Rock Valley Energy Center
Preliminary Plan of Development

VERSION 2 – APRIL 2024

PROJECT APPLICANT

Boulevard Associates, LLC

A Subsidiary of NextEra Energy Resources, LLC

ROCK VALLEY ENERGY CENTER
PRELIMINARY PLAN OF DEVELOPMENT

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ABBREVIATIONS

2012 Western Solar Plan	*Approved Resource Management Plan Amendments/Record of Decision (ROD) for Solar Energy Development in Six Southwestern States*
AC	alternating current
ACEC	area of critical environmental concern
Applicant	Boulevard Associates, LLC, a subsidiary of NextEra Energy Resources, LLC
BESS	battery energy storage system
BLM	Bureau of Land Management
BMP	best management practice
CFR	Code of Federal Regulations
CGP	Construction General Permit
CWA	Clean Water Act
DC	direct current
DoD	Department of Defense
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
gen-tie	generation tie-in transmission line
GIS	geographic information system
IBA	Important Bird Area
IM	Instruction Memorandum
IPaC	Information for Planning and Consultation
IR	interconnection request
kV	kilovolt
Las Vegas RMP	*Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement*
MW	megawatt
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDNH	Nevada Division of Natural Heritage
NDOT	Nevada Department of Transportation
NEER	NextEra Energy Resources, LLC
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	Nevada Pollutant Discharge Elimination System

NPS	National Park Service
NRCS	National Resources Conservation Service
NRS	Nevada Revised Statutes
NWR	National Wildlife Refuge
O&M	operations and maintenance
OHV	off-highway vehicle
PFO	Pahrump Field Office
PFYC	Potential Fossil Yield Classification
PL	Public Law
POD	plan of development
Project	Rock Valley Energy Center
PV	photovoltaic
RMP	resource management plan
ROW	right-of-way
RPS	Renewable Portfolio Standard
SCADA	supervisory control and data acquisition
SF	Standard Form
SHPO	State Historic Preservation Office
SPCC	spill prevention, control, and countermeasures
SR	State Route
SRMA	special recreation management area
SWPPP	stormwater pollution prevention plan
TFO	Tonopah Field Office
TNW	traditional navigable water
Tonopah RMP	*Approved Tonopah Resource Management Plan and Record of Decision*
UL	Underwriters Laboratories
U.S. 95	U.S. Route 95
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	visual resource management
WOTUS	waters of the United States

1 PROJECT DESCRIPTION

1.1 Introduction

Boulevard Associates, LLC, a subsidiary of NextEra Energy Resources, LLC (NEER) (Applicant), is proposing to construct, operate, maintain, and decommission the Rock Valley Energy Center Project (Project) in southern Nye County, Nevada, near the unincorporated township of Amargosa Valley (Figures 1 and 2). The Project consists of an up to 1,600-megawatt (MW) alternating current (AC) solar photovoltaic (PV) facility, up to 1,600 MW of battery energy storage system (BESS), an on-site substation, operations and maintenance (O&M) facility, access roads, and ancillary Project facilities (referred to as the generation and storage facility or Project site). The Project also includes a dedicated 230- or 500-kilovolt (kV) generation tie-in transmission line (gen-tie) that connects the generation and storage facility from the on-site substation to the transmission grid. The Applicant is evaluating three potential gen-tie alternatives for interconnection (mileage shown is from the Project site boundary to the interconnection facility): a 22.5-mile 230-kV gen-tie to the proposed Beatty Substation, an 8.5-mile 500-kV gen-tie to the proposed Amargosa Substation, and/or a 4.2-mile 230-kV gen-tie to the proposed Valley Switchyard. The proposed permanent right-of-way (ROW) width for the transmission line corridors is 100 feet for the Beatty and Valley Switchyard 230-kV gen-tie alternatives and 200 feet for the Amargosa 500-kV gen-tie alternative. These switchyards are proposed under other projects currently in review by the Bureau of Land Management (BLM).

The generation and storage facility (approximately 10,101.5 acres) and the three gen-tie alternatives (together, approximately 525.8 acres outside of the Project site boundary) are proposed for siting within federal public land administered by the BLM, Southern Nevada District Office, Pahrump Field Office (PFO). The northwestern end of the gen-tie alternative to the proposed Beatty Substation also extends into public land administered by the BLM, Battle Mountain District Office, Tonopah Field Office (TFO).

The Applicant acquired the rights to be the preferred ROW applicant for solar energy development on the Project site (designated by the BLM as “Competitive Parcel 1”) through an auction hosted by the BLM on June 27, 2023 (BLM 2023a). The Applicant subsequently submitted a preliminary plan of development (POD) and Standard Form (SF)-299 to the BLM as part of their application for a Title V Federal Lands Policy and Management Act of 1976 (43 United States Code [USC] 1761 et seq.) ROW grant for a 30-year term. This POD revises the original submittal. The document is being submitted with the Project’s draft Variance Factors Analysis Report (SWCA Environmental Consultants 2024) for BLM review in accordance with BLM Instruction Memorandum (IM) 2023-015 (BLM 2022a). The POD is an iterative document and will be revised periodically as the Project’s design progresses.

