within the staging areas, and fuels would be stored within secondary containment areas. These procedures would be outlined in a Project-specific Health and Safety Plan as required by Mitigation Measure HHM-1.

The use, storage, and disposal of hazardous materials and wastes associated with the Project could result in potential adverse health and environmental impacts if these materials were used, stored, or disposed of improperly, causing accidents and spills. Potential direct and indirect impacts of such releases could degrade soil and water quality or expose humans and wildlife to the harmful effects of hazardous materials. For this reason, Mitigation Measure HHM-1 would require the preparation of a Health and Safety Plan that outlines procedures for the storage of all hazardous materials, including flammable materials, such as paints and solvents.

To reduce the risk of spills to the environment, a spill prevention and counter control (SPCC) Plan will be developed and implemented prior to Project construction. The preparation of an

SPCC is required per Mitigation Measure HHM-1. In addition to the implementation of a SPCC Plan, the Applicant will also be required to prepare and implement a Stormwater Pollution Prevent Plan (SWPPP) that will describe methods to reduce the potential for spills and establish procedures to minimize the effect of accidental releases on water quality. Best management practices (BMPs) established in the SWPPP and SCPP would include protection measures for the temporary on-site storage of diesel fuels, hydraulic fluid, lubricants, and other hazardous materials used during construction, including requirements for secondary containment and berming to contain a potential release and to prevent any such release from reaching a nearby waterway. All employees would receive training in the proper use, storage, and handling of hazardous materials; equipment and materials storage would be routinely inspected for leaks and records maintained documenting compliance with regulations for the storage and handling of hazardous materials, as required by the SWPPP or SPCC and hazardous materials permit.

The implementation of the SPCC, SWPPP, and Health and Safety Plan as required by Mitigation Measure HHM-1 would ensure that the risk of hazards associated with accidents and spills would be minimized. Although these hazards could still occur, the likelihood of this is considered low and procedures would be in place to address any incident. For these reasons, impacts associated with the routine transport, use, or disposal of hazardous materials during Project construction is considered less than significant after mitigation.

Operation and Maintenance
No permanent on-site operations and maintenance facilities would be required to support the proposed Project. Facility transformers would contain dielectric fluid that does not include polychlorinated biphenyls (PCBs). It is anticipated that maintenance requirements will be minimal. Module cleaning will require additional personnel for short periods of time. No heavy equipment is anticipated to be used during normal Project operation. O&M vehicles will include trucks (pickup, flatbed), forklifts, and loaders for routine and unscheduled maintenance, and water trucks for solar module washing. Large heavy-haul transport equipment may be brought to the site infrequently for equipment repair or replacement, as needed. As with the construction activities, any fuels, lubricants, adhesives and solvents would be disposed of in accordance with all applicable regulations and the Health and Safety Plan as required by Mitigation Measure HHM-1.

Pesticide use, if needed, would be limited to non-persistent, immobile pesticides applied only in accordance with manufacturer directions and all regulations for pesticide use. Any pesticide applications would be covered in the Project's Health and Safety Plan. The Health and Safety Plan would document worker safety practices and address health and safety issues associated with normal and unusual (emergency) conditions associated with the high-voltage systems, mechanical systems, and other solar plant operations. Personnel would be properly trained in the handling of relevant chemicals and wastes and instructed in the procedures to follow in case of a chemical spill or accidental release.

Routine transportation of hazardous materials to the site could create a hazard to the public or the environment if materials were improperly handled, or accidentally released. Caltrans and

the California Highway Patrol (CHP) regulate the transportation of hazardous materials and wastes, with stringent packaging requirements, licensing and training for hazardous materials truck operators, chemical handlers, and hazardous waste haulers.

The implementation of the Health and Safety Plan, as required by Mitigation Measure HHM-1, and compliance with Caltrans and CHP requirements would ensure that the risk of hazards associated with the routine use, storage, transportation, and disposal of hazardous materials would be minimized. Although these hazards could still occur, the likelihood of this is considered low and procures would be in place to address any incident. Therefore, a less than significant impact is identified for this issue area following the application of Mitigation Measure HHM-1.

Decommissioning
Project decommissioning would require the use of fuel and lubricants for construction vehicles and equipment, as well as the transport and disposal of hazardous materials used at the Project facility. Solar panels would be returned to the vendor for appropriate recycling. Inadvertent release of hazardous materials from spills or leaks could occur. Compliance with existing laws and regulations in conjunction with Mitigation Measure HHM-1 would ensure that the risk of hazards associated with the routine use, storage, transport, and disposal of hazardous materials during decommissioning would be minimized to a less than significant level.

b) **Less than Significant Impact with Mitigation Incorporated.** The proposed 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. Further discussion is provided for construction, operation, and decommissioning of the Project.

Construction and Decommissioning
A *Phase II Environmental Site Assessment* (February 2015) was prepared by GC Environmental, Inc. and included a subsurface investigation, soil sampling, and groundwater sampling to determine if an on-site contamination exists. According to the Phase II, trace concentrations of pesticides, polycyclic aromatic hydrocarbons (PAH) in the form of Acenaphthene, and Total Recoverable Petroleum Hydrocarbons (TRPH) were detected at isolated locations on the Project site (GC Environmental 2015b). Each of these constituents were detected at levels well below the U.S Environmental Protection Agency (USEPA) or California Office of Environmental Health Hazard Assessment (OEHHA) standards. Therefore, no special handling or remediation is recommended and construction activities across the Project site are unlikely to result in the reasonably foreseeable or accidental release of hazardous materials into the environment.

During Project construction and decommissioning activities, the potential exists that undocumented subsurface utilities (e.g., a natural gas line) or structures (e.g., an underground storage tank [UST]) might be encountered and damaged, resulting in a release of a hazardous material. The potential for such incidents would be reduced by thoroughly screening for subsurface structures in areas prior to commencement of any subsurface work.

Screening activities would include use of DigAlert (Underground Services Alert of Southern California), visual observations, hand digging, and use of buried line locating equipment.

To reduce the risk of spills, an SPCC Plan would be developed and implemented prior to Project construction in conjunction with Mitigation Measure HHM-1. The BMPs established in the SPCC will be for the storage and use of hydraulic fluid, lubricants, gasoline, or diesel fuel at the site. The plan will also detail procedures to contain and mitigate the potential effects of an accidental release from reaching a nearby waterway. All employees would receive training in the proper use, storage, and handling of hazardous materials; equipment and materials storage would be routinely inspected for leaks and records maintained documenting compliance with regulations for the storage and handling of hazardous materials, as required by Mitigation Measure HHM-1. These procedures combined with the implementation of Mitigation Measure HHM-1 and preparation of the SPCC would ensure that procedures and protocols are in place in the event of the discovery of undocumented hazardous materials during construction or decommissioning and the impact would be less than significant.

Operation and Maintenance

The applicant has not yet selected the type of solar PV panel to be used for the Project. One type of solar PV panel contains cadmium telluride (CdTe). In its elemental form, cadmium is a carcinogen. However, in solar panels, the cadmium is combined in a chemical compound with tellurium in the form of CdTe, and then sealed between two plates of glass. CdTe has a low vapor pressure and water solubility, which result in low mobility if released into the environment. CdTe also has high boiling and melting points, which limit the potential for release as a result of a fire. Particulate emissions could only occur if the materials were ground to a fine dust, but there is no realistic scenario for this. Panels exposed to extremely high heat could emit vapors and particulates from PV panel components to the air. However, researchers have concluded that the potential for emissions derived from PV components during typical fires is limited given the relatively short-duration of most fires and the high melting point (>1000 degrees Celsius) of PV materials. In the rare instance where a solar panel might be subject to higher temperatures, the silicon and other chemicals that comprise the solar panel would likely bind to the glass that covers the PV cells and be retained there. Additionally, given that solar panels are constructed of resilient materials such that they are able to withstand most sources of damage (e.g. hail, winds, tree fall), any potential release of CdTe would be minor, likely limited to no more than a few panels, and cleaned upon discovery. Therefore, releases to the ground from leaching, to the air from volatilization during use, or from panel breakage, are not a concern (Massachusetts Department of Energy Resources and Department of Environmental Protection 2012).

None of the chemicals proposed for use or storage at the solar plant site are on the list of regulated substances in 40 CFR Section 68.130; thus, the Project facility would not be covered by the security standards for chemical facilities. The consequences of release of all the hazardous materials used at the facility (diesel fuel, mineral oil, and hydraulic fluid) would not cause a threat to the health and safety of the surrounding community due to the limited quantity and toxicity of the substances, and the distance to the nearest receptors.

The Applicant's proposed security measures, described in Section 2 would minimize the potential for power disruptions or hazardous materials release caused by outside parties. The risk to workers or the public from damage to the Project as a result of intentionally destructive acts would be low because public access would be controlled by security and fencing. Eight foot security fencing would be installed around the solar plant site perimeter and around the switchgear. Based on these considerations, 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 and, with implementation of Mitigation Measure HHM-1, the impact would be less than significant.

c) **No Impact.** Lenwood Elementary School is located approximately 1.7 miles to the south of the Project site. As a result, there are no existing or proposed schools within one-quarter mile of the proposed Project site. Therefore, the Project would not emit hazardous emissions or handle hazardous materials near an existing school and no impact is identified for this issue area.

d) **Less than Significant Impact.** A *Phase I* (August 2014) and *Phase II Environmental Site Assessment* (February 2015) were prepared by GC Environmental, Inc. to determine if one or more hazardous materials occur on the Project site. These assessments are provided as Appendix F of this Initial Study. Following the completion of the Phase I assessment, it was determined that the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. In addition, the results of the Phase II investigation indicate that no environmental conditions were detected at the Project site which would warrant a recommendation of subsequent testing or remediation and no further action is recommended. Therefore, the proposed Project would not create a significant hazard to the public or the environment. A less than significant impact is identified for this issue area.

e) **No Impact.** The Project site is located approximately 19 miles to the west of the Barstow--Daggett Airport and is not located within an airport land use plan or within two miles of a public use airport. Therefore, the proposed Project would not result in a safety hazard for people residing or working in the project area. No impact is identified for this issue area.

f) **No Impact.** The Project site is not located within two miles of a private airstrip. The nearest private airstrip is the Depue Airport, located approximately 3.75 miles southwest of the Project site. Therefore, the Project would not result in a safety hazard for people residing or working in the Project area. No impact is identified for this issue area.

g) **Less than Significant Impact.** The proposed Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Project site is not located within a Fire Safety Overlay District, avoids the 100-year flood zone, and is not located with a Geologic Hazard Overlay. Therefore, the Project would not increase demands for emergency response and would not conflict with the County's Multi-Jurisdictional Hazard Mitigation Plan Update (2011).

Access to the Project site would be directly from Community Boulevard by two main driveways designed to conform with County standards, one for the portion of the Project south of Community Boulevard and one for the portion north of Community Boulevard. In addition, a

secondary access driveway and a temporary access driveway into the temporary storage and laydown area are also located on the south side of Community Boulevard along the parcel frontages. These additional access points can be used for emergency access. Both the perimeter access road and the internal access roads would be constructed in conformance with the County Fire Department standards required for fire prevention. In accordance with County standards, a 26-foot-wide perimeter road and 20-foot-wide internal roads have been incorporated into the site design. These access roads would remain in place for ongoing operations and maintenance activities after construction is completed. The interconnection and distribution system upgrades will not change any access plans nor require any additional emergency response plan or emergency evacuation plan. Therefore, implementation of the Project would not physically interfere with an adopted emergency response plan or emergency evacuation plan, and a less than significant impact is identified for this issue area.

h) **Less than Significant Impact.** The County of San Bernardino General Plan includes a series of over 90 published Hazard Overlay Maps for the County. The hazards included on these maps include airport safety, dam inundation, fire, flood, and noise. According to the Hazard Overlay prepared for the Lenwood area (Sheet EH08B), the Project site is not located within a Fire Safety Overlay District (County of San Bernardino, 2007b). Therefore, the Project would not 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. However, any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. To address this concern, the applicant will conform to the requirements of the Safety Element of the General Plan and applicable portions of the San Bernardino County Code (primarily Title 2, Division 3, “Fire Protection and Explosives and Hazardous Materials”). This will include the provision of appropriate setbacks and clear zones adjacent to the solar panels and ancillary facilities, including inverters. In addition, the applicant will prepare and have a fire prevention plan for the Project in compliance with applicable County regulations. Compliance with these regulations will reduce the risks associated with wildfires on the Project site. Therefore, less than significant impacts are anticipated.

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

HHM-1: Prepare Project Health and Safety Plan. A Health and Safety Plan, which complies with applicable OSHA and Cal-OSHA guidelines for the types of activities being performed, shall be prepared for Project construction and operation. The Health and Safety Plan shall include the following:

- General material safety data sheets for all hazardous materials stored on site will be retained on site during Project construction and operation.
- On-site fueling of equipment and vehicles shall be completed in areas at least 100 feet away from drainages, or in designated fueling areas. Fuel and other hazardous materials stored on

site will be located in areas with secondary containment, unless secondary containment is built into the tank.

- Transformers shall be inspected for oil leakage on a regular basis and diversionary structures shall be provided for all oil-containing equipment, including transformers, at the Project site.
- Employees shall attend a health and safety training and shall be trained in the proper protocol for notification and cleanup of hazardous materials.
- A spill prevention and countermeasure control plan (SPCC) will be prepared and available on-site for the duration of project construction, operation, and decommissioning. The SPCC will also provide protocols and procedures for the discovery of undocumented hazardous materials during construction and decommissioning of the Project.

	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 with Mitigation Incorporated.** Potential water quality impacts from the proposed Project could be associated with short-term (construction-related) erosion/sedimentation and hazardous material use/discharge and long-term, minor operational discharges. Each of these possible discharges are discussed under the headings below.

Construction and Decommissioning
Project construction, including the off-site interconnection, would require the use of heavy machinery for vegetation grubbing, grading, and installation of roads, solar generation facilities, distribution facilities, buildings, the solar field, and other facilities. Construction of these facilities would involve the use of bulldozers, graders, semi-trucks, and other heavy machinery, and would involve changes to on-site topography. Although plant root systems would be retained where feasible (e.g. mowing and rolling), these activities could potentially loosen existing surface soils and sediments, increasing the potential for erosion during storm events and discharging sediment or other pollutants into waterways. Additionally, the use of construction equipment may involve the accidental release of fuel, oils, lubricants, antifreeze, and other potentially hazardous substances at the construction site. The water quality effects of Project decommissioning would be very similar to Project construction. These water quality pollutants could become entrained in surface water during storm events, and/or be infiltrated into groundwater and the underlying aquifer, resulting in the degradation of water quality. The implementation of Mitigation Measure HHM-1 would require the preparation and compliance with an SPCC thereby minimizing the threat of a hazardous materials release to a less than significant level.