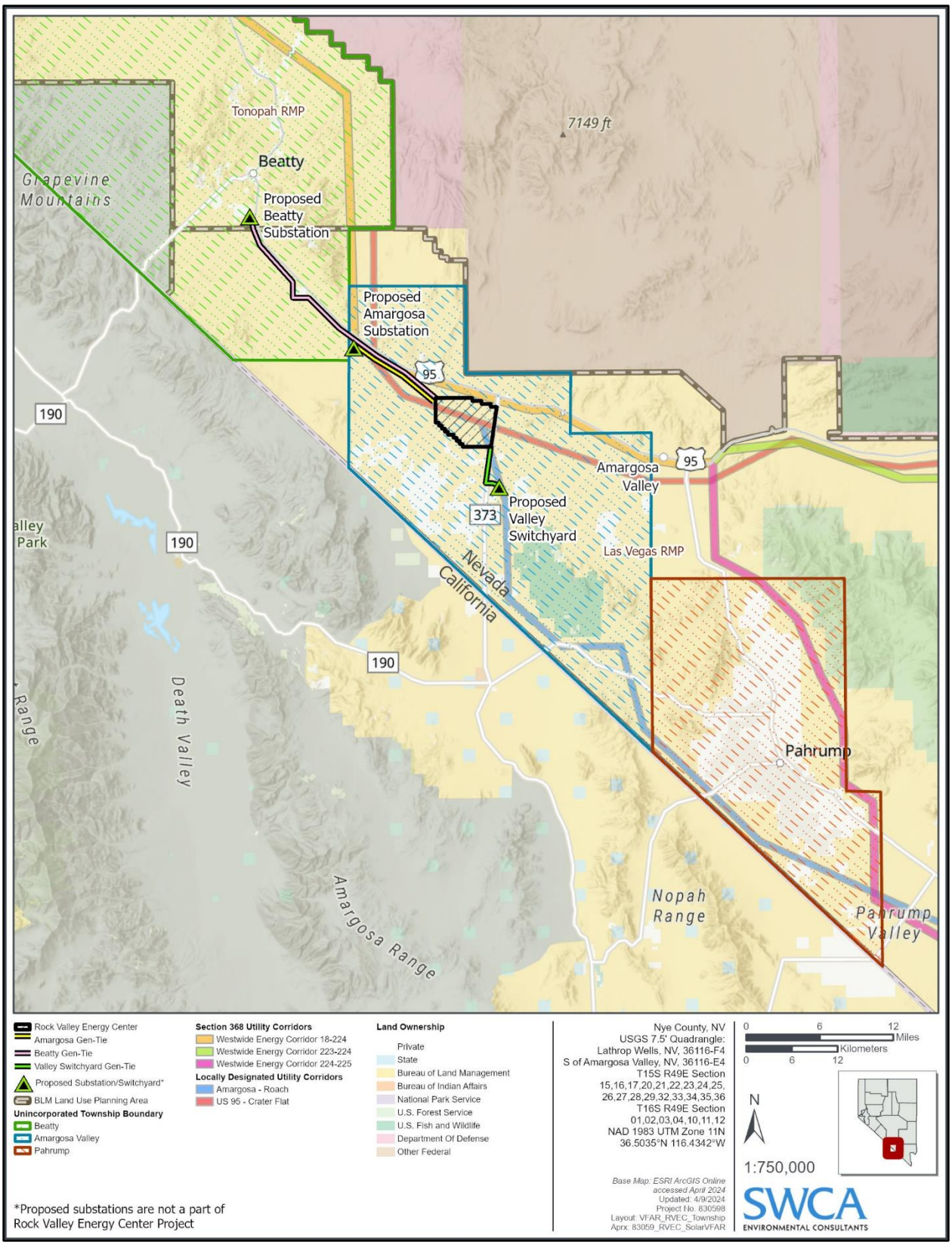

Figure 1. Rock Valley Energy Center Project location.

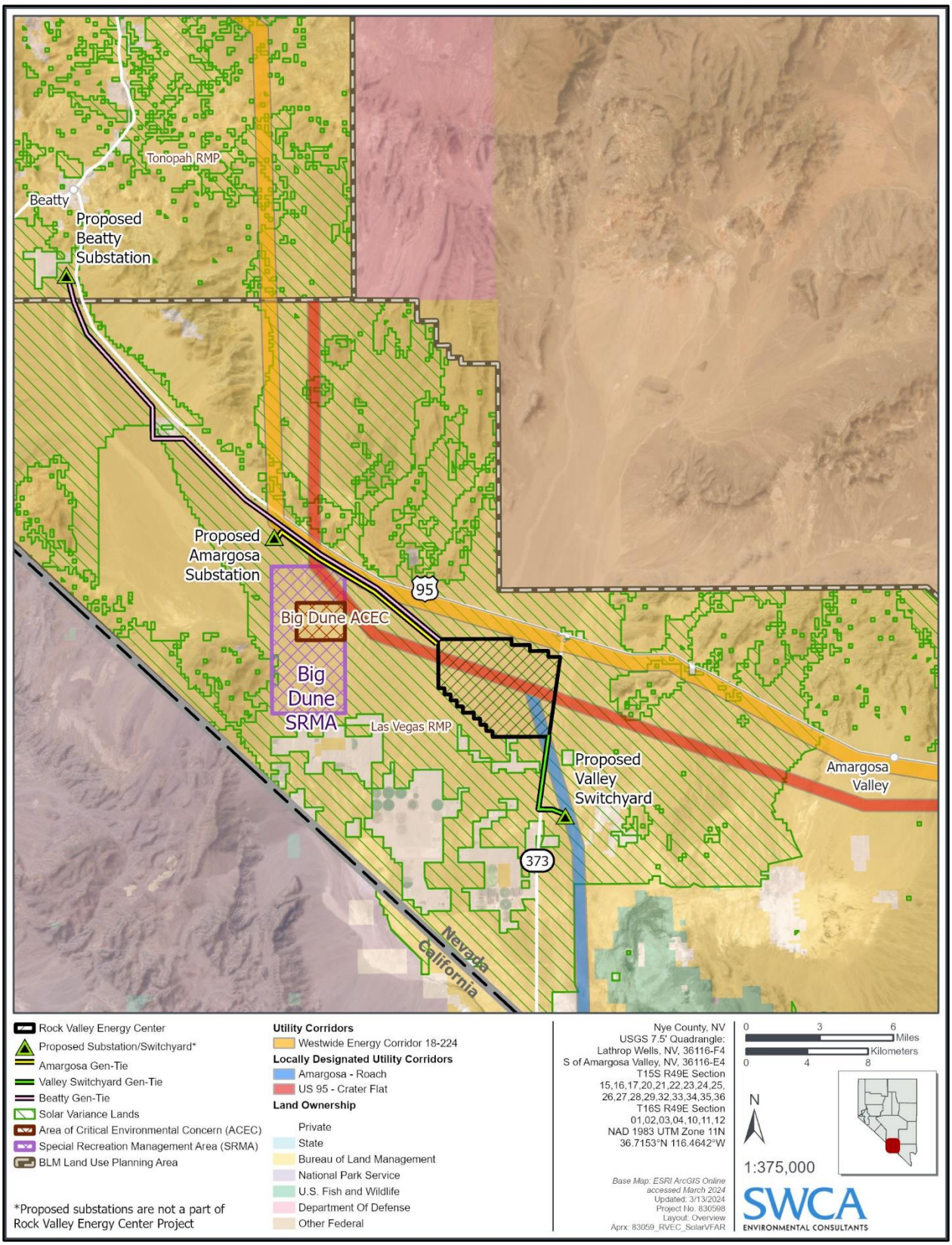

Figure 2. Rock Valley Energy Center Project overview.

1.2 Anticipated Project Schedule

The Applicant anticipates the Project being built in up to three phases and requiring 60 to 72 months to complete. Construction of the first phase will begin immediately following the BLM's issuance of the ROW grant and other federal, state, and local permits and approvals. Currently, Phase 1 construction is proposed to start in winter 2027, with commercial operations beginning in winter 2029.

Table 1 provides a preliminary schedule of Project milestones for the initial phase.

Table 1. Preliminary Rock Valley Energy Center Project Milestones

Activity	Estimated Date
BLM Variance Factors Analysis Report process completed	Fall 2024
BLM MET station permitting completed	Winter 2024/2025
BLM Geotech permitting completed	Spring 2025
BLM National Environmental Policy Act (NEPA) Notice of Intent published	Spring 2025
BLM NEPA process completed, including ROW grant and notices to proceed	Fall 2026
Construction begins	Winter 2027
Start-up and test	Spring 2029
Commercial operations begin	Summer 2029
Decommissioning and reclamation begins	2059

1.3 Applicant's Purpose and Need for the Project

The Applicant's purpose for the Project is to reliably and economically generate and store renewable energy using solar PV and BESS technologies. The Project is needed to help Nevada, California, and the southwestern United States

- meet increasing demand for reliable, cost-efficient electrical energy;
- provide energy storage to assist with peak load requirements and promote grid stability; and
- support federal renewable energy policies, including:
  - the Energy Act of 2020 (Division Z of the Consolidated Appropriations Act, 2021, Public Law [PL] 116-260),
  - Executive Order 14008's mandate to increase renewable energy production on public lands,
  - the U.S. Department of Interior's goal to permit at least 25 gigawatts of onshore renewable energy on public lands by 2025,
  - the Biden-Harris administration's goal of a carbon pollution–free power sector by 2035.

As an integrated component of the region's electrical power system, the Project will also help meet Nevada and California's need of providing renewable and carbon-free energy to help achieve state renewable energy portfolio goals. The Nevada Renewable Portfolio Standard (RPS) (Nevada Revised Statutes [NRS] 704.7821) was revised and signed on April 22, 2019, by Senate Bill 358 to state that by calendar year 2025, no less than 34% of the total amount of electricity sold by NV Energy to its retail customers in Nevada must be from renewable energy resources. Additionally, a solar "carve out" was included, which states that beginning in 2020, at least 22% of the energy should be from solar. NV Energy is expecting to acquire renewable energy from multiple generating facilities to meet, at a

minimum, the mandated RPS target of 20% of retail sales coming from renewable resources to 34% in 2024–2026, 42% in 2027–2029, 50% in 2030, and 100% (zero carbon) by 2050. The California RPS also sets continuously escalating procurement requirements for the state's load-serving utilities, with a goal of obtaining 50% of the state's electricity from eligible renewable energy resources by 2030 (Green and Crume 2017). Additionally, the BESS components of the Project will help NV Energy and the California Independent System Operator's need to balance electrical load on the transmission grid by moving energy during times of low and high demand. The BESS will provide energy storage to reduce load on congested transmission and distribution systems, reduce the need for costly grid upgrades, and add generation to meet periods of systemwide peak load.

1.4 General Facility Description

1.4.1 Project Location

The Project is located in Nye County, Nevada, approximately 0.9 mile southwest of the intersection of U.S. Route 95 (U.S. 95) and west of State Route 373 (SR 373), proximate to the unincorporated township of Amargosa Valley (see Figure 2). The BLM identified this Project location as potentially suitable for solar energy development and auctioned the rights to submit a ROW application for utility-scale solar energy development (BLM 2023a). The Project is found on the Lathrop Wells, South of Amargosa Valley, Big Dune, Ashton, Carrara Canyon, and Gold Center U.S. Geological Survey (USGS) 7.5-minute quadrangles (USGS 2023a).

1.4.2 Legal Description

Preliminary legal descriptions for the solar facility and gen-tie alternatives are provided in Appendix A. Appendix B illustrates the proposed Project components overlaid on BLM Master Title Plat maps. Title and survey review has been conducted for the generation and storage facility. The legal description for the gen-tie alternatives is approximate and based on best available geographic information system (GIS) data from the BLM and Nye County. A licensed surveyor will conduct a legal land survey at a future date to determine the gen-tie boundaries once the preferred alternative is selected, at which point the legal description will be updated.

1.4.3 Land Ownership and Jurisdiction

The Project is primarily located on federal public land administered by the BLM PFO. Approximately 13.8 acres of the Beatty gen-tie alternative is administered by the BLM TFO. Table 2 provides preliminary estimates of Project acreage for the solar generation and storage facility and gen-tie alternatives within each BLM field office and within existing BLM-designated areas. The solar facility includes the solar PV arrays, BESS, on-site substation, O&M facility, access roads, and other ancillary facilities. The acreage estimates for the gen-tie corridors assume a 100-foot-wide permanent ROW corridor from the solar facility boundary to the interconnecting substation/switchyard for the 230-kV Beatty and Valley Switchyard gen-tie alternatives and a 200-foot-wide ROW corridor for the 500-kV Amargosa gen-tie alternative.

Table 2. Estimated Project Acreage by BLM Field Office and Existing BLM-Designated Areas

BLM Field Office Jurisdictions and Designations	Generation and Storage (acres)	Beatty 230-kV Gen-tie (acres)*	Amargosa 500-kV Gen-tie (acres)*	Valley Switchyard 230-kV Gen-tie (acres)*
BLM PFO				
Designated solar variance	10,101.5	–	–	–
Locally designated utility corridor†	2,166.7	7.5	15.0	11.7
Section 368 designated utility corridor‡	–	74.6	138.2	–
Outside designated utility corridor	–	183.8	65.4	38.3
PFO Subtotal§		**258.4**	**203.6**	**50.0**
BLM TFO				
Designated solar variance	–	13.8	–	–
Outside designated utility corridor	–	13.8	–	–
TFO Subtotal	–	**13.8**	–	–
Total‡	**10,101.5**	**272.2**	**203.6**	**50.0**

* Beatty and Valley Switchyard gen-tie ROWs assume a 100-foot-wide ROW. Amargosa gen-tie assumes a 200-foot-wide ROW. This estimated disturbance only includes the portions of the gen-ties sited outside of the Project site boundary.