Water used during construction, operations and decommissioning would be obtained from an existing onsite well. Any use of the existing onsite well 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 (LRWQCB) Water Quality Control Plan (Basin Plan), as amended.

To obtain authorization for stormwater discharges to groundwater and/or surface water associated with land disturbing activities pursuant to the permit, the Project proponent would

be required to prepare and file a Notice of Intent (NOI) and stormwater pollution prevention plan (SWPPP) with the State Water Resources Control Board (SWRCB) to comply with the General NPDES Construction Permit to minimize and avoid impacts to water quality. The SWPPP must include a description of specific temporary and permanent BMPs to be implemented to prevent or minimize the discharge of water quality pollutants from the Project site during and after construction. The range of BMPs will be required to minimize and control construction and post-construction runoff to the "maximum extent practicable." Implementation of the SWPPP as required by the General Construction Permit would minimize or avoid the degradation of water quality or the violation of water quality standards, especially during major storm events. Based on these considerations, with the implementation of Mitigation Measure HWQ-1 the Project would result in less than significant impacts related to the violation of any water quality standards.

Operations and Maintenance
Maintenance of the solar facility 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 up to two times annually. Panels would be power-washed with clean water that will contain no cleaning agents or other additives. Long term non-point discharges from the Project would be minimal, but could result in infrequent discharges associated with landscape irrigation, uncontaminated pumped ground water, and discharges of potable water during water tank cleaning [as defined in 40 CFR 35.2005(21)]. In this context, water quality impacts resulting from long-term discharges associated with the Project would be less than significant.

During operation and maintenance, the on-site use of trucks, maintenance equipment, automobiles, and other equipment could result in the accidental release of water quality pollutants. For example, water quality impacts could occur if contaminated or hazardous materials (e.g., oils, greases, fuels) used during operation and maintenance were to contact stormwater and drain off-site, or infiltrate into the underlying aquifer, especially during storm events. Implementation and compliance with the Health and Safety Plan and SPCC required by Mitigation Measure HHM-1 would reduce the risk of any accidental spill during routine operations and maintenance of the Project.

b) **Less than Significant Impact.** 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 Watermaster. The Project will source its water through an on-site private well of a Project property owner for water needed for construction, routine maintenance during operations, and decommissioning. The Project is estimated to have an annual operational water demand of 3 acre feet per year (AFY) or 977,700 gallons for semi-annual panel washing. One AF of water is equivalent to 325,900 gallons. Up to 40 acre-foot (AF) or 13,036,000 gallons would be required, for construction, and up to 40 AF or 13,036,000 gallons for decommissioning activities and related dust suppression.

The proposed Project will use an existing well in the southwest corner of APN 0497-071-040 that is rated for approximately 920 gallons per minute. The owner of the on-site private well owns a base annual production right of 2,335 AF of water in the Centro Subarea of the Mojave basin, which results in a free production allowance to pump up to 1,868 AF of water

per year as well as a 1,868 AF Carryover Right for the 2014-2015 Water Year, resulting in an available water right of 3,736 AF in 2015, more than 90 times the amount of water required for construction of the Project. The Applicant has entered into an agreement with this landowner to purchase all water needed to supply construction, operation, and decommissioning of the Project, with rights superior to all subsequent water sales or water right transfers or leases. This supply notwithstanding any additions from Carryover Right and/or Replacement and Makeup Water is sufficient to cover the Project's water demands for construction, operations, and decommissioning activities. A Water Supply Assessment is not required for the Project because it is a photovoltaic solar facility that would demand less than 75 acre-feet annually (Calif. Water Code Section 10912(a)(5)).

Notwithstanding the pre-existing water rights of the proposed water supply, several factors were considered as part of verifying the supply's availability; especially, during dry periods, such the current 2011-2015 drought. The current drought situation has resulted in the State issuing mandatory 25 percent reductions for municipal suppliers; however, these mandatory reductions have not been applied to agricultural supplies, such as the proposed water supply. Correspondence with the Mojave Water Agency indicates that no mandatory reductions are required for groundwater supplies within the Centro Subarea; however, staff has indicated that supplies used in excess of the allocated amount will require a 2:1 replacement (Personal Comm. David Seielstad 2015). However, given the project's minimal water supply needs in relation to the supply available; the potential for Project to exceed the allocated supply is unlikely. Additionally, given the Project is located within an adjudicated groundwater basin, the recent approval of the 2014 Sustainable Groundwater Management Act (SGMA) is unlikely to substantially change the way in which the basin is currently managed.

The operation of the Project well could also result in the drawdown of groundwater levels at adjacent, existing well locations within the immediate vicinity. There are multiple domestic and irrigation wells documented within the vicinity of the proposed Project groundwater production well. Based on available information, existing domestic and agricultural wells range in depth from 100 to 200 feet (estimated) below ground surface (bgs) (DWR 2003). Based on water levels reported by Mojave Water Agency for the nearest, publically available monitoring well (CASGEM 2015), water levels in the vicinity of the Project site range from 50 to 80 feet bgs.

Based on multiple factors, the operation of the Project well is expected to have minimal to no impact on adjacent wells. First, the proposed Project includes a reduced rate of pumping of 920 gpm, which is lower than the level of historical pumping (1,500 gpm) that has occurred in conjunction with agricultural operations. Additionally, well operations would be incremental (e.g. 5 to 10 minutes at a time) rather than continuous, thereby allowing water levels to recover following each incremental drawdown. Further, the specific capacity of the proposed well is 245.3 gpm per foot thereby resulting in only a minor draw down of 3.75 feet before water levels are allowed to recover (TeraWatt Construction 2015). Lastly, given that the average well depths in the area are generally greater than 100 feet bgs, Project-related drawdown effects would be unlikely to extend below the screening depths in adjacent wells. For these combined reasons, the Project would not adversely affect the production rate of nearby wells.

Given the small amount of water required for the Project in conjunction with the large amount of permeable surface that would remain across the solar site, and the fact that the water

required for the Project is a very small portion of the landowner's base annual production right within the adjudicated Mojave basin, negligible changes to groundwater recharge would result. Based on these considerations, the Project would not deplete groundwater supplies or interfere substantially with groundwater recharge (the very kinds of effects that the stipulated water rights of the Mojave basin adjudication are designed to avoid) such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, a less than significant impact is identified for this issue area.

c) **Less than Significant with Mitigation Incorporated.** 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 off-site. The placement of solar array grids, access roads, and inverter pads would increase impervious surfaces, which would alter the infiltration characteristics of the ground surface on the Project site and have the potential to result in increases in peak runoff. Soils across the Project site are classified as Soil Hydrologic Group B, which are characterized by moderate rates of infiltration and consist of moderately deep to deep, moderately well to well drained soils. This means that rainfall readily percolates into soil column rather than generating runoff.

To estimate projected changes in runoff within the Project site, existing site conditions were assumed to have 5 percent or less impervious surface cover. Under the Project condition, the impervious surface cover would increase up to 11.6 percent, including soil compaction from access roads, to provide a worst-case estimate of peak runoff. The increase in compacted and impervious surface cover would change the Project site's ability to accept and infiltrate rainfall, thereby potentially increasing runoff.

Potential hydromodification impacts resulting from new impervious and compacted surfaces associated the Project were assessed by considering the factors that contribute to runoff and identified in the Rational Method (Q=CiA). Using these factors, which in basic terms the quantity of discharge (Q) is calculated based on a site's cover (C), estimated rainfall intensity (i), and land area (A). With the implementation of the Project, changes in pre- and post-construction runoff would result as a consequence of the increase in the Project site's cover (or C factor), from 0.05 up to 0.12 (rounded); all other variables would remain constant. This would result in a net increase of 27.03 acres of impervious surface across the Project site.

Changes in the Project site's cover would result in corresponding changes in the timing and quantity of runoff generated from the Project site under a specified rainfall event. These changes would likely be partially attenuated by landscaped areas, setbacks/clear zones, and crushed rock roadways included as part of the Project's design. Additionally, given the rural nature of the Project area and the total site area in relation to the total watershed area, which is minor, it is unlikely that the Project would contribute substantially to hydromodification. However, based on the anticipated increases in the Project site's impervious and compacted surfaces, it is reasonable to conclude that the Project facilities could result in a net increase in drainage discharge. This increase in peak flows could impact existing drainage infrastructure and/or increase bank scour in receiving waters (e.g. Mojave River). These potential drainage impacts could be significant in the absence of mitigation. Implementation of Mitigation Measures HWQ-1 and HWQ-2 would reduce potential drainage impacts by requiring post-Project peak runoff conditions to be maintained at pre-Project levels.

d) **Less than Significant with Mitigation Incorporated.** Conservative estimates indicate that the Project will create up to 27 acres of new impervious and/or compacted surface. As a result, the amount of additional runoff expected to be generated by the Project will be minimal within the larger watershed. Additionally, with the Project's site location adjacent to the Mojave River, much of the site's drainage will continue to be directed towards the river channel in a controlled manner consistent with the Drainage Plan developed in Mitigation Measure HWQ-2 and away from any roadway drainage facilities. Implementation of Mitigation Measure HWQ-2 would reduce potential drainage impacts by requiring post-Project peak runoff conditions to be maintained at pre-Project levels. In addition, the existing drainage pattern would not be substantially changed because minimal site grading is proposed for the majority of the site, with finished topographical grades being similar to existing conditions. The vast majority of the Project site would remain permeable once constructed. The Project consequently would not require the placement of any new facilities or structures within the Mojave River or the delineated 100-year floodplain which could otherwise change or re-direct existing flood conveyance facilities. As a result, the proposed Project would not substantially alter the existing drainage pattern of the site or surrounding project area in a manner that could result in increased on- or off-site flooding. The impact is therefore less than significant.

e) **Less than Significant with Mitigation Incorporated.** The Project site is in a rural area with no developed storm drainage system. Most of the Project site would remain pervious and existing soils are predominantly well drained. The Project site is relatively flat, although there are existing isolated depressions that collect storm runoff within the Project boundary. The minimal quantity of discharged water generated by solar panel washing (less than three acre-foot of water per year) would drain into the isolated depressions, continue to percolate through the ground, or evaporate. Therefore, the proposed Project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. Additionally, the Project would not involve the use of substantial quantities of pollutants (e.g., fertilizers, pesticides, etc.) that could come into contact with runoff, and any such release and its effects would be managed through compliance with the Project's SWPPP and SPCC as required by Mitigation Measures HHM-1 and HWQ-1. Therefore, a less than significant impact is identified for this issue area.

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 SWPPP will be prepared for the Project. Therefore, a less than significant impact is identified for this issue area.

g) **No Impact.** The proposed project is a solar energy generation facility, and would not include any housing. Therefore, there would be no impact related to the placement of housing within a FEMA-delineated 100-year flood zone. Nor will construction alter any existing FEMA-delineated 100-year flood zone such that the 100-year flood boundary would change to include a home previously outside the boundary.

h) **No Impact.** The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) identifies flood zones and areas that are susceptible to 100-year and 500-year

floods. Based on a review of FIRM Panel No. 06071C3915H (see Figure 16), the Project site is located in Zone X, which is defined as areas determined to be outside the 0.2% annual chance floodplain (FEMA, 2008). Additional hydrologic modeling completed for the Project confirms that the Project would not be subject to inundation during the 100-year flood event (Westwood 2014; see Appendix G). Because the Project is not located within a 100-year flood hazard area, it will not place structures within a 100-year flood hazard area which would impede or redirect flood flows. Therefore, no impact is identified for this issue area.

i) **Less than Significant Impact.** According to the Hazard Overlay prepared for the Lenwood area (Sheet EH08B), the Project site is located in area that could be subject to dam inundation (County of San Bernardino, 2007b). Solar panels, fencing and other equipment could be affected by inundation. However, 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. Therefore, a less than significant impact is identified for this issue area.

j) **Less than Significant Impact.** In recognition of the Project's inland location and the lack of proximity to the ocean, a large lake or other body of water, the risk related to exposing people or structures to a tsunami or seiche is negligible. Also, the Project site is located on relatively flat ground; therefore, the hazard of mudflows adversely affecting the Project facilities is very low. A less than significant impact is identified for this issue area.

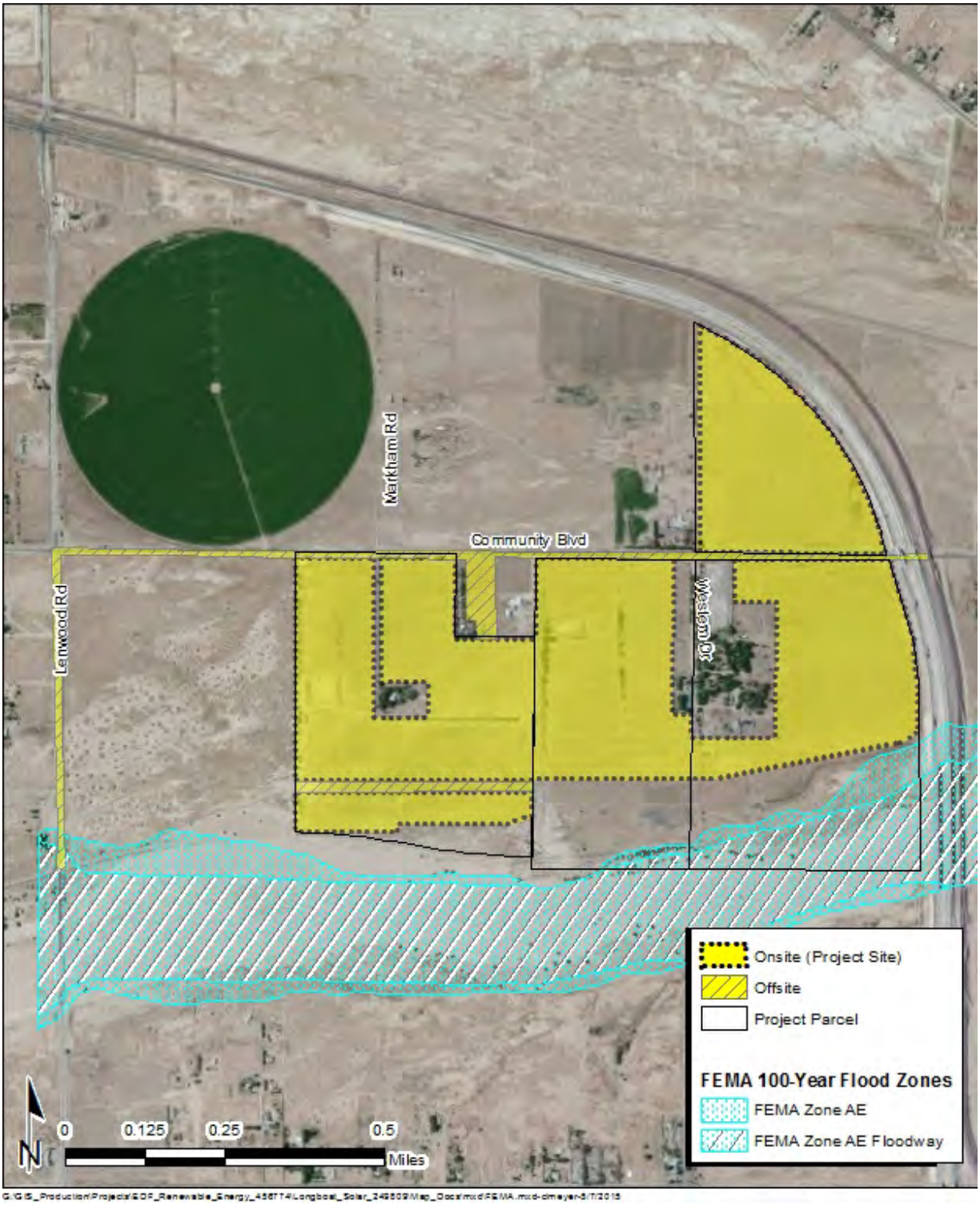
Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of Project approval to reduce these impacts to a level below significant.