† Locally designated corridors include Amargosa–Roach and U.S. 95–Crater Flat (see Figures 1 and 2).

‡ Section 368 Corridor ID is 18-224: Carson City to Las Vegas.

§ Designated Section 368 and locally designated utility corridors overlap in some areas. Given this, acreage subtotals and totals are not the sums of the individual segments.

1.4.3.1 BLM MANAGEMENT DIRECTIVES

A description of the applicable management directives from BLM resource management plans (RMPs) and amendments is provided below.

1.4.3.1.1 1998 Las Vegas RMP

The proposed 10,101.5-acre generation and storage facility, the Amargosa and Valley Switchyard gen-ties, and a portion of the Beatty gen-tie are on land managed by the BLM PFO in accordance with the *1998 Record of Decision for the Approved Las Vegas Resource Management Plan* and *Final Environmental Impact Statement*, as amended (Las Vegas RMP) (BLM 1998).

The Las Vegas RMP does not specifically address renewable energy siting. General management direction for the use of BLM ROW within this RMP's planning area follows:

> Management Objective RW-1: Meet public demand and reduce impacts to sensitive resources by providing an orderly system of development for transportation, including legal access to private inholdings, communications, flood control, major utility transmission lines, and related facilities. (BLM 1998:19)
>
> Management Direction RW-1-h: All public land within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for rights-of-way under the authority of the Federal Land Policy Management Act (sic). (BLM 1998:19)

1.4.3.1.2 1997 Tonopah RMP

An estimated 13.8 acres of the proposed Beatty gen-tie is on federal land managed by the BLM TFO in accordance with the 1997 *Approved Tonopah Resource Management Plan and Record of Decision*, as amended (Tonopah RMP) (BLM 1997). The proposed Beatty gen-tie ROW is not located in a BLM-designated ROW within the Tonopah land use planning area. The Lands section of the Tonopah RMP describes the BLM's management practice for linear ROW proposals as follows:

> Unless the land has been dedicated to a specific use or uses, public land within the Tonopah Planning Area is available for consideration for linear rights-of-way for access, and for utility transportation and distribution purposes. Such land is also available for areal rights-of-way purposes. (BLM 1997:33).

1.4.3.1.3 2012 Western Solar Plan

The Las Vegas and Tonopah RMPs have been amended to include the *Approved Resource Management Plan Amendments/Record of Decision (ROD) for Solar Energy Development in Six Southwestern States* (2012 Western Solar Plan) (BLM 2012) (see Solar Variance Lands in Figure 2). The Project is proposed for siting entirely within a solar variance zone designated by the Western Solar Plan.

The BLM PFO will consider the Applicant's ROW grant application for the proposed solar facility within the context of the 2012 Western Solar Plan's variance process, as described in BLM IM 2023-015 (BLM 2022a) and applicable RMP management directives. A draft programmatic environmental impact statement to update the 2012 Western Solar Plan was published in early 2024 and is currently in the public comment process (BLM 2024a); however, the existing 2012 Western Solar Plan will remain in effect until a record of decision for the update is signed.

1.4.3.1.4 Designated Utility Corridors

Portions of the proposed generation and storage facility and gen-tie alignments are located within BLM-designated local and Section 368 utility corridors adjacent to existing transmission infrastructure (see Figures 1 and 2; see Table 2). Both types of corridor designations are intended to encourage the co-location of linear infrastructure, such as transmission lines, and expedite BLM ROW grant applications within these areas. The locally designated corridors (Amargosa–Roach and U.S. 95–Crater Flat) were designated in the Las Vegas RMP (BLM 1998), and the Section 368 Energy ROW Corridor (18-224: Carson City to Las Vegas Corridor), also known as a "west-wide" energy corridor, was designated in 2009 as part of the *Approved Resource Management Plan Amendments/Record of Decision for Designation of Energy Corridors on Bureau of Land Management Administered Lands in the 11 Western States* (BLM 2009). The Project will be evaluated in accordance with the RMPs and other BLM management directives applicable to the designated utility corridors, including BLM IM 2014-080, which provides policy guidance for the use of designated Section 368 corridors (BLM 2014). The Project may require an amendment to the Las Vegas RMP to permit the siting of the generation and storage facility's components within areas currently designated as utility corridors and rerouting of the Amargosa–Roach and U.S. 95–Crater Flat utility corridors around the Project site.

1.4.3.1.5 Visual Resource Management Objectives

The visual resource management (VRM) objectives contained within the Las Vegas and Tonopah RMPs are unique to each plan as presented below.

The Las Vegas RMP (BLM 1998) designates the lands within the proposed generation and storage facility and gen-tie ROWs as VRM Class III and Class IV as described below.

> VRM Class III, VS-1-b: In these areas, authorized actions may alter the existing landscape, but not to the extent that they attract or focus attention of the casual viewer. (BLM 1998:3)
>
> VRM Class IV, VS -1-c: Authorized actions may create significant landscape alterations and would be obvious to casual viewers. (BLM 1998:3)

The Tonopah RMP (BLM 1997) designates the Project site that overlaps the proposed Beatty gen-tie ROW as VRM Class IV as described below.

> VRM Class IV: Contrasts may attract attention and be a dominant feature of the landscape in terms of scale; however, the change should repeat the basic elements (form, line, color, texture) inherent in the characteristic landscape. (BLM 1997:6)

1.4.3.2 LAND USE PLAN CONFORMANCE

The BLM will evaluate the Project for conformance with the Las Vegas and Tonopah RMPs, as amended. A proposed action is in conformance with a BLM RMP when it is consistent with the terms, conditions, and decisions of the approved plan (43 Code of Federal Regulations [CFR] 1601.0-5(b)). When a proposed action is not in conformance with an existing RMP, an amendment may be required (see Section 1.7.1 for further discussion).

Concerning visual resources, the Project is expected to meet the management directives that apply to VRM Class IV in both RMPs. As proposed, the Project will not require an amendment to the Tonopah RMP. However, the final Project configuration, when evaluated through the BLM's visual contrast rating process (described in BLM 1986a), could result in the Project being out of conformance with the management direction from the Las Vegas RMP for the designated VRM Class III areas. Specifically, in areas where the Project's generation and storage facility or gen-tie will "attract or focus attention of the casual observer" and existing modifications in the landscape are not readily visible.

The Las Vegas RMP may also require an amendment related to the locally designated utility corridors. A portion of the Project's generation and storage facility overlaps segments of the Amargosa–Roach and U.S. 95–Crater Flat corridors. Because these designated corridors are intended for use by linear infrastructure, they may need to be re-routed through the amendment process.

A land use plan amendment is not anticipated to be needed to address the Amargosa and Beatty gen-tie overlap with the Section 368 (18-224) and U.S. 95–Crater Flat utility corridors with the Big Dune Special Recreation Management Area (SRMA) and U.S. 95–Crater Flat overlap with the Big Dune Area of Critical Environmental Concern (ACEC). These designated utility corridors are sufficiently wide for a new Project-related gen-tie to avoid the two BLM special designation areas.

1.5 Project Components

This section describes the typical characteristics of the Project components, which consist of the following (Figure 3):

- up to 1,600-MW commercial solar PV facility consisting of PV panels arranged in arrays and mounted on single-axis trackers
- up to 1,600-MW BESS

- 230- or 500-kV gen-tie(s) extending from the on-site substation to the selected interconnection facility (more than one gen-tie may be required)
- 34.5-kV medium-voltage electrical collection system consisting of collection lines and inverters/transformers
- on-site substation
- off-site interconnection switchyard
- O&M facility consisting of an O&M building, parking area, and exterior storage area
- access roads (including existing roads, improved roads, and new roads)
- distribution line and/or generator for construction and backup power
- communication lines and a microwave tower or IT telecom circuit/Hoffman box for communication purposes
- ancillary facilities consisting of site security and fencing, gates, lighting, and signage
- on-site aboveground water storage tanks
- solar meteorological station(s)

The following temporary Project features will also be required for construction:

- construction laydown areas
- cable pulling and tensioning sites
- structure work areas
- temporary access roads

The Project will result in both temporary disturbance (which will be reclaimed immediately following construction) and permanent disturbance areas (which will remain disturbed until decommissioning and final reclamation). Table 3 lists the approximate temporary and permanent disturbance associated with each Project component. These estimates are based on the option(s) that will result in the most disturbance and will be updated in future versions of the POD, following further development, analysis, and design of the Project. At this point in time, design for the necessary Project components is not available and accurate estimates cannot yet be achieved. Future iterations of this POD will include disturbance calculations based on necessary design features.

Project components are described in detail in the sections below.

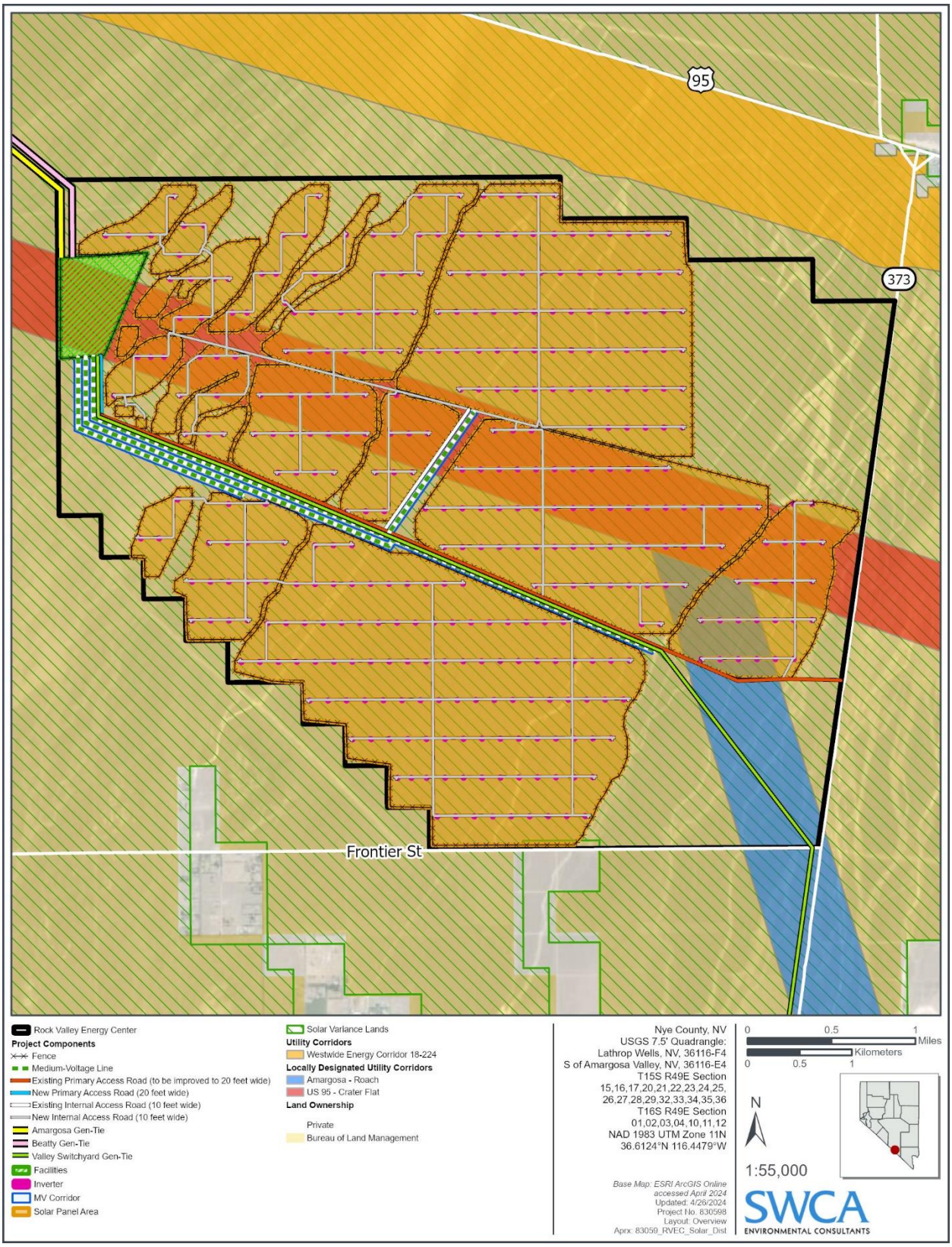

Figure 3. Rock Valley Energy Center preliminary site layout.