MM# Mitigation Measures

HWQ-1: Erosion Control and Stormwater Pollution Prevention Plan. The Project was sited to avoid direct impacts to riparian habitat, however indirect impacts may occur via stormwater or non-stormwater runoff. As such, a SWPPP, created by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP), will be prepared and implemented for the Project. This SWPPP will list all measures to eliminate the discharge of pollutants other than stormwater) and non-storm water discharges authorized by the California Construction General Permit Order 2009-0009-DWQ or another National Pollutant Discharge Elimination System (NPDES) permit. The SWPPP will contain programs to monitor visual pollutants, chemical pollutants, and potential sediments. Specific and Best Management Practices, Numeric Action Levels, Numeric Effluent Levels, and Rain Event Action Plans will be implemented as required to ensure non-permitted discharges are eliminated. The SWPPP will be prepared prior to commencement of Project construction.

HWQ-2: Prepare Drainage Plan for Structural Facilities. The project proponent shall prepare a site specific Drainage Plan for all facilities constructed in conjunction with the Project that meets San Bernardino County Land Use Services, Land Development Division – Drainage Section requirements, as applicable. The Drainage Plan shall incorporate measures to maintain off-site runoff during peak conditions to pre-construction discharge levels. Design specifications shall accommodate the 100-year, 24-hour storm event to pre-project conditions.

Figure 16
Limits of FEMA 100-Year Flood Zone



	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 site is located in an unincorporated part of the County that has sparse residential development separated by existing and former agricultural fields. The Project site is comprised of several former agricultural fields. The nearest communities are already separated from the project site. Forming a natural barrier to any rural developments to the east is the elevated portion of Hwy 58 and the Santa Fe railroad tracks. To the south of the project and separated by the Mojave River is vacant land followed by scattered rural residential parcels along Agate Road. The Project site would occupy an area that is currently vacant. Therefore, the proposed Project would not divide an established community and no impact would occur.

b) **No Impact.** The proposed Project will not conflict with any applicable adopted 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. The Project site includes the following land use zoning districts: Agriculture (AG), Floodway (FW), and Rural Living 5-acre Minimum (RL-5). No solar development is proposed within the FW land use zoning district. Under County Code Section 82.03 and 82.04, renewable energy generation facilities are allowed in the AG and RL-5 land use zoning districts upon approval of a 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 facility is designed with substantial setbacks, far greater than the required setbacks to minimize impacts to adjacent properties. 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 includes low-reflective PV solar module arrays. Therefore, the Project will be consistent with all applicable land use policies, including the County's Development Code Section 84.29.035, as

demonstrated by the analysis presented in this initial study. No impact is identified for this issue area.

c) **No Impact.** The Project will not conflict with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP). The Project site is located within the boundaries of the West Mojave Plan. The West Mojave Plan is a federal land use plan amendment to the Bureau of Land Management's California Desert Conservation Area (CDCA) Plan that presents a comprehensive strategy to conserve and protect sensitive plants and animals and the natural communities of which they are a part. The adopted portion of the West Mojave Plan (2007) is applicable only to BLM-administered public lands within the West Mojave Plan area. Although the Project site is within the West Mojave Plan area, it is not encompassed within BLM lands; therefore, future development of the Project site would not be subject to the requirements of the West Mojave Plan.

The Project site is within the planning area of the Desert Renewable Energy Conservation Plan (DRECP); however, this HCP/NCCP is still in development and has not been adopted. It is important to note that because the DRECP has not yet been formally approved it is without regulatory weight, and may be subject to significant change prior to approval. On March 10, 2015, the state and federal agencies preparing the DRECP decided to phase its development, with the BLM lands component of the plan being processed first, followed by processing of the private lands portion of the plan at such time as each County decides to subscribe to the DRECP. This approach was adopted to ensure better alignment with County planning priorities and goals. The expected date of a final effective DRECP is not known but the effective date of any private lands component within San Bernardino County is likely to be substantially beyond the approval and construction timeline of the Project, due to the large-scale, complex nature of the DRECP and the degree of coordination required to align the plan with County priorities.

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. There are no identified important mineral resources on the Project site and the site is not located within a Mineral Resource Zone Overlay.

b) **No Impact.** The Project will not result in the loss of availability of a locally important mineral recovery site delineated on a local general plan, specific plan or other land use plan because no such delineations apply to the Project site. 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:				
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.** Sensitive noise receptors in the vicinity of the Project site include scattered agricultural residences (see Figure 12). There are residences located south of Community Boulevard, in between Project site APNs 0497-101-05 and 0497-121-28 and in the central portion of APN 0497-101-14. Some of the residences depicted in Figure 12 are leasing portions of their land for the proposed Project. To analyze potential noise impacts to these receptor locations, an *Acoustic and Vibration Technical Memo* (July 2015) was prepared by HDR Engineering, Inc. (Appendix H). The memorandum included the collection of ambient noise data and noise level modeling of construction and operational noise sources. Further discussion is provided below in the context of Project-related construction, decommissioning, and operations.

Construction and Decommissioning
Section 83.01.080(g)(3) of the County Code specifically exempts "temporary construction, maintenance, repair, or demolition activities" from County noise standards, when such activities occur between 7 a.m. and 7 p.m., excluding Sundays and federal holidays. Because Project construction would comply with the County's noise ordinance, this impact would be less than significant.

Operations and Maintenance
Operation of the Project would result in some acoustic emissions but would not result in vibration emissions. Operational noise from the Project would occur at the inverters, switchgear, and from the periodic use of the existing water well pump. The site would be unmanned and operated remotely. Periodic noise would result from maintenance activities at the Project such as washing the PV panels. These maintenance activities would result in negligible noise levels other than that of noise from the periodic use of the existing water well pump.

The Project would only operate during daytime hours; therefore, to be conservative in the operational predictions it was assumed that the Project would be operational approximately

16-hours per day, roughly the equivalent of the longest day of the year in the Project area. For the 16-hour scenario it is assumed that the Project would operate from 5:00 a.m. to 9:00 p.m. This operational time frame was used to calculate Project operational Community Noise Equivalent Levels (CNEL).

Operational noise levels were predicted using the International Standards Organization (ISO) 9613-2 standard Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation (Appendix H). The sound levels for the 1.4 MW inverters and 10 MW switchgear are both 62 decibels (dBA) at 1 meter (Appendix H). The existing water well pump is assumed to be capable of pumping 920 gallons per minute. A literature review was conducted of 920 gallons per minute well pumps and the sound source level identified for this analysis is 82 dBA at 1 meter (Appendix H). Using these sound source levels, operational sound levels were predicted at each of the residences in the vicinity of the Project and would be similar to existing baseline sound levels (Appendix H). With the addition of the Project, maximum operational noise levels are predicted at 51 dBA Leq at NSR 2 (Appendix H). As a result, no exceedances of the County's guidelines for residential uses (55 dBA Leq – 7 a.m. to 10 p.m.)) are predicted to occur from operating the Project. Therefore, Project operational noise impacts are less than significant.

Traffic associated with the Project's operation would not result in a doubling of traffic on area roadways; therefore, increases in traffic noise would be less than 3 dBA and not significant.

b) **Less than Significant Impact.** Construction and site decommissioning activities associated with the proposed Project and off-site interconnection would result in groundborne vibration, with the primary sources including solar array installation, grading activities, and other construction vehicle movements. In addressing the range of potential issues associated with ground vibration, there are generally two forms of impacts that should be addressed: (1) annoyance to individuals or the community; and (2) damage to buildings. Vibration from typical construction activities is generally below the threshold of perception when the activity is more than about 50 feet from the receiver. Given that construction activities would not encroach within 50 feet of existing residential structures, it is unlikely that any vibration-related annoyance would be perceived by nearby sensitive receptors.

In relation to the potential for structural damage at adjacent structures, peak particle velocity (PPV) is the maximum instantaneous positive or negative peak of the vibration signal, measured as a distance per time (such as millimeters or inches per second). The PPV measurement has been used historically to evaluate shock-wave type vibrations from actions like blasting, pile driving, and mining activities, and their relationship to building damage.

Installation of the PV solar module foundations requires pile driving and has the potential to result in temporary vibration impacts to structures and humans. The Project would utilize an impact pile driver to install each PV tracker mount. For this analysis it is assumed that pile driving activities would not occur closer than 180 feet from the nearest sensitive land use. Other construction activities are less intensive than pile driving and would have lower PPV than pile driving (Appendix H). Therefore, vibration levels from pile driving are considered worst case for the solar facility construction.

The calculated PPV at the nearest residence (180 feet) would be 0.002 PPV, which would not damage buildings and would be less than barely perceptible (Appendix H). Vibration from pile driving would be substantially less than the County's 0.2 PPV standard (which, in any event, does not apply to construction from 7 am to 7 pm, except Sundays and federal holidays). Therefore, vibration impacts associated with construction of the Project would be less than significant.

Additionally, the Project is required to comply with the vibration standards of the County Development Code (§ 83.01.090). Once constructed, Project operations will not generate substantial groundborne vibration because of the passive nature of solar PV facility operations and the infrequent use of heavy equipment (if any) for unscheduled maintenance. Therefore, a less than significant impact is identified for this issue area.

c) **Less than Significant Impact.** As demonstrated in the "Operations and Maintenance" analysis under the response to Section XII. a), above, the proposed Project would not create a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Operational noise levels associated with Project-related stationary sources would not exceed existing ambient noise levels and would be in compliance with the County's noise standards of 55 dBA (7 am to 10 pm) for residential uses. No operational activities would occur during nighttime hours. Therefore, the Project would not create any substantial permanent increase in the ambient noise levels (Appendix H).

Operational-period transportation sources would include the occasional use of vehicles and the use of equipment that produce minimal noise levels at site boundaries and be comparable to existing conditions. The Project would not result in a doubling of traffic on area roadways; therefore, increases in traffic noise would be less than 3 dBA. Given that the Project operations would not exceed existing ambient noise levels, the Project would not have a substantial adverse effect related to a substantial permanent increase in ambient noise levels.

d) **Less than Significant Impact with Mitigation Incorporated.** Construction noise, although temporary, can be a source of concern for sensitive receptors, such as nearby residences. Construction is anticipated to take place during the fourth quarter of 2015 and last up to 10 months. The Project would be constructed during daytime hours only; specifically between the hours of 7:00 a.m. and 7:00 p.m. Construction of the Project will require the use of heavy equipment that may be periodically audible at offsite locations. Received sound levels will fluctuate, depending on the construction activity, equipment type, and distance between noise source and receiver. Additionally, sound from construction equipment will vary dependent on the construction phase and the number and class of equipment at a location at any given time. There would be five phases of construction for the Project:

a. Site preparation
b. Underground work
c. System installation
d. Testing
e. Clean-up / Restoration

Each phase identified will require different types of construction equipment. The estimated composite site noise levels for each phase of construction is based on the assumption that all equipment would operate at a given usage load factor, for a given hour (e. g., pile drivers are assumed to be used for up to 20% of one hour, or 12-minutes), to calculate the composite average daytime hourly A-weighted sound levels (Leq). The load factor accounts for the fraction of time that the equipment is in use over the specified time period. The composite noise level from several pieces of equipment operating during the same phase is obtained from decibel (A-weighted) addition of the Leq of each individual unit. Although it is not possible for all the construction equipment to operate at one point simultaneously, the screening level analysis represented in Table 8 conservatively assumes that this is the case (Appendix H).

Two analysis conditions were evaluated for each phase of construction: 1) the highest work-day construction noise level, and 2) the average construction noise level within each phase. These two conditions were compared to a 20 dBA over baseline significance threshold for daily construction noise levels and to a 10 dBA over baseline significance threshold, for average construction noise levels within a phase. Additionally, construction noise was assessed for any exceedances of the 77 dBA CNEL EPA limit beyond which sustained noise exposure could result in hearing loss impacts.

Construction sound will attenuate with increased distance from the sound sources. Composite Leq sound levels as provided in Table 8 for each Noise Sensitive Receptor (NSR) were evaluated assuming spherical free-field spreading. Other factors, such as vegetation, ground effects, terrain and obstacles, such as buildings, will act to limit the impact of construction noise levels, but were not considered in the evaluation. Actual received sound levels will fluctuate, depending on the construction activity, equipment type, and separation distances between source and receiver. Some construction phases will overlap with one another at the Project site; however, multiple phases would not be conducted simultaneously in close proximity of one another. For example, when a construction phase is within 250 feet of a NSR another phase would not be within 1500 feet. Therefore, if two construction phases overlap, noise levels associated with the construction phase closest to a receptor would dominate. As a general construction practice, functional mufflers will be maintained on all equipment to maintain noise levels as low as reasonably achievable.

The predicted construction phase noise levels were used to screen for potential impact conditions at nearby noise sensitive receptors. Table 8 provides the predicted received construction noise levels for each noise sensitive receptor.