Table 3. Estimated Project Disturbance

Project Component	Project Totals*
Solar facility	
Solar arrays	6,551.1 acres
34.5-kV primary collection lines	253.1 acres
34.5-kV collection lines to inverters	TBD
BESS, on-site substation, and O&M facility	149.5 acres
Inverters (7 × 22 feet)	1.2 acres
Existing primary access road (to be improved to 20 feet wide)	4.7 miles/11.4 acres
New primary access roads (20 feet wide)	0.4 mile/0.9 acre
Existing internal access roads (10 feet wide)	0.9 mile/1.1 acres
New internal access roads (10 feet wide)	56.0 miles/67.7 acres
Distribution line	TBD
Solar meteorological station(s)	0.01 acre/station
Laydown yards	36 acres
Security fencing	55.2 miles
Temporary fencing	TBD
Gen-tie	
Gen-tie structures and work areas	TBD
Spur roads	TBD
Pulling and tensioning/splicing sites	TBD
Laydown yards	TBD
Interconnection facilities	TBD
Total	TBD

* Includes temporary and permanent disturbance; updated calculations will be provided in future versions of this POD.
TBD = to be determined

1.5.1 Solar Facility

The solar facility will include an up to 1,600-MW nameplate capacity solar PV array, up to 1,600-MW BESS, on-site substation, O&M facility, internal access roads, and other ancillary facilities, all of which will be enclosed by a perimeter security fence. The solar facility will be sited on land identified as Parcel 1 in the BLM competitive auction (see Figures 1 and 2).

1.5.1.1 SOLAR ARRAY

The Project will use state-of-the-art solar PV technology that converts the sun's light energy into direct current (DC) electrical energy within the solar PV panels/modules (referred to interchangeably in this POD). The PV modules can be mounted together in different configurations, depending on the equipment selected, and on a common support framework. The PV module rows will be oriented north-south based on the mounting structure design; however, exact module support structure types will be determined during the final Project design.

The modules will be grouped together in solar arrays. The size of the array will be based on the capacity of the equipment selected and is intended to generate the desired overall voltage and current output. Current technology modules are approximately 72.8 pounds (33 kilograms) and 6.5 feet (2 meters) high by 3.25 feet (1 meter) wide (21.125 square feet total) and are installed on a racking system with support piles driven into the ground (see Section 1.5.1.2). The dimensions, size, and weight of each module may differ at the time of installation, depending on the manufacturer and available technology. Options for both a tracker that uses one module in portrait format or two modules in portrait exist, with the latter being favored if bifacial PV modules are used.

Trimming of vegetation to no shorter than 12 to 18 inches may be used in areas where vegetation has the potential to impede proper functioning of PV modules. In some cases, modules may be designed as high as 11 to 16 feet from ground level; however, design at this height will be limited to the greatest extent feasible.

Based on the current conceptual design, each inverter block is intended to produce a net power output of approximately 4 MW (as AC). The overall capacity of the conceptual Project design is achieved with sufficient AC inverter blocks to deliver up to 1,600 MW at the point of interconnection. Currently, the Applicant estimates that approximately 3,668,600 PV modules will be required to generate this level of solar energy. The exact number of modules may fluctuate as it can only be determined once modules are procured. Because solar energy technologies continue to evolve at a rapid rate, the exact arrangement and nature of the PV systems will be determined during the final design, and appropriate updates will be made to this POD prior to construction.

1.5.1.2 SOLAR TRACKERS AND/OR FIXED SUPPORT STRUCTURES

The completed assembly of PV modules mounted on a framework structure is called a “tracker,” as it tracks the sun from east to west. A solar tracking mechanism is used to maximize solar energy conversion by keeping the modules perpendicular to the solar radiation throughout the day.

Two types of single-axis tracker systems are being considered: a ganged tracker system or a standalone tracker system. A ganged tracker system uses one actuator to control multiple rows of PV modules through a series of mechanical linkages and/or gearboxes. A standalone tracker system uses a single actuator for each row of PV modules. The exact tracker manufacturer and model will be determined in the final design. All trackers are intended to function the same in terms of following the position of the sun.

Module layout and spacing will be optimized to balance energy production vs. peak capacity and will depend on the sun’s angle and shading caused by the horizon surrounding the Project. The spacing between the rows of trackers is dependent on site-specific features and tracker selection. Spacing will be identified in the final design, but the current anticipated configuration includes spacing that is approximately 16.5 feet between rows (post to post), which allows 12 feet of clearance for maintenance vehicles and panel access.

1.5.1.3 ELECTRICAL COLLECTION SYSTEM

A system of 34.5-kV medium-voltage collector lines will run between the inverters and the on-site substation. The collector lines will be buried in trenches where feasible. Where underground collector lines cannot be installed due to terrain or geotechnical conditions, collector lines will be installed overhead on a series of wooden pole structures. The wooden pole structures for the overhead collection lines will be approximately 50 feet tall; spans between pole structures will be approximately 100 to 200 feet.

The electrical collection system will convert the output power from the PV modules from DC to AC, transform the power from low voltage to transmission-level voltage for connection to the grid, and supply auxiliary power to the tracker systems. The DC output from the PV arrays will be transmitted to inverters through a combination of aboveground and underground DC electrical cables. Aboveground 1,500-volt string wiring will run along the backside of the panels, and aboveground 1,500-volt DC collection wiring will run along the sides of array roads before extending underground to the inverters.

The inverter stations are typically open air and well suited for arid environments. The stations consist of DC collection equipment, utility-scale inverters, and a low- to medium-voltage transformer. The number of modules connected to each inverter is dependent on the specific model of modules, inverters, and their capacities, which will be selected in the final design.