Table 8. Received Construction Noise Levels by Phase

Noise Sensitive Receptor	Distance (feet)	Baseline CNEL	Project Sound Levels (dBA Leq)			
			Maximum Composite Sound Level*	Increase Above Baseline	Average Sound Level	Increase Above Baseline
1	210-2,840	50	69	19	45	0
2	227-3,878	60	69	9	50	0
3	739-5,943	65	56	0	39	0
4	210-3,909	55	70	15	51	0
5	164-4,083	55	73	18	47	0

Notes:
* Maximum for a given work day during Phase 1 construction, representative of when construction is closest to a noise sensitive receptor. Analysis assumes that generator sets would be at least 500 feet from NSR-1 under Phase 1.
Source: Appendix H

Table 8 reflects the results of the composite noise levels for Phase 1, which are higher than Phases 2 through 5.

Because construction noise would comply with the County's noise ordinance and would not exceed the temporary increase over ambient thresholds under any phase; impacts from construction noise would be less than the applied threshold. However, given the close proximity of construction to noise sensitive receptors for the duration of Project construction combined with construction-related noise levels that nearly approach the applied threshold, Project construction noise is considered significant and mitigation is proposed to lessen this impact.

Traffic noise associated with construction of the Project is not anticipated to be a significant source of noise. Traffic noise is not greatly influenced by lower levels of traffic, such as those associated with the Project's construction effort. For example, traffic levels would have to double in order for traffic noise on area roadways to increase by 3 dBA. The Project's traffic report anticipates that construction traffic on area roadways would increase hourly traffic volumes by much less than double; therefore, the increase in construction related traffic noise would be less than 3 dBA and is not significant.

Noise generated during the Project's 10-month construction period would result in temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. Specifically, construction of the proposed Project would create some elevated short-term construction noise impacts from construction equipment (see Table 8). Mitigation Measure N-1 would ensure that impacts are not substantial and are below a level of significance by limiting noise-generating activities to the hours of 7 a.m. to 7 p.m., requiring the muffling of construction equipment where feasible, and requiring that stationary construction equipment be placed in a manner so that emitted noise is directed away from sensitive receptors.

The screening level assessment did not identify any exceedances of the temporary threshold criteria employed for this project. Receptor-1 is the closest to an exceedance under Phase 1 and Phase 3, with a predicted 19 dBA increase over ambient and highest Leq of 73 dBA under Phase 1 for approximately 22 days; however, the highest sound levels would only occur when construction is closest to the receptor and on average the received sound levels are not predicted to be above ambient conditions (Appendix H). Furthermore, unlike the assumptions of the screening model applied above, not all equipment would or could operate simultaneously at one location. For example, under Phase 1 the excavators, graders, tractor/loader/backhoe, and roller would operate in unison over one area of the Project site which would then be followed by another series of equipment, such as the skid steer with drill rig and cement/mortar mixer to prepare the site for the next phase. Therefore, sounds from each grouping of equipment, when at its closest to a given receptor, would dominate over other equipment working on another portion of the Project site even though all the Phase's equipment could be in operation simultaneously. The result would be slightly lower received sound levels. For example with excavators, graders, tractor/loader/backhoe, and roller operating under Phase 1 at NSR-1 (e.g., 210 feet) sound levels at worst would result in a composite Leq of 68 dBA, slightly lower than the composite construction noise level for the phase (Appendix H).

During operations, noise from the facility would occur periodically due to occasional maintenance activities and annual washings. These activities would produce short term noise at levels shown in Table 8; such impacts would not be substantial and would be roughly equivalent to noise generated by existing agricultural operations in the area. Additionally, operating vehicles would only be located at any single point on the site for a very limited duration. Maintenance, repair, and washing activities would occur exclusively during daylight hours. As a result, temporary or periodic noise impacts would be less than significant after mitigation.

e) **No Impact.** The Project site is located approximately 19 miles to the west of the Barstow--Daggett Airport and is not located within an airport land use plan or within two miles of a public use airport. Therefore, the proposed Project would not expose people residing or working in the Project area to excessive aircraft noise levels.

f) **No Impact.** The Project site is not located within two miles of a private airstrip. The nearest private airstrip is the Depue Airport, located approximately 3.75 miles southwest of the Project site. Due to the distance of the airstrip from the Project site, the proposed Project would not expose people residing or working in the Project area to excessive aircraft noise levels.

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

N-1: Construction Noise Mitigation. Prior to issuance of a grading permit, the project operator will require all construction contractor/subcontractor employees to attend the WEAP training prior initiating their activities. All contract and subcontract employees will be required to implement the following noise attenuation measures during all phases of construction:

a) The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.

b) Although otherwise allowed subject to applicable County noise limits, the project's exterior construction activities will not occur before 7.a.m. or after 7 p.m. and there will be no exterior construction activities on Sundays or National Holidays.

c) Construction equipment will be muffled per manufacturer's specifications.

d) All stationary construction equipment will be placed in a manner so that emitted noise is directed away or blocked from sensitive receptors nearest 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 proposed Project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). The power and infrastructure associated with the Project will assist in supplying upgrades to a larger electrical network. Construction is anticipated to take approximately 10 months, with a peak workforce of 181 construction workers on the site. These workers would commute to the site from nearby communities such as Barstow, with some traveling from more distant areas such as Victorville, Hesperia, and San Bernardino. Operation and maintenance activities would consist of an anticipated staff of approximately two to six workers to monitor operations from an off-

site location and periodic cleaning and on-site maintenance procedures as needed. Accordingly, the proposed Project would not result in any impacts to housing or related infrastructure, nor would it require construction of additional housing. The Project would not result in a significant adverse effect related to substantial population growth in the area. No impact is identified for this issue area.

b) **No Impact.** The proposed Project will not displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere. No impact is identified for this issue area.

c) **No Impact.** The proposed Project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No impact is identified for this issue 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*
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 public services, including fire and police protection, schools, parks, or other public facilities. The Project will be subject to the public safety services impact fee of the County's Solar Ordinance (§ 84.29.040(c)) to ensure that the Project will not affect fire and police performance objectives. Each of these services providers is addressed in further detail below:

Fire Protection – Less than Significant Impact. The proposed Project will not result in the need for additional fire protection services that would require construction of new facilities. The nearest fire station is San Bernardino County Fire Station 56 located on 37284 Flower Road, Hinkley, CA 92347. Fire Station 56 is located approximately six miles northwest of the Project site. Although the fire threat is considered low at the Project site, any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. 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 on-site 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. During construction, some public services including fire protection may be required but this would be short-term and would not result in a decrease in the level of service offered or substantially affect these agencies' response times. Based on the low probability and short-term nature of potential fire protection needs during construction, payment of the public safety services impact fee to ensure that the Project will not affect fire and police performance objectives during operations, 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 Barstow Station is located approximately four miles southeast of the Project site. The Barstow Station patrols the communities of Baker, Daggett, Hinkley, Lenwood, Ludlow, Newberry Springs, Sandy Valley, Yermo, Red Mountain, and Trona. Due to the large expanse that the deputies cover, they regularly assist and are assisted by the California Highway Patrol, Barstow Police Department, and the Bureau of Land Management Rangers. Payment of the public safety services impact fee would ensure that the proposed Project not impact service ratios, response times, or other performance objectives related to County police protection. During construction, some public services including police protection may be required but this would be short-term and would not result in a decrease in the level of service offered or substantially affect these agencies' response times. Lighting will be designed to provide the illumination needed to achieve safety and security and will be downward facing and shielded to focus illumination in the immediate area. The Project perimeter will be secured with 8-foot-tall chain-link security fencing. These features will achieve the Project's security objectives.

Schools – No Impact. Long-term operations of the proposed unmanned solar facility would place no substantial demand on school services because it does not include the construction of residences and requires no full-time staffing during operations. The Project would not introduce a new population into the area. Therefore, no impact to schools would result.

Parks – No Impact. Long-term operations of the proposed solar facility would place no substantial demand on parks because the Project requires no full time staffing and does not include construction of any new residential units or infrastructure extensions that would induce population growth. Therefore, no impact to parks would result.

Other Public Facilities – No Impact. For the reason stated above, the 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. The proposed Project will be unmanned and does not include construction of any new residential units or infrastructure extensions that would induce population growth, in turn creating a demand on parks. No impact is identified for this issue area.

b) **No Impact.** The proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No new residences or recreational facilities would be constructed as part of the proposed Project. The proposed Project would not induce population growth in

adjacent areas and would not increase the use of recreational facilities in surrounding neighborhoods. No impact on recreation would result from implementation of the 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*
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 with Mitigation Incorporated.**
The following information is summarized from the *Transportation and Traffic Assessment* prepared by GC Environmental, Inc., dated April 2015. This assessment is provided as Appendix I of this Initial Study.

Existing Conditions
The main roadways within the traffic study area include Community Boulevard, Lenwood Road, Dixie Road, and SR-58. The major roadway within the traffic study area is Community Boulevard. This roadway extends east to west within the traffic study area and connects to Dixie Road and Lenwood Road. SR-58 provides regional access to and from the Project site.

Detailed intersection capacity and operation analyses were conducted at the following three intersections for a weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.), and the following four roadway segments:

Intersections

1. Lenwood Road & Community Boulevard
2. Lenwood Road & SR-58
3. Dixie Road & Community Boulevard

Roadway Segments

1. Lenwood Road (SR-58 to Community Boulevard)
2. Community Boulevard (SR-58 to Lenwood Road)
3. SR-58 (west of Lenwood Road)
4. SR-58 (east of Lenwood Road)

Under existing conditions, all three study intersections operate at LOS A and all four roadway segments operate at LOS D or better.

Thresholds of Significance

Intersections
According to the San Bernardino County Road Planning and Design Standards, a project would be considered to cause a significant impact if it adds the number of peak-hour trips to intersections with the LOS ratings provided in Table 9.

Table 9. Intersection Thresholds of Significance for Traffic Impact Studies

Level of Service	Total Project Peak Hour Trip Generation
A	500
B	250
C	150
D	50
E	30
F	15

Roadway Segments
Caltrans provides general guidelines for assessing roadway segments under its jurisdiction in the "Guide for the Preparation of Traffic Impact Studies".[2] While Caltrans does not explicitly provide significant thresholds, it does state that Caltrans "endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D"" it goes on to state that…"if an existing State highway facility is operating at less than the appropriate target LOS, the existing [measure of effectiveness] should be maintained".[3] As such, for State roadway segments with existing LOS of D or worse, it is reasonable to assume that a project is less than significant if it does not cause deterioration in the existing LOS. For roadway segments with existing LOS of C or better, the level of significance is that the project does not cause a decrease in the LOS to less than LOS C.

Impact Analysis
There will be a temporary increase in traffic volumes on SR-58, Community Blvd, and Lenwood Road during the 10-month Project construction as a result of construction vehicles and workers traveling to and from the Project site. All construction-related trips would arrive at the Project site via SR-58 westbound by turning left at the intersection of SR-58 and Lenwood Road, driving south on Lenwood Road, turning left at the intersection of Lenwood Road and Community Boulevard, and traveling east on Community Boulevard to the project site. Trips leaving the project site would reverse the arrival procedure. Operational trips would travel to and from the project site in the same manner as for construction.

During construction, the Project (including the off-site interconnection) will generate a maximum of 226 additional round trips per day. During operation, the project will generate a maximum of 12 additional round trips per day. Anticipated Project impacts are presented for intersections in Table 10 and roadway segments in Table 11. Note that the intersection at Dixie Road and Community Boulevard is included in Table 10 because it was analyzed in the baseline traffic study. No Project-related traffic increases are shown for that intersection because project-related traffic is not anticipated to use the intersection (GC Environmental, Inc. 2015c).

[2] http://www.dot.ca.gov/hq/traffops
[3] See footnote 1.

Table 10. Project Impacts to Intersections

		Lenwood Road and SR-58	Lenwood Road and Community Boulevard	Dixie Road and Community Boulevard
AM Peak Hour	Time	08:00-09:00	07:45-08:45	07:45-08:45
	Existing Volume	456 vehicles	81 vehicles	41 vehicles
	Volume During Project Construction/Volume Increase	682 vehicles; 226 veh. increase	307 vehicles; 226 veh. increase	41 vehicles; 0 veh. increase
	Volume During Project Operation/Volume Increase	458 vehicles; 2 veh. increase. 468 vehicles on 40 days per year during facility maintenance; 12 veh. increase	83 vehicles; 2 veh. increase. 93 vehicles on 40 days per year during facility maintenance; 12 veh. increase	41 vehicles; 0 veh. increase
	Current LOS and Threshold of Significance Volume (increase over current volume)	A; 500 vehicles	A; 500 vehicles	A; 500 vehicles
	Significant?	**No (construction and operation)**	**No (construction and operation)**	**No (construction and operation)**
PM Peak Hour	Time	16:00-17:00	16:00-17:00	16:00-17:00
	Existing Volume	675 vehicles	85 vehicles	53 vehicles
	Volume During Project Construction/Volume Increase	901 vehicles; 226 veh. increase	311 vehicles; 226 veh. increase	53 vehicles; 0 veh. increase
	Volume During Project Operation/Volume Increase	677 vehicles; 2 veh. increase. 687 vehicles on 40 days per year during facility maintenance; 12 veh. increase	87 vehicles; 2 veh. increase. 97 vehicles on 40 days per year during facility maintenance; 12 veh. increase	53 vehicles; 0 veh. increase
	Current LOS and Threshold of Significance Volume (increase over current volume)	A; 500 vehicles	A; 500 vehicles	A; 500 vehicles
	Significant?	**No (construction and operation)**	**No (construction and operation)**	**No (construction and operation)**

Table 11. Project Impacts to Roadway Segments

Roadway Segment	Existing Conditions		Conditions during Project Construction		Conditions during Project Operation	
	Daily Volume	LOS	Daily Volume	LOS	Daily Volume	LOS
Lenwood Rd. (SR-58 to Community Blvd.)	779 veh.	A	1,231 veh.	A	783 veh.; 803 veh. 40 days per year during facility maintenance	A
Community Blvd. (Lenwood Road to SR-58)	539 veh.	A	991 veh.	A	543 veh; 563 veh. 40 days per year during facility maintenance	A
SR-58 (West of Lenwood Road)	13,749 veh.	D	13,749 veh.	D	13,749 veh.	D
SR-58 (East of Lenwood Road)	15,942 veh.	D	16,394 veh.	E	15,946 veh.; 15,966 veh. 40 days per year during facility maintenance	D
Threshold of Significance	For roadway segments with LOS $\geq$ C: project reduces LOS to < C For roadway segments with LOS < C: project reduces LOS.					
Significant?	**Yes. The LOS of SR-58 east of Lenwood Road is reduced from D to E during project construction. No other significant LOS impacts would occur to roadway segments during project construction and operation.**					

As shown in Table 11, the Project is anticipated to reduce the LOS of SR-58 east of Lenwood Road from D to E during project construction. Because Project construction would result in a deterioration of existing LOS, this impact is considered significant. However, Mitigation Measure (MM) TR-1 will reduce this temporary construction-related impact to a less than significant level through the preparation of a traffic control plan that would require deliveries to be scheduled during non-peak commute hours, provide appropriate signage and lighting for detours or temporary closures, require that access for adjacent properties be maintained, and coordination with the County and Caltrans regarding other concurrent roadway improvement projects. Specifically, the traffic control plan will preserve the existing LOS D status of SR-58 east of Lenwood road during project construction by minimizing employee vehicle trips and truck deliveries during peak commute hours. The Project will not reach or exceed any thresholds-of-significance for the other road segments and intersections near the project site that are anticipated to be used by project-related traffic (GC Environmental, Inc. 2015c).

Because Project decommissioning will involve similar traffic levels as project construction, the conclusions reached for project construction can be applied to project decommissioning if baseline traffic conditions were to remain the same. However, traffic conditions are likely to change over the life of the project; traffic conditions at the time of decommissioning are therefore unknown and estimating these conditions would be speculative. Nonetheless, traffic increases during project decommissioning activities would be subject to the same

requirements as construction and, because of their temporary nature, would not result in permanent LOS degradation if any degradation were in fact to occur.

b) **Less than Significant with Mitigation Incorporated.** Because project operations will not increase traffic in the area beyond minimal maintenance activities, the Project land use type is not one typically associated with producing congestion on major thoroughfares in the area. Additionally, no roadways within the project vicinity are identified in the County's Congestion Management Program (CMP) system of roadways, which operate at LOS E or F. Through adherence to all required County standards, specifications, and regulations, and implementation of a traffic management plan during the construction and decommissioning phases of the Project as required by Mitigation Measure TR-1, conflicts with the County's CMP is less than significant.

c) **No Impact.** The closest public airport to the Project site is the Barstow-Daggett Airport located 19 miles to the west of the Project site. The proposed Project will not result in a change in air traffic patterns because it is not dependent on air transport related material, labor force, or service.

d) **Less than Significant with Mitigation Incorporated.** The proposed Project involves the construction of four access locations along Community Boulevard. These access points would be used for general and emergency access. Typical site access will be provided via 30-foot wide driveways to accommodate wide turning radii in both directions. The proposed site access will include a 60-foot-long drive apron off of Community Boulevard. Additional access points may be required for the off-site interconnection. All applicable County standards, specifications, and regulations will be complied with in the design and construction of these access points. In accordance with County standards, a 26-foot-wide perimeter road and 20-foot-wide internal roads have been incorporated into the site design. All access roads constructed within the site will be designed according to County standards and sized to allow vehicle access, including emergency access, throughout the facility. Design parameters include road width and turning radii.

Traffic safety hazards could occur due to conflicts where construction or decommissioning vehicles access a public right-of-way from the Project area or due to increased truck traffic in general. Construction and decommissioning traffic, if unmitigated, could cause a significant safety hazard impact. However, implementation of Mitigation Measure TR-1, which requires the preparation and implementation of a traffic control plan, would reduce this impact to a less than significant level by providing appropriate signage and lighting for detours or temporary closures, scheduling deliveries under the control of the contractor for non-peak commute hours, maintaining access for adjacent properties, and coordination with the County and Caltrans regarding other concurrent roadway improvement projects.

The proposed 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. 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. Therefore, the proposed Project would not substantially increase hazards due to a design feature. No impact is identified for this issue area.

e) Less than Significant Impact. Access to the Project site would be directly from Community Boulevard by two main driveways, one for the portion of the Project south of Community Boulevard and one for the portion north of Community Boulevard. In addition, a secondary access driveway and a temporary access driveway into the temporary storage and laydown area are also located on the south side of Community Boulevard along the parcel frontages. Access to the off-site interconnection would occur directly from Community Boulevard or Lenwood Road. Each of these access points can be used for emergency access. Both the perimeter access road and the internal access roads would be constructed in conformance with the County Fire Department standards required for fire prevention. In accordance with County standards, a 26-foot-wide perimeter road and 20-foot-wide internal roads have been incorporated into the site design. These access roads would remain in place for ongoing operations and maintenance activities after construction is completed. 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. Therefore, the proposed Project would not result in inadequate emergency access to the Project area, and a less than significant impact would occur.

F) Less Than Significant with Mitigation Incorporated. Roadways around the Project site are not on the fixed routes used by Barstow Area Transit System buses, nor are they identified as routes in the Non-motorized Transportation Plan produced by the San Bernardino Associated Governments. Also, the proposed Project will not cause a demand for any such facilities that exist in the greater area because its operational commuting needs are minimal. Potential impacts relate to construction and decommissioning traffic along Lenwood Road and Community Boulevard and its effect on bicyclists or pedestrians using these roads. However, this temporary construction impact would be adequately mitigated through the implementation of Mitigation Measure TR-1 to a less than significant level by maintaining access or detours for pedestrian and bicycle traffic for the duration of construction.

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. Prepare and submit a Construction Traffic Control Plan in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook that will include:

i. Timing the delivery of heavy equipment and building materials under the contractor's control during non-peak commute hours, to the extent feasible;

ii. Directing construction traffic with a flag person;

iii. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;

iv. Ensuring access for emergency vehicles to the project site;

v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;

vi. Bicycle and pedestrian detour plans if/where applicable;

vii. Maintaining access to adjacent property;

viii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the Project site in a way that maintains LOS conditions at the time of construction, and avoiding residential neighborhoods to the maximum extent feasible;

ix. Traffic control plan coordination with the County, and potential traffic control plan adjustments, in the event of concurrent projects generating potentially overlapping traffic effects; and

x. Additional traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project if construction of the proposed Project occurs concurrently with construction of the expressway project.

Copies of the approved Construction Traffic Control Plan and all issued permits that may be necessary for construction such as (without limitation) work within roadway right-of-ways, the operation of oversized/overweight vehicles on San Bernardino County-maintained roads, and the use of a California Highway Patrol or pilot car escort shall be submitted to the San Bernardino County Public Works, Traffic Division; San Bernardino County Land Use Services, Land Development Division; San Bernardino County Land Use Services, Planning Division; and Caltrans.

	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 the construction of facilities that would generate wastewater that could otherwise exceed applicable wastewater treatment requirements of the Lahontan RWQCB. Portable toilets would be used during construction and decommissioning of the Project with wastewater being hauled and disposed of off-site by a licensed hauler and at a treatment facility. Based on these considerations, no impact is identified for this issue area.

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. The Project will use the majority of water during construction for dust mitigation, estimated to require approximately 40 AF of water for construction activities and dust suppression with the same amount of water

used during Project decommissioning. The Project will also require water for washing the modules; such semi-annual panel washing is estimated to require less than three AF of water per year.

The Project will source its water through an on-site private well of a Project property owner for construction water as well as any water needed for dust control and routine maintenance during operations. Based on the minimal amount of water required during construction and operations as compared to agricultural uses, the Project would not require construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact is identified for this issue area.

c) **No 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. There are existing isolated depressions that collect storm runoff within the Project boundary. The minimal quantity of discharged water generated by solar panel washing (less than three acre-foot of water per year) would drain into the isolated depressions, continue to percolate through the ground, or evaporate. Therefore, no impact is identified for this issue area.

d) Less than Significant Impact. The Project will use the majority of water during construction for dust mitigation, estimated to require approximately 40 AF of water for construction activities and dust suppression with a similar amount of water used during Project decommissioning. Mowing and rolling techniques would be employed on portions of the Project site where feasible to maintain existing root systems to support dust suppression efforts. The Project will also require water for washing the modules; such semi-annual panel washing is estimated to require less than three AF of water per year. The Project will source its water through an on-site private well of a Project property owner for construction water as well as any water needed for dust control and routine maintenance during operations. The proposed Project will use the Hill's Ranch, Inc.'s existing well in the southwest corner of APN 0497-071-040 that is rated for approximately 920 gallons per minute (An acre-foot (AF) of water is equivalent to 325,900 gallons). As provided in Response (b) under Issue IX, the Project's water supply would be sufficient to accommodate the Project's short- and long-term water supply needs. For this reason, no new or expanded water supply entitlements are required for the Project and the corresponding impact is considered less than significant.

e) **No Impact.** The proposed Project would not require connection to an existing sanitary sewer collection system. As a result, the Project would have no impact on existing wastewater treatment capacity.

f) **Less than Significant 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. The proposed Project largely consists of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and would not result in long-term solid waste generation. Solid wastes associated with the proposed Project will be disposed of as appropriate in local landfills or at a recycling facility.

San Bernardino County has adopted the California Green Building Standards Code (CALGreen), which includes mandatory construction and demolition waste recycling (San Bernardino County, 2013). Projects that have the potential to generate construction and demolition waste are required to submit a Construction and Demolition Solid Waste Management Plan (WMP) to identify the estimated quantity and location of recycling for construction and demolition waste resulting from the project. The goal of the WMP is to recycle, reuse, compost, and/or salvage a minimum of 50 percent by weight of the waste generated on site. The WMP must be approved by the Solid Waste Management Division prior to issuance of building permits. An "Actual Material Disposal/Diversion Worksheet" is required upon completion of construction that demonstrates the actual quantity of construction and demolition waste recycled.

The nearest active landfill is the Barstow Landfill, located approximately seven miles southeast of the Project site at 32553 Barstow Road. This Class III landfill accepts agricultural, construction/demolition, industrial, mixed municipal, and biosolid wastes. According to the California Department of Resources Recycling and Recovery (CalRecycle), this landfill has a remaining capacity of 77,304,902 cubic yards[4] and is not scheduled to cease operations until the year 2071 (CalRecycle, 2015a). The Project's waste disposal requirements are estimated at 19.32 tons during the course of construction and decommissioning (USEPA 2009) and 2.4 tons/annually during operations (CalRecycle 2015b). Based on these disposal needs, the Project over its lifecycle would have negligible solid waste disposal requirements, estimated at less than 0.00011 percent of the total landfill capacity and, therefore, the Barstow Landfill has sufficient permitted capacity to accommodate the Project's solid waste disposal requirements.

Decommissioning of the solar arrays would generate limited amounts of solid waste, which would be recycled to the extent feasible at a solid waste disposal or materials recovery facility permitted by the County solid waste services which adheres to County-developed recycling programs. It is anticipated that a small percentage of the solar arrays would be considered solid waste, requiring depositing into a solid waste facility. The Project Applicant (or contractor) will be responsible for contracting with a local franchise hauler for all solid waste disposal and recycling needs. Given the low volume of solid waste expected, the Project would not have a significant impact on area landfills. Therefore, a less than significant impact is identified for this issue area.

g) **Less than Significant Impact.** The proposed Project would comply with all federal, state, and local statutes and regulations related to solid waste. The Project would consist of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and thus would not result in long-term solid waste generation. Solid wastes produced during the construction phase of the Project, or during future decommissioning activities would be disposed of in accordance with all applicable statutes and regulations. Accordingly, anticipated impacts from the proposed Project related to landfill capacity are less than significant.

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

[4] One ton equals 1.33 cubic yards.

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**. The Project would not substantially degrade the quality of the environment, 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. Any impacts attributable to the Project, as described throughout the various section of this checklist, are considered less than significant or can be mitigated to a less than significant level.

b) **Less Than Significant Impact with Mitigation Incorporated**. As discussed in the previous sections, impacts that could be caused by the Project would be reduced to a less than significant level by approaches included in the Project design or by mitigation that would be included as part of the Project. The County has concluded that the proposed Project's incremental effects to aesthetics, agriculture, cultural resources, geology, GHG, land use planning, mineral resources, population/housing, public services, recreation, and utilities and service systems would not be cumulatively considerable. This finding is supported by the conclusions provided in the project-level analysis for each corresponding resource section of

this initial study. The resources most likely to be cumulatively affected by the Project would be air quality, biology, hazards, water quality, water supply, noise, and traffic; however, mitigation measures conditioned on the Project would reduce the Project's cumulative-level effects to a less than cumulatively considerable level. Each of these project-level impacts of the Project are discussed below in the context of other cumulative projects in the Project vicinity.

Almost all air basins within the state are non-attainment areas for one or more criteria air pollutants. Activities that emit criteria pollutants within those air basins could have a significant cumulative impact on air quality. The MDAQMD has established rules and programs under their air quality plans that limit proposed project-specific contributions to the overall problems. These rules and regulations also apply to other projects in the air basin. As discussed Section III, Air Quality, the contributions of the Project would not be cumulatively considerable because the proposed project would comply with applicable air district rules and plans for construction activities.

When viewed from a plan-based perspective, the geographic scope for potential cumulative impacts to regional air resources is the MDAB. If the project would result in an increase in a criteria pollutant that has an existing adverse cumulative effect (i.e., the MDAB is classified as non-attainment of the criteria pollutant) and the increase would be more than the respective federal de minimis level or MDAQMD threshold, when combined with the emissions associated with other past, present or reasonably foreseeable future actions, the project would be considered to contribute to a significant cumulative effect to regional air resources.

When viewed from a project-based perspective, the geographic scope for air quality cumulative impacts is a 6-mile radius for regionally-based impacts and a 1-mile radius for sensitive receptor impacts. These geographic scopes were taken from the California Energy Commission, which typically applies a 6-mile radius for its air quality cumulative analyses for fossil-fuel fired power plant operating emissions; this standard is considered conservative for this much cleaner renewable energy project. These geographic scopes of analysis are appropriate for project-based cumulative air quality analysis because air emissions released from a source are diluted very rapidly. Because of this, projects that are scheduled concurrently in the same area as the Project are the only projects considered capable of contributing to cumulative air quality impacts.