1.5.1.4 ON-SITE SUBSTATION

The on-site substation will step up the electricity generated by the solar array to a voltage necessary to transmit the electricity through the transmission grid. The on-site substation will be up to 60 feet high and sited within an approximately 150-acre area, which will include the BESS if an AC-coupled system is selected (see Section 1.5.1.5) and will consist of parallel sets of internal power distribution systems (e.g., buses and circuit breakers, disconnect switches, and multiple step-up transformers). The on-site substation will include an unoccupied control house, which will be designed and constructed consistent with applicable state and local building codes.

A distribution line to the on-site substation may be needed to provide construction power and backup power to the solar and energy storage facilities for lighting and communications purposes. Alternatively, generators, or other means of internally generated power, may be used to provide construction and backup power. A microwave tower may also be used for communications purposes.

1.5.1.5 BATTERY ENERGY STORAGE SYSTEM

The BESS is designed to convert electrical energy to chemical energy, and vice versa. The BESS will have an output capacity no greater than that of the solar facility (up to 1,600 MW) and will be designed to store up to 4 hours of energy for later release during periods of peak demand. The batteries in the BESS will be grouped together into modules and then grouped into sub-assemblies of vertical racks (also called packs or cabinets). The racks are then strung together in strings within an enclosure (container) to form an energy storage system. The BESS will be connected using either an AC- or DC-coupled system. The system election is ultimately determined through off-taker preference and contract terms.

If an AC-coupled system is selected, the BESS enclosures will be grouped together at a single site adjacent to the on-site substation. Each enclosure for the AC-coupled system will be approximately 40 feet long × 8 feet wide × 24 feet high and mounted on a concrete pad or on piles/piers. If a DC-coupled system is selected, smaller BESS enclosures will be installed adjacent to each of the solar array inverters (see Section 1.5.1.1). Each enclosure for the DC-coupled system will be similar in size to the solar array inverter stations (20–40 feet long × 13 feet high) and will be mounted on skids or pads made of compacted gravel or concrete.

Each BESS enclosure will have a fire rating in conformance with local fire authority and state standards. The Project's fire protection design will comply with Section 1206 Electrical Energy Storage Systems, which adopts the National Fire Protection Association's Standard for the Installation of Stationary Energy Storage Systems (NFPA 855). It is the Applicant's intent that Underwriters Laboratories (UL), an independent engineer's test method, will certify that the batteries used in this Project are manufactured in accordance with UL 9540A, the Standard Test Method for Evaluating Thermal Runaway Fire Propagation

in Battery Energy Storage Systems. UL independently tests equipment for compliance with the latest fire safety code requirements. This test method was developed to minimize the risk of thermal runaway to address safety concerns about battery storage equipment raised by fire departments and building officials in the United States. Compliance with these standards and certification includes a battery management system that detects high temperatures at the battery cell or battery module level and automatically shuts down the battery rack. Furthermore, installation of battery units will follow manufacturer specifications for the spacing of batteries and clearance distances to further prevent a thermal runaway event. Each unit will also be equipped with thermal management systems to regulate the temperature of the batteries. The cabinets housing batteries are designed with adequate ventilation and will also be equipped with carbon monoxide detection that will be remotely monitored. Power to the thermal management system and lighting will be provided via a connection to the on-site substation.

The battery supplier(s) will be selected prior to Project construction subject to market conditions and an industry-standard pre-qualification process.

1.5.1.6 OPERATIONS AND MAINTENANCE FACILITY

The O&M facility will be located along a main access road within the solar facility. The O&M facility will include an O&M building, which will be a single-story, metal building containing administrative offices, a break room, restrooms, a control room, a maintenance area, and a storage area. Power for the O&M facility will be provided via a distribution line extended from the on-site substation. The O&M facility will also include a gravel parking area and exterior storage area. Buildings will be painted using a color selected from the BLM's standard environmental color tool in coordination with the BLM.

1.5.1.7 ACCESS ROADS

A preliminary layout of existing and proposed access roads is shown in Figure 3. Three types of access roads are proposed for the Project: primary, internal, and gen-tie. All three types will be used for construction of the Project facilities. After Project construction, these access roads are expected to be used by maintenance crews and vehicles for inspection and maintenance purposes. Culverts or other drainage structures may be installed if necessary to move heavy equipment across drainages. Table 3 summarizes the estimated mileage and acreage of existing and new access road types proposed for the Project's generation and storage facility. Mileage estimates for existing and new roads associated with the gen-tie will be provided as the Project design is further refined. Existing roads will also be used to the greatest extent practicable for gen-tie access. Descriptions of the typical access road types for the Project site are provided below, and access roads for the gen-tie are discussed in Section 1.5.2.2.

1.5.1.7.1 Primary Access Roads

The Project site is located southwest of the intersection of U.S. 95 and SR 373 (see Figure 2). The Project's primary access road will intersect SR 373 and lead to the Project entrance gate. The primary access road will be approximately 20 feet wide and constructed of compacted soil. Gravel aggregate may also be used if needed to meet bearing capacity for construction, and in rare circumstances, such as an O&M facility, paving may be used.

1.5.1.7.2 Internal Access Roads

The secondary access roads will be located within the Project site and used to access the solar arrays, tracking systems, power collection systems, on-site substation, BESS, and O&M facility. The secondary access roads will be approximately 10 feet wide and constructed of compacted soil and/or gravel aggregate. All secondary access roads will be new construction. The five existing BLM roads (926339,

926567, 927527, 927531, and 927554) that traverse through the Project site will be closed and used to site solar arrays. They will not be used as secondary access roads.

1.5.1.8 SOLAR METEOROLOGICAL STATIONS

One solar meteorological station will be installed within the Project site prior to construction to gather data on wind speed and direction, ambient temperature, relative humidity, precipitation, and solar radiation. The solar meteorological station will also be used for solar energy resource assessment, solar power system monitoring, metering and evaluation, and atmospheric physics to quantify irradiative energy transfers in global energy balance research. The Applicant will prepare a separate SF-299 and POD as the station will need to be installed and operating prior to finalizing site plans for the solar facility. Additional solar meteorological station(s) may be required and installed for O&M.

1.5.1.9 ANCILLARY FACILITIES

Laydown yards, site security and fencing, lighting, and signage will be required to support the construction and O&M of the solar facility. These ancillary facilities are described below.