According to MDAQMD's PM10 Attainment Plan (1995), PM10 emissions generated by on-road entrained dust and on-road exhaust and tire wear emissions constitute seven percent of the PM10 emission inventory. As such, on-road mobile sources, including those associated with the Project, are not a significant contributor to PM10 violations in the nonattainment area (MDAQMD 1995). Rather, the MDAQMD's PM10 problem is a localized problem caused by desert soils, not automobile tailpipe emissions. For this reason, compliance with MDAQMD's fugitive dust rule will be required so that the Project incorporates control measures to control on-road and off-road sources of PM10 generated by the Project. These measures will be required for other cumulative projects such as the SR-58 Hinkley Expressway Project and Martinsville Specific Plan and supplemented for projects exceeding MDAQMD's significance thresholds in order to meet MDAQMD's attainment goals for PM10. Based on regional modeling analyses performed for MDAQMD's Ozone Attainment Plan (2008), implementing

control measures contained in the Ozone Attainment Plan (as proposed in Mitigation Measure AQ-1), in addition to air quality benefits derived from existing rules and future compliance dates, the Project would conform with the Ozone Attainment Plan's projections for attainment by the year 2020. Therefore, cumulative air quality impacts from the proposed Project and other local, reasonably foreseeable projects such as the SR-58 Hinkley Expressway Project are not expected to be significant because the implementation of required control measures is expected to result in net emission reductions and overall air quality improvement. With the implementation of Mitigation Measure AQ-1, Project-related emissions of NOx would not exceed MDAQMD air quality significance thresholds and, therefore, would not be cumulatively considerable.

With regard to sensitive receptors, for the emissions of any two or more projects to have the potential for significant cumulative downwind concentrations at any given fixed sensitive receptor location, they must both be in close proximity to limit the downwind dispersion from one site to the other; also, typically, one of the projects must be able to cause an air quality standard exceedance on its own. Therefore, only projects within 1 mile of the Project are considered projects that could, together with the Project, cause significant cumulative impacts to fixed sensitive receptor locations. It is important to note that the geographic-scope standard of 1 mile and the sensitive-receptor location standard of 1,000 feet in MDAQMD Criterion 4 are separate concepts. Stated differently, the potential for cumulative significant impacts to sensitive receptors within 1,000 feet of a proposed project is limited to the proposed project and other projects within a 1-mile radius of the proposed project, which is limited to the SR-58 Hinkley Expressway Project. Given that the Project's contribution to significant cumulative air quality impacts on a regional basis is less than cumulatively considerable with mitigation incorporated, the proposed project would not result in a cumulatively considerable contribution to effects on sensitive receptors.

Although the development of the cumulative projects in the area would remove substantial vegetation, this region of California is typified by open and natural space with native vegetation. As such, impacts to common vegetation are not cumulatively significant. The majority of vegetation communities present within the Project site and off-site improvement areas are degraded and higher quality (and occupied) habitat is abundant throughout the region, suggesting that abundant habitat would persist in the region despite development of past, present, and reasonably foreseeable projects.

Impacts of surrounding development on sensitive plant and wildlife species are cumulatively significant (Appendix C). The combined development has the potential to directly impact sensitive plant and wildlife species as well as indirectly affect these species by impacting metapopulation dynamics including dispersal and habitat connectivity via habitat loss and fragmentation. The majority of vegetation communities present within the Project site and off-site improvement areas are degraded; they are also avoided by the Project. Several mitigation measures, including BIO-1 (WEAP), BIO-2 (pre-construction surveys and daily sweeps), BIO-3 (biological monitoring), and BIO-4 (Weed Abatement) would further avoid direct impacts to sensitive species. As such, the Project would not result in a considerable contribution to cumulative impacts to special status plants or sensitive vegetation communities following the implementation of the proposed mitigation.

The development of the cumulative projects would reduce the amount of land that is available for wildlife species by developing previously undeveloped areas, removing potential habitat, and by altering corridors and other settings that are critical to the movement and linkage of species. The combined impacts of the projects considered, such as the SR-58 Hinkley Expressway Project and Martinsville Specific Plan could be cumulatively significant. However, given the distance between these projects and the Project site, they are unlikely to interact cumulatively in a significant fashion. Additionally, no desert tortoise or tortoise sign were observed after protocol-level surveys, no burrowing owl or desert kit fox or American badger were identified on the Project site, and no Mohave fringe-toed lizards or their habitat were identified within the development footprint; nonetheless, as described in the project-level analysis, mitigation has been proposed to comprehensively address potential impacts to each of these species notwithstanding the low habitat values of the site (e.g. BIO-3 [Pre-construction surveys], BIO-5 [Exclusionary Fencing], etc.). Further, as discussed in the project-level analysis, the Project site is currently bounded by SR-58 which greatly inhibits wildlife movement by most terrestrial species in the regions. Further, the Project design avoids presumed wildlife corridors such as the Mojave River and connectivity within this region would therefore be maintained. Additionally, other projects considered are physically separated from project such that they would not interact cumulatively in a significant fashion (e.g., Martinsville Specific Plan is on other side of the Mojave River and SR-58) with the Project. As such, the Project's contribution to potential cumulative impacts on terrestrial wildlife and associated movement would not be considerable.

With regard to sensitive avian and bat species, the Project site does provide potential nesting and lower quality foraging habitat, but so too does much of the surrounding vicinity, where only the SR-58 Expressway is the reasonably foreseeable cumulative projects that could change local existing baseline conditions. Moreover, multiple measures to mitigate potential effects on avian species (nest survey and avoidance, avian mortality monitoring and adaptive management, APLIC guidelines, etc.) would ensure cumulative contributions to avian impacts remain inconsiderable. In short, based on the absence of observed sensitive plants and terrestrial species, the low habitat value of the previously disturbed Project site and off-site interconnection for both sensitive plants and sensitive wildlife, and the avoidance and mitigation standards described above, the Project would not result in a considerable contribution to cumulative impacts following mitigation implementation.

As described in the project-level analysis, the "lake effect" resulting from the proposed solar arrays may affect avian species, but more information on this hypothesis is warranted. If the "lake effect" hypothesis, attracting birds to the Project site is valid, the Project would have a considerable contribution to cumulative impacts on avian wildlife movement. This contribution would be less than significant following implementation of an Avian Mortality and Injury Monitoring Program as proposed in Mitigation Measure BIO-9. This Program would include adaptive management measures to reduce project-related affects, including cumulatively considerable efforts, should such "lake effect" impacts be observed.

Decommissioning of the Project is anticipated following thirty (30) years of operation. While difficult to predict along this time frame, the impacts to biological resources during this phase are assumed to be similar to construction impacts and, therefore, the proposed mitigation

would be required in conjunction with project-related decommissioning activities in the future. As with construction, with the implementation of the proposed mitigation (e.g., pre-construction surveys and resource staking, presence of an environmental resource coordinator, contractor training) combined with compliance with state and federal regulations promulgated at the time of decommissioning, the effects of Project-related decommissioning are rendered less than cumulatively considerable.

Health and safety effects associated with the past or current uses of a project site generally occur on a project-by-project basis, rather than in a cumulative nature. The Project and related projects, such as the Lenwood Road and SR-58 Interchange Project, would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction and to a lesser extent during construction. Project-level effects from these activities are less than significant for the Project following the application of Mitigation Measure HHM-1, which outlines the procedures for hazardous materials compliance during construction, operation, and decommissioning. Similar to the Project, other cumulative projects would be subject to the same federal, state, and local laws, regulations, and policies governing the use, transport, and disposal of hazardous materials. It is foreseeable that the Project and the related projects would implement and comply with these existing hazardous materials laws, regulations, and policies. With the implementation of Mitigation Measure HHM-1, proper procedures for the management of hazardous materials would be in place along with an SPCC in the event of an incident such that no cumulatively considerable impact would result from the Project.

Cumulative impacts to water quality from construction activities would be mitigated to a less than significant level by implementing BMPs during project construction in conjunction with Mitigation Measure HWQ-1. Potential cumulative impacts to groundwater and surface water quality would be expected to be less than significant following mitigation, assuming adherence to the terms and conditions of the NPDES General Construction Permit. Impacts to existing drainage patterns would be minimized through the implementation of Mitigation Measure HWQ-2, which requires the preparation of a drainage plan to attenuate post-Project peak runoff levels to pre-construction conditions. Other projects, including the SR-58 Hinkley Expressway Project and Martinsville Specific Plan will also be subject to the NPDES General Permit and conditioned with site-specific drainage requirements by the County. These permits are established in consideration of cumulative impacts to water quality, and as such are conservative in nature. Additionally, the differing geographic areas for the projects considered will limit synergistic cumulative effects, including cumulative drainage effects to the Mojave River. As such, with the integration of certain project design features in conjunction with the implementation of Mitigation Measures HWQ-1 and HWQ-2, water quality and drainage impacts would cumulatively inconsiderable.

As described in the project-level analysis, Project construction and operation could result in potential cumulative water supply effects in light of the ongoing drought and local implementation of groundwater management legislation. These effects could also include cumulative effects to well operations and performance. With the exception of the SR-58 Hinkley Expressway Project, other cumulative projects considered in the analysis are unlikely to cumulatively affect well performance in nearby adjacent wells due to their distance from the

project area. Similar to the Project, the SR-58 project would require the securing of a reliable water supply to support construction. These supplies could be secured on a temporary basis from multiple agricultural land owners in the project area with existing water rights and pumping facilities and, therefore, cumulative effects to well facilities are unlikely. Given that the Mojave Basin is adjudicated, which in of itself provides a cumulative solution to water supply in the local groundwater basin, the Project's use of supplies allocated to Hills Ranch would render the Project's affect as cumulatively inconsiderable.

Noise associated with the construction of other projects, such as the Lenwood Road and SR-58 Interchange Project, could be greater if constructed concurrently in the general vicinity of the Project. Therefore, adverse noise effects associated with the Project in conjunction with the potential noise effects of other cumulative projects could be cumulatively considerable in the absence of mitigation. With the implementation of Mitigation Measure N-1, construction equipment will be required to be muffled per manufacturer's specifications and all stationary construction equipment will be placed in a manner so that emitted noise is directed away or blocked from sensitive receptors. These measures in conjunction with compliance with County construction noise standards, the short-term duration of Project construction, the distance at which other projects would be constructed (e.g. greater than 1,000 feet) and the associated rate of attenuation, and the required noise abatement measures would minimize temporary noise impact such that they would not be cumulatively considerable and less than significant.

Project construction activities in conjunction with other cumulative projects, including the Lenwood Road and SR-58 Interchange Project, could also result in concurrent construction activities. Concurrent construction activities could contribute incrementally to delay on the local roadway network and could result in multiple temporary roadway closures at the same time if not properly coordinated. These effects could be cumulatively considerable in the absence of mitigation. Implementation of Mitigation Measure TR-1 would require preparation of a Project-specific Traffic Management Plan and traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project in the event of concurrent construction. This measure would minimize the adverse effects of concurrent construction along with maintaining the current LOS on SR-58 to the extent that Project-related effects would not be cumulatively considerable.

c) The Project would not directly or indirectly cause substantial adverse effects on human beings. Of the resource categories involving effects to human beings, only air quality and noise could have a significant impact on human beings as a consequence of the Project. However, all potential effects of the Project on air quality and noise would be mitigated to a less than significant level through compliance with local regulations and would therefore avoid causing substantial adverse effects on human beings. The impact analysis included in this environmental checklist indicates that for all other resource areas, the Project would either have no significant impacts, or for impacts that would not affect human beings, less than significant impacts with mitigation incorporated.

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: Mitigation for NOx. During construction and decommissioning of the Project, all off-road diesel-powered pieces of equipment used by the construction contractors shall comply with the California Air Resources Board Tier 3 standard for off-road engines.

BIO-1: Worker Environmental Awareness Program. All construction and operations staff working on the Site will be required to attend a Worker Environmental Awareness Program (WEAP) as prepared and presented by a qualified biologist. This program will emphasize the conservation of sensitive biological resources during Project construction and operations and will include, at a minimum:

- The purpose of resource protection and relevant mitigation requirements;
- A description of the existing habitats and special status species including identification tips;
- The conservation measures that will be implemented in conjunction with Project construction and operation;
- A protocol for documenting and reporting dead or injured wildlife encountered during construction and at least one year of operation;
- Contact information for Project biologists and monitors;
- Fire protection measures;
- Measures to minimize the spread of weeds;
- Hazardous substance spill prevention and containment measures; and
- Penalties for violation

A copy of the worker education training materials shall be provided to San Bernardino County prior to the issuance of a grading or construction permit.

The names of all personnel who attend the training shall be recorded and workers shall be issued hardhat decals denoting they have received the workshop training as well as informational fliers for quick reference. No personnel shall be permitted to operate equipment within construction zones unless they have completed the WEAP and are displaying hardhat decals denoting this attendance.

BIO-2: Pre-Construction Surveys and Daily Sweeps. Before initiating any ground-disturbing task (e.g., mechanized clearing, trenching, grading, etc.) associated with Project-related construction activities, pre-construction surveys will be conducted by a qualified biologist, in all Project areas slated for vegetation clearing or ground disturbing Project activities and the appropriately sized buffer. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat. Should sensitive resources be observed, biologists will establish

Environmental Sensitive Area (ESA) buffers and no construction activities will be allowed within said ESA until the sensitive resource has left on its own accord or until otherwise authorized by the responsible trustee agency. Biological monitors will conduct daily sweeps prior to construction activity to verify no new sensitive resource occurs within that day's construction activity site.

(a) Desert tortoise. Focused desert tortoise surveys, as described in Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (USFWS, 2010) will be conducted in areas of potentially suitable habitat within 30 days of initial ground-disturbing activities. All tortoise sign will be mapped and all scat collected during the first clearance survey. If fresh scat is found during the second clearance survey, the surrounding area will be searched.

If encountered, tortoise burrow locations will be georeferenced in the field using Global Positioning System (GPS), and the size and approximate age of the burrow identified. Where possible, tortoise burrows would also be flagged only if the flagging would not attract poaching.

No more than 24 hours prior to fence installation and vegetation removal, all disturbance areas would be surveyed to ensure no desert tortoise individuals or burrows are present. Should desert tortoise be observed on the Project site, all potential activities with the possibility to impact an observed desert tortoise shall cease until the individual has left the area on its own accord. A report shall be sent to the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service within five calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;
- Monitoring methods used to ensure no impacts to desert tortoise have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to desert tortoise.

If a dead desert tortoise is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service shall be contacted immediately to determine the appropriate course of action under the respective statutory and regulatory endangered species regimes administered by each agency.

(b) Mohave fringe-toed lizard. Focused Mohave fringe-toed lizard (MFTL) surveys will be conducted in areas of potentially suitable habitat. These surveys shall occur within 30 days of initial ground-disturbing activities and during the seasonal activity period (typically, March to September). A qualified MFTL biologist will prepare a Mohave Fringe-toed Lizard Management Plan. This Plan shall be submitted to San Bernardino County and the CDFW for approval prior to the issuance of a grading or construction permit. This Plan will include, at a minimum:

- A discussion on the species' biology including known distribution maps;
- Minimum qualifications for biologists to work with the species;

- Measures to avoid impacts to MFTL during Project construction including, but not limited to survey requirements, MFTL exclusionary fencing, speed limit enforcements, WEAP requirements, and avoidance of dune habitats.
- MFTL relocation requirements in the event an MFTL is observed within the Project disturbance area. These relocation requirements will include, at a minimum: handler requirements and qualifications, means of relocation and necessary equipment, clear microhabitat description and map of an approved receptor site, and relevant restrictions. All MFTL will be relocated to a County- and CDFW-approved receptor site.
- Reporting requirements. All MFTL encountered during surveys shall be reported to the County and CDFW in monthly monitoring reports. Should an individual require relocation, additional information shall be included including: date and time of capture, date and time of release, name and qualifications of the MFTL biologist, GPS coordinates and photo-documentation of capture and receptor microhabitat, and additional relevant information.

All observations will be mapped and all observed MFTL will be relocated to a County- and CDFW-approved receptor site.

(c) Burrowing Owl. Pre-construction burrowing owl surveys will be conducted by a qualified biologist, in conformance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) within 500 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 500-foot buffer zones. If burrowing owls are observed using burrows during the non-breeding season (September 1 – January 31) or breeding season (February 1 – August 31), an Environmental Sensitive Area (ESA) buffer shall be established around each burrow, and no activities will be allowed within the buffer until the nest is complete (young have fledged or the nest fails). Nest buffer distance will be a minimum of 300 feet. All ESAs will be clearly identified using visible markers such as orange snow fencing, flagging, signage or other visual cues. This protected area will remain in effect until August 31 or until the young owls are foraging independently. If disturbance of owls and their burrows is unavoidable, owls will be excluded from all active burrows as described in a Burrowing Owl Relocation Plan. All relocation will be passive in nature using burrow exclusion methods and all relocation will be performed in conformance with the Staff Report on Burrowing Owl Mitigation (CDFW 2012) after conferring with the CDFW and County of San Bernardino.

(d) Nesting Birds and raptors. Pre-construction surveys for nesting birds will be conducted if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (February 1 to August 31). A qualified avian biologist shall conduct the surveys no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 500-foot buffer zones. If active nests are found, a qualified biologist will determine appropriate buffer distances around each nest as specified in the Nesting Bird Management Plan, to minimize disturbance to the nest and prevent potential take of the nest. The buffer distance will be based on the species behavior characteristics and conservation status, nest location, and nature of anticipated project activities nearby. The buffer area will be conspicuously demarcated on the ground and the Permittee will ensure that all project activities in the vicinity of the site are monitored to prevent incursion into the buffer area. The buffer will

remain in place until the nest is vacated and juveniles have fledged, or the nest is no longer active, as determined by a qualified biologist. An inactive nest is characterized by no longer containing viable eggs and/or living young and is not being used by a bird as part of the reproductive cycle (eggs, young, fledging young still dependent upon nest). All fledglings must leave the nest on their own accord (e.g., without take) to be considered inactive. In some cases, a nest can be abandoned by the bird constructing it and become inactive prior to egg laying. In such cases, determination that the nest is inactive is made on a case-by-case basis based on consistent observations and the determination of an avian biologist.

A qualified biologist will prepare a Nesting Bird Management Plan describing the measures to avoid nests in the event they are observed. This Plan is applicable to all nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. This Plan shall be submitted to San Bernardino County and the CDFW for approval prior to the issuance of a grading or construction permit. This Plan will include, at a minimum:

- Minimum qualifications for biologists to work with the species;
- Measures to avoid impacts to nesting birds during Project construction including, but not limited to survey requirements, monitoring requirements, WEAP requirements, and avoidance of dune habitats.
- Communications protocol in the event of a nest discovery;
- A list of potentially occurring avian species (or guild) and minimum no disturbance buffer for each. Buffer sizes will be site-specific and based on the sensitivity of specific species or guilds and not based on generalized assumptions regarding all nesting birds;
- Contingency and emergency activity measures; and
- Reporting requirements. All nests and their status (active versus inactive), species descriptions, date of inactivity, location (including GPS coordinates), and other information will be provided in monthly construction monitoring reports.

If for any reason a bird nest must be removed during the nesting season, the Project proponent(s) shall provide written documentation of concurrence from the United States Fish and Wildlife Service and the California Department of Fish and Wildlife authorizing the nest relocation to the County of San Bernardino. This documentation will include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and outcome (whether or not the chicks survived and fledged).

(e) Mohave ground squirrel. Presence/absence pre-construction surveys for Mohave ground squirrel will be conducted no more than one (1) year before disturbance activities are scheduled to begin within suitable Project habitat. If a Mohave ground squirrel is observed during pre-construction surveys or at any point, work shall be halted and redirected to other areas of the Project Site that would not affect the individual observed. A report shall be sent to the California Department of Fish and Wildlife within five calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;
- Monitoring methods used to ensure no impacts to Mohave ground squirrel have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to Mohave ground squirrel.

If a dead Mohave ground squirrel is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted immediately to determine the appropriate course of action under the California Endangered Species Act.

(f) Desert Kit Fox and American badger. Focused surveys for American badger and desert kit fox will be conducted by a qualified biologist within 500 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities. The surveys will be conducted no more than 30 days before disturbance activities are scheduled. The survey shall be performed by walking parallel transects spaced no more than 20 meters apart within areas of suitable habitat, and shall be focused on detecting dens that are occupied, or are suitable for occupation, by either species. Potential burrows will be monitored for 72 hours using motion detecting infrared cameras or similar trackers to determine activity.

Inactive dens are burrows that have largely collapsed or the end of the burrow is clearly visible. Inactive dens that will be directly impacted by construction activities shall be excavated and backfilled by hand to prevent reuse by American badger or desert kit fox.

If occupied burrows are observed outside of the pupping season, the occupants may be passively excluded from their burrow using natural materials over a period of five consecutive days. Once the den is confirm vacated, it shall be excavated to ensure no wildlife are trapped within the den and then backfilled by hand to prevent reuse by American badger or desert kit fox.

If an occupied den is observed during the pupping season (typically, February to July), then the burrow will be clearly flagged and a minimum 200-foot no disturbance area surrounding the den shall be established. This buffer shall remain in place until the end of the pup-rearing season or the den is determined inactive or abandoned by a qualified biologist. At this point, passive exclusion methods (see above) shall be used.

If an American badger or desert kit fox is observed, a report shall be sent to the California Department of Fish and Wildlife within 30 calendar days of the sighting and will include:

- Name and contact information of the biologist who observed the species;
- Date, time and location of the observation;
- Measures taken to avoid impacts following the observation;

- Monitoring methods used to ensure no impacts to American badger or desert kit fox have occurred; and
- Recommendations for ongoing activity at the Site that avoid impacts to American badger or desert kit fox.

If a dead or injured American badger is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted within eight hours to determine the appropriate course of action.

To minimize the likelihood of the transmission of canine distemper, no pets shall be allowed on the site. If a dead, sick, or injured desert kit fox is encountered, all work shall stop in the immediate vicinity of the encounter and the California Department of Fish and Wildlife shall be contacted within eight hours to determine the appropriate course of action.

(g) Bats. Focused surveys for bats, including Townsend's big-eared bat, will be conducted by a qualified biologist within 300 feet of all Project areas slated for vegetation clearing or ground disturbing Project activities where roosting habitat occurs. The surveys will be conducted no more than 30 days before disturbance activities are scheduled to begin within suitable Project habitat and 300-foot buffer zones surrounding rocky outcrops, buildings, bridges, large trees, or any other habitat capable of supporting roosts or hibernacula.

If active maternity roosts or hibernacula are found on site, the roost shall be avoided (i.e., not removed) by the project, if feasible. If avoidance of the roost is not feasible, the bat biologist shall notify the California Department of Fish and Wildlife in writing and additional surveys (via Anabat telemetry or other -approved methods) for nearby alternative roosting sites will be conducted. If the bat biologist identifies, in consultation with and with the approval of the California Department of Fish and Wildlife, that there are alternative roost sites used by the maternity colony and young are not present, then no further action is required.

If no active alternative roosts are found, substitutive roosting habitat for the colony shall be provided on, or in close proximity to, the Project Site. Following establishment of the substitutive roosting site for a period of no less three months, then exclusion of the bats from the original roost may occur. Following the exclusionary period, the demolition of the roost site must commence before maternity colonies form (typically, March) or after young are flying (typically, August).

If accidental take should occur, the California Department of Fish and Wildlife and/or the United States Fish and Wildlife Service shall be notified within 30 days.

BIO-3 Biological Monitoring. The Project proponent will retain a qualified Biological Monitor for all activities associated with ground disturbance, grading, construction, decommissioning, and restoration throughout the Project lifetime. The Biological Monitor must be knowledgeable of general and focused species issues on the Project, qualified by the County of San Bernardino to conduct such work, and must be competent to monitor all biological mitigation measures. The Biological Monitor will have the authority to ensure compliance with mitigation measures set forth in this report including the authority to halt work as necessary to ensure full compliance.

Duties of the Biological Monitor will include, but will not be limited to the following:

- The Biological Monitor will ensure that all established buffers surrounding identified Environmentally Sensitive Areas are maintained.
- Conduct daily pre-construction clearance sweeps for plants and wildlife (including nests) to determine the need for any new no disturbance buffers.
- All dead wildlife will be immediately removed and disposed of properly as to not attract dogs, ravens, raptors, and other opportunistic scavengers and predators.
- To prevent entrapment, all potential wildlife pitfalls (i.e., steep trenches, bores, and other excavations) will be inspected daily (i.e., morning and/or evening) and immediately before backfilling to monitor for wildlife entrapment. Large/steep excavations will be covered and/or fenced nightly to prevent wildlife entrapment. If the excavation cannot practicably be covered or fenced, excavations will be sloped at a 3:1 ratio at the ends, or an earthen ramp will be provided to allow wildlife to escape. If any wildlife species become entrapped, construction will not continue until the animal has left the trench voluntarily or the Biological Monitor has removed the animal.
- No listed species will be handled without the appropriate permits; and
- The Biological Monitor will inspect the site to ensure trash and food-related waste is placed in closed-lid containers and that workers do not feed wildlife.

BIO-4 Weed Abatement Plan. Prior to the initiation of vegetation removal within the Project, the Applicant will submit to the County of San Bernardino a copy of the final Weed Abatement Plan and letter of approval from the appropriate fire authority. This plan will describe all requirements pertaining to weed abatement, fire protection, and fuel modification including periodic clearance of the site of all non-complying vegetation under San Bernardino County Desert Area Fire Hazard Abatement regulations [County Code 23.031-23.043]. These measures may include, but will not be limited to, the removal of brush and dead plant materials, removal of non-native plant species, and other periodic management measures including mowing, particularly beneath PV arrays. The location of fuel modification zones and/or fire breaks to minimize impacts to sensitive biological resources will be identified within the Plan. To the degree practicable, mowing or any other vegetation maintenance will occur between August 15 and February 15 to minimize impacts to nesting birds.

BIO-5 Trash Abatement Program. A Trash Abatement Program will be initiated during pre-construction phases of the Project, and would continue through the lifetime of the Project. Trash and food items would be contained in closed containers and removed regularly (at least once per week) to avoid attracting opportunistic predators such as ravens, coyotes, and feral dogs.

BIO-6 Other Biological Resource Protection Measures. The following additional measures will be implemented during Project construction:

- All equipment maintenance, staging, and the dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas within the Project impact limits. These designated areas will be located in previously compacted and disturbed areas to the maximum extent possible in such a manner as to prevent runoff from entering existing native vegetation

areas. These areas will be clearly designated in the construction plans and SWPPP (see HWQ-1

- Twenty miles per hour speed limits will be enforced for all vehicles traveling on the Project site.
- Trash will be stored properly (i.e., in a manner that is inaccessible to scavengers including condors, ravens, crows, and raccoons), in accordance with the Construction General Permit, and removed from the construction site on a regular basis.
- Pets will not be permitted on the Site during construction.
- Entry to all areas flagged, staked, or otherwise marked as special status by the Environmental Monitor will be prohibited.

BIO-7 Raven Management Plan. The Project proponent adhere to the following measures to ensure that the construction, operation, maintenance, and decommissioning of the Project does not adversely impact regional desert tortoise populations by attracting common ravens to the Project area and increasing the probability of tortoise predation. The following measures shall be implemented to mitigate potential project-specific impacts that could result in a local increase in common ravens:

- All trash and food-related waste will be disposed of 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 pooling or puddling.
- The biological monitor identified in BIO-3 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 protected by federal or state law would be removed.
    - Document common raven use of the project site and access road on a daily basis, during vegetation clearing and ground disturbance [BIO-2]. 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.
- Implement Avian Power Line Interaction Committee (APLIC) guidelines [BIO-10].
- Implement the following measure to mitigate indirect and cumulative impacts: Contribute to the Regional Raven Management Plan fund managed by the National Fish & Wildlife Fund. 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.

BIO-8 Exclusionary Fencing Plan. The Project proponent will submit an Exclusionary Fencing Plan, describing permanent desert tortoise and Mohave fringe-toed lizard exclusionary fencing to be used at the Project, to the County of San Bernardino prior to the issuance of a building or grading permit. This plan will describe fencing materials, locations, access areas, monitoring requirements, and other information pertaining to the erection and maintenance of these fences.

BIO-9: Avian Mortality and Injury Monitoring. The Project proponent shall perform operations-phase avian mortality and injury monitoring at the Project site. The program shall be initiated upon commencement of commercial operation and continue for one year following commercial operation. Prior to issuance of a grading permit for the project, the Project proponent shall submit an Avian Mortality and Injury Monitoring Plan to the County of San Bernardino and USFWS that, at a minimum, includes the following elements:

1. Monitoring Protocol
    a. A description and summary of the baseline survey methods, raw data, and results.
    b. Full survey methodology and field documentation, identification of appropriate survey locations, control sites, and seasonal considerations.
    c. Avian mortality and injury monitoring that includes:
        i. Onsite monitoring that will periodically survey representative locations within the facility, and, in combination with an integrated carcass detection trial, will produce accurate project-wide impact estimates.
        ii. Statistical methods used to generate facility estimates of potential avian impacts based on the observed number of detections during standardized searches and adjusted by integrated detection trials.
        iii. Field detection and mortality or injury identification, cause attribution, handling and reporting requirements.
        iv. Detailed specifications on data and carcass collection protocols and a rationale justifying the proposed schedule of carcass searches.
    d. All monitoring studies included in the program shall be conducted by a third party contractor for one year following commencement of commercial operation. At the end of the one year period, USFWS shall determine whether the survey program must be continued.
    e. Monitor the death and injury of birds and bats from collisions with facility features.