1.5.1.9.1 Laydown Yards

Temporary construction laydown yards will be established within the fenced solar facility during construction. These laydown yards will include a parking area for construction and personal vehicles, storage area for construction equipment and materials, covered trash disposal facilities, construction trailers, and sufficient portable toilets and potable water for use by the construction staff. Mobile trailers, modular offices, or an equivalent will be used as construction offices for Project and subcontractor personnel. Six laydown yards are anticipated to be needed for the Project and each will be approximately 6 acres for a total of 36 acres. The location of the laydown yards will be provided on the site plan in future versions of the POD.

1.5.1.9.2 Site Security and Fencing

The solar arrays, BESS, and on-site substation will be permanently fenced to restrict public access during construction and operations. Chain-link security fencing will be installed around the site perimeter, on-site substation, and other areas requiring controlled access. The security fence will be approximately 7 feet tall, including approximately 1 foot of barbed wire (three strands) mounted on 45° extension arms. The fence will have a dull galvanized finish to reduce the galvanized steel's potential for glare and contrast with the surrounding landscape. The fence posts will be set in concrete or driven into the ground. In total, approximately 55 miles of fencing will be installed on-site.

Controlled access gates (swing or rolling access design) will be located at all entrances to the facility. Access through the main gate(s) will require an electronic swipe card to prevent unaccompanied visitors from accessing the facility. All facility personnel, contractors, agency personnel, and visitors will be logged into and out of the facility. Visitors and non-employees (except agency personnel on government business) will be allowed entry only with approval from a staff member at the facility. Additional security may be provided through the use of closed-circuit video surveillance cameras and anti-intrusion systems, as required, for protection of the power production facility.

A modified gate design would be installed at all gate locations along the perimeter fencing to prevent Mojave desert tortoise (*Gopherus agassizii*) from entering the Project site. This could include a brush or other stiff lip along the bottom of the fence to prevent tortoises from passing under the gate, or other designs with BLM and U.S. Fish and Wildlife Service (USFWS) approval. To allow for Mojave desert tortoise relocation prior to construction, permanent tortoise exclusion fencing will be installed with

chain-link security fencing around the perimeter of the construction area. For areas where security fencing and permanent tortoise fencing will not be needed, temporary tortoise exclusion fencing will be installed prior to clearances. The combination of permanent and temporary fencing will create a Tortoise Clearance Area from which tortoises will be translocated.

1.5.1.9.3 Lighting

Permanent, low-elevation (less than 14 feet) controlled security lighting will be installed at access gates, the on-site substation, and the entrance to the BESS enclosures. Some portable lighting may also be required for maintenance activities that must be performed at night. Lighting will be kept to a minimum required for safety and security. Sensors, switches, and timers will be used to keep lighting turned off when not required, and all lights will be hooded and directed downward to minimize backscatter and off-site light. Lighting will be attached to structural supports where possible or affixed to ground-mounted poles that are approximately 15 to 20 feet high. The Applicant will prepare a lighting plan for the Project. The plan will incorporate best management practices (BMPs) described in Technical Note 457, *Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands* (BLM 2023b), which provides technical guidance on practical methods for reducing the impacts from artificial outdoor lighting associated with proposed projects or activities.

1.5.1.9.4 Signage

A sign will be installed at the site's main entry to the Project. The sign will be no larger than 8 × 4 feet and will read "Rock Valley Energy Center." In addition, required safety signs will be installed on the fence near the entrance, identifying high voltage within the facility and providing information for emergency services.

1.5.2 Generation Tie-in Transmission Line

1.5.2.1 INTERCONNECTION FACILITIES

The Applicant is evaluating three potential gen-tie alternatives for interconnection (mileage shown is from the Project site boundary to the interconnection facility): a 22.5-mile 230-kV gen-tie to the proposed Beatty Substation, an 8.5-mile 500-kV gen-tie to the proposed Amargosa Substation, and/or a 4.2-mile 230-kV gen-tie to the proposed Valley Switchyard. The proposed permanent ROW width for the transmission line corridors is 100 feet for the Beatty and Valley Switchyard 230-kV gen-tie alternatives and 200 feet for the Amargosa 500-kV gen-tie alternative. One or more gen-ties will be required and the gen-tie(s) will be constructed for the nominal operating voltage of the selected substation.

Monopole, H-frame, and/or lattice structures will be used depending on Project needs and resource requirements. The 500-kV transmission towers will be up to 90 feet tall whereas the 230-kV transmission towers will be up to 150 feet tall. Final hardware design will be determined during final engineering of the gen-tie.

1.5.2.2 GEN-TIE ACCESS ROADS

Access to the gen-tie ROW and pole structures will be required for construction and long-term maintenance. Existing roads will be used to transport material and equipment to and from the gen-tie ROW and pole structures to the greatest extent practicable. Where pole structures are not adjacent to existing roads, short spur roads will need to be constructed. These spur roads will consist of compacted soil and will be approximately 20 feet wide with 2-foot-wide shoulders on each side (for a total width of 24 feet). Gen-tie access road locations will be provided in the site plan in a future version of the POD.

After Project construction, permanent access roads will be used by maintenance crews and vehicles for inspection and maintenance purposes. Culverts or other drainage structures will be installed only if necessary to move heavy equipment across drainages.

1.5.2.3 STRUCTURE WORK AREAS

Each gen-tie pole structure will require a work area of approximately 209 × 209 feet (1 acre) during construction. Approximately seven pole structures and associated work areas will be needed for each mile of 230-kV gen-tie and approximately seven pole structures and associated work areas will be needed for each mile of 500-kV gen-tie. The structure work areas will be cleared and leveled with heavy equipment to support construction activities. In areas with site constraints (e.g., challenging terrain, sensitive resources), work areas may differ in shape or size to accommodate safe construction methods.

1.5.2.4 PULLING AND TENSIONING SITES

During installation of the gen-tie conductors and optical ground wire (or all-dielectric self-supporting fiber-optic cable), temporary work areas for line pulling and tensioning and mid-span splicing will be established at regular intervals along the gen-tie. The pulling and tensioning sites will be needed at every dead-end structure and at angle structures where the gen-tie alignment turns by more than 3°. Distances between the pulling and tensioning sites may also vary depending on the ROW alignment, terrain, and sensitive