2. Adaptive Management Program. The Project shall be subject to additional, adaptive management mitigation in the event mortality and injury survey results indicate the Project fails to meet applicable performance standards. Appropriate performance standards for mitigation of impacts to any species regulated by BGEPA, ESA, and CESA exist through required consultation with USFWS and CDFW under their respective regulatory and permitting frameworks. For impacts to all other special-status avian species, mitigation measures must reduce or offset mortalities caused by the Project to a level that avoids a substantial, long-term reduction in the demographic viability of the local population of the species in question, as estimated through the results of implementation of the monitoring protocol required in by this mitigation measure.

The Plan shall include an adaptive management program that identifies and implements reasonable and feasible measures to reduce levels of avian mortality or injury attributable to the Project (whether project-specific or cumulatively considerable) to levels that accomplish the performance standards referenced above. To that end, the adaptive management program shall include (i) reasonable measures for characterizing the extent and importance of detected mortality

and injuries clearly attributable to the Project; and (ii) potential measures that the Project owner could implement to adaptively respond to detected mortality and injuries attributable to the Project. Undertaken adaptive actions will be discussed and evaluated in survey reports.

Any impact reduction measures must be commensurate (in terms of factors that include geographic scope, costs, and scale of effort) with the level of avian mortality or injury that is specifically and clearly attributable to the Project facilities in excess of the performance standards referenced above, consistent with the proportionality requirements of California statutory and constitutional law and of U.S. constitutional law. Such measures may include, but not be limited to:

a. The Project owner shall initiate consultation with USFWS and CDFW if there is project-attributed injury or mortality to any species regulated by BGEPA, ESA or CESA.
b. Passive avian diverter installations along the perimeter or at other locations within the Project to reduce or minimize bird use of the site.
c. The use of sound, light or other means to discourage site use consistent with applicable legal requirements.
d. Onsite habitat management or prey control measures consistent with applicable legal requirements.
e. Modifications to support structures or other facilities to exclude nesting birds (e.g., netting or shielding around framework; capping open pipes or tubing).
f. Incorporation of visual cues to panels, such as UV-reflective or solid contrasting bands if proven to be effective and economically and technically feasible.
g. Additional mortality monitoring to assess impact reductions achieved through adaptive management.
h. Such other reasonable, feasible measures required by USFWS under its regulatory authority that are applicable to special-status avian species.

BIO-10 APLIC Guidelines. The Project will implement Avian Power Line Interaction Committee (APLIC) guidelines to reduce avian collisions with power lines and poles installed as part of the Right-of-Way Improvement Area.

CR-1: Tribal Monitoring. There will be one comprehensive training session to present needed information about coordinating with San Manuel for cultural resources and related issues about this project as part of the Project's WEAP training prior to any ground disturbing activities. The meeting shall be recorded for use in future orientation sessions relating to the project. Tribal monitoring shall be conducted during all ground-disturbing activities, which includes but is not limited to, archaeological studies, auguring, excavation, geotechnical investigations, vegetation clearing, ground surface leveling, trenching, and conventional mass grading. Tribal monitors will be from the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians with San Manuel taking the lead. One tribal monitor from each Tribe shall be present on the project site during ground-disturbing activities. A single tribal monitor shall be assigned to each simultaneous ground-disturbing activity on site. Additional tribal monitors shall be assigned if more than two simultaneous ground-disturbing activities occur on site. If simultaneous ground-disturbing activities require an odd number

of more than two tribal monitors, the Tribes shall bring in additional monitors representing each tribe according to the number needed. The tribal monitors will represent the Tribes' interests and will follow the Native American Heritage Commission Guidelines for Monitors, which shall include daily completion of the Native American Monitoring Daily Activity Report/Log.

CR-2: Discovery of Archaeological Resources. On-site workers will be informed of the potential for discovery of archaeological resources or human remains during excavation or trenching as part of the Project's WEAP training.

If an archaeological or cultural resource is encountered during ground-disturbing activities for the Project, tribal monitors and/or the Applicant are empowered to stop excavation activities within 50 feet of the discovery until a qualified archaeologist can evaluate whether the resource is a unique archaeological resource or historical resource as defined in Public Resources Code Section 21083.2 and/or 14 C.C.R. Section 15064.5 or a tribal cultural resource as defined in Public Resources Code Section 21074 in consultation with the tribes. Work may continue in other areas. The project archaeologist in consultation with the tribal representatives shall determine importance and significance of the resource as tribal cultural resources, historical resources or unique archaeological resources, defined above. Tribal monitors will cooperate with the qualified archaeologist to locate all cultural materials exposed during ground disturbing activities. Recovery of artifacts or excavation for resource evaluations will be the responsibility of the qualified archaeologist.

CR-3: Treatment of Archaeological Resources. If the qualified archaeologist determines that the discovery is a historic resource (as defined in MM CR-2) of an archaeological nature, then the mitigation standards of 14 C.C.R. 15126.4(b) specifying preservation in place shall be the preferred manner of mitigation. Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within open space;
3. Covering the archaeological sites with a layer of chemically stable soil; or
4. Deeding the site into a permanent conservation easement.

If preservation in place is not feasible, a cultural resources treatment plan shall be prepared pursuant to 14 C.C.R. 15126.4(b) and The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. The treatment plan shall include (i) provisions for assessment and treatment of the resources identified; (ii) reporting of results in a timely manner; and (iii) the opportunity for Tribes to engage in the recovery of material and provide comments on the draft report. The plan must be submitted to the County Land Use Services Department prior to excavation of the historical or unique archaeological resource. The Final Cultural Resources Mitigation report(s) shall be provided to the Lead Agency and disseminated to the regional CHRIS system Information Center and interested professionals and tribes upon request.

Each landowner or their assigned representative will confer with the Tribes on the disposition of all non-human burial related tribal cultural resources, historical resources and unique archaeological resources, including ceremonial items, which may be found at the portion of the Project located on

the subject property. The property owner is entitled to keep all artifacts not covered and defined above. If the landowner wishes to keep and curate the materials in an institution meeting Federal and State curation guidelines, the Landowner agrees to do so at the San Bernardino County Museum.

If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur in the vicinity of the find(s) until the San Bernardino County Coroner has made the necessary findings as to origin. Further, pursuant to California Public Resources Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the San Bernardino County Coroner determines the remains to be Native American, the Native American Heritage Commission must be contacted within 24 hours. The Native American Heritage Commission must then identify the "most likely descendant(s)". The landowner shall confer with the most likely descendant (MLD). The MLD will make recommendations concerning the treatment of the remains within 48 hours as provided in Public Resources Code 5097.98. If the landowner cannot come to an agreement with the MLD, Public Resources Code Section 5097.98(e) requires the landowner to reinter the human remains and items associated with Native American remains with appropriate dignity on the property in a location not subject to further surface disturbance."

The assessment of resources collected shall be conducted in a timely manner, which will not exceed three months from the date of discovery of the materials and/or the completion of all fieldwork and monitoring. Possession of all cultural materials by the qualified archeologist, if necessary, shall not exceed 90 calendar days after the final report has been submitted. No photography of human remains and associated artifacts is permitted.

A preliminary draft report shall be submitted within three months of the end of the Project fieldwork, and that two copies of the draft archaeological report shall be provided to Tribes by the Lead Agency. Should the qualified archaeologist need an extension of time, approval of a justified time extension shall be permitted at the discretion of the San Manuel Band of Mission Indians and the Morongo Band of Mission Indians. The Tribes shall be given an opportunity to provide comments for inclusion in the final report. All surface and subsurface artifacts and features are to be mapped and described in a final report prepared by the qualified archaeologist following the Secretary of the Interior's Standards and Guidelines for archaeological documentation.

Data recovery shall not be required for an historical resource if the County Land Use Services Department determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the studies are deposited with the California Historical Resources Regional Information Center.

If the qualified archaeologist determines that the excavated sediments were previously disturbed or are unlikely to contain significant cultural materials, the qualified archaeologist can specify that construction activities are no longer limited and may resume.

All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) at California State University Fullerton. The

qualified archaeologist will prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SCCIC. The report will include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. At that time, the Applicant, in consultation with the Lead Agency and qualified archaeologist, will designate repositories in the event that resources are recovered.

HHM-1: Prepare Project Health and Safety Plan. A Health and Safety Plan, which complies with applicable OSHA and Cal-OSHA guidelines for the types of activities being performed, shall be prepared for Project construction and operation. The Health and Safety Plan shall include the following:

- General material safety data sheets for all hazardous materials stored on site will be retained on site during Project construction and operation.
- On-site fueling of equipment and vehicles shall be completed in areas at least 100 feet away from drainages, or in designated fueling areas. Fuel and other hazardous materials stored on site will be located in areas with secondary containment, unless secondary containment is built into the tank.
- Transformers shall be inspected for oil leakage on a regular basis and diversionary structures shall be provided for all oil-containing equipment, including transformers, at the Project site.
- Employees shall attend a health and safety training and shall be trained in the proper protocol for notification and cleanup of hazardous materials.
- A spill prevention and countermeasure control plan (SPCC) will be prepared and available on-site for the duration of project construction, operation, and decommissioning. The SPCC will also provide protocols and procedures for the discovery of undocumented hazardous materials during construction and decommissioning of the Project.

HWQ-1: Erosion Control and Stormwater Pollution Prevention Plan. The Project was sited to avoid direct impacts to riparian habitat, however indirect impacts may occur via stormwater or non-stormwater runoff. As such, a SWPPP, created by a Qualified SWPPP Developer (QSD) and implemented by a Qualified SWPPP Practitioner (QSP), will be prepared and implemented for the Project. This SWPPP will list all measures to eliminate the discharge of pollutants other than stormwater) and non-storm water discharges authorized by the California Construction General Permit Order 2009-0009-DWQ or another National Pollutant Discharge Elimination System (NPDES) permit. The SWPPP will contain programs to monitor visual pollutants, chemical pollutants, and potential sediments. Specific and Best Management Practices, Numeric Action Levels, Numeric Effluent Levels, and Rain Event Action Plans will be implemented as required to ensure non-permitted discharges are eliminated. The SWPPP will be prepared prior to commencement of Project construction.

HWQ-2: Prepare Drainage Plan for Structural Facilities. The project proponent shall prepare a site specific Drainage Plan for all facilities constructed in conjunction with the Project that meets San Bernardino County Land Use Services, Land Development Division – Drainage Section requirements, as applicable. The Drainage Plan shall incorporate measures to maintain off-site runoff during peak

conditions to pre-construction discharge levels. Design specifications shall accommodate the 100-year, 24-hour storm event to pre-project conditions.

N-1: Construction Noise Mitigation. Prior to issuance of a grading permit, the project operator will require all construction contractor/subcontractor employees to attend the WEAP training prior initiating their activities. All contract and subcontract employees will be required to implement the following noise attenuation measures during all phases of construction:

a) Noise levels of any Project use or activity will be maintained at or below adopted County noise standards (San Bernardino County Code 83.01.080). The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.

b) Exterior construction activities will be limited between 7.a.m and 7 p.m. There will be no exterior construction activities on Sundays or National Holidays.

c) Construction equipment will be muffled per manufacturer's specifications.

d) All stationary construction equipment will be placed in a manner so that emitted noise is directed away or blocked from sensitive receptors nearest the Project site.

TR-1: Traffic Control Plan. Prepare and submit a Construction Traffic Control Plan in accordance with both the California Department of Transportation Manual on Uniform Traffic Control Devices and Work Area Traffic Control Handbook that will include:

i. Timing the delivery of heavy equipment and building materials under the contractor's control during non-peak commute hours, to the extent feasible;

ii. Directing construction traffic with a flag person;

iii. Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic;

iv. Ensuring access for emergency vehicles to the project site;

v. Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections;

vi. Bicycle and pedestrian detour plans if/where applicable;

vii. Maintaining access to adjacent property;

viii. Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hour, distributing construction traffic flow across alternative routes to access the Project site in a way that maintains LOS conditions at the time of construction, and avoiding residential neighborhoods to the maximum extent feasible;

ix. Traffic control plan coordination with the County, and potential traffic control plan adjustments, in the event of concurrent projects generating potentially overlapping traffic effects; and

x. Additional traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project if construction of the proposed Project occurs concurrently with construction of the expressway project.

Copies of the approved Construction Traffic Control Plan and all issued permits that may be necessary for construction such as (without limitation) work within roadway right-of-ways, the operation of oversized/overweight vehicles on San Bernardino County-maintained roads, and the use of a California Highway Patrol or pilot car escort shall be submitted to the San Bernardino County Public Works, Traffic Division; San Bernardino County Land Use Services, Land Development Division; San Bernardino County Land Use Services, Planning Division; and Caltrans .

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PROJECT-SPECIFIC STUDIES:

Appendix A – Visual Impact Analysis for the Longboat Solar Project. Prepared by HDR, Inc. June 2015

Appendix B1 – Air Quality/Greenhouse Gas Assessment for the Longboat Solar Project. Prepared by GC Environmental, Inc. May 2015

Appendix B2 – Health Risk Assessment Report for the Proposed Longboat Solar Project, County of San Bernardino, California. Prepared by Environmental Intelligence. April 2015

Appendix C – Biological Resources Technical Report for the Proposed Longboat Solar Project. Prepared by Environmental Intelligence. August 2015

Appendix D1 – Cultural and Paleontological Resources Assessment for the Longboat Solar Project. Prepared by Cogstone. December 2014

Appendix D2 – Supplemental Cultural and Paleontological Resources Assessment for the Longboat Solar Project. Prepared by Cogstone. May 2015

Appendix D3 – AB 52 Notification

Appendix E – Geotechnical Engineering Report for the Longboat Solar Project. Prepared by BARR Engineering. September 2014

Appendix F1 – Phase I Environmental Site Assessment. Prepared by GC Environmental, Inc. August 2014

Appendix F2 – Phase II Environmental Site Assessment. Prepared by GC Environmental, Inc. February 2015

Appendix G – Preliminary Hydrology Study Longboat Solar Project, San Bernardino County, California. Prepared by Westwood Professional Services. August 2014

Appendix H – Acoustic and Vibration Technical Memo for Longboat Solar Project. Prepared by HDR Engineering, Inc. July 2015

Appendix I – Transportation and Traffic Assessment. Prepared by GC Environmental, Inc. April 2015

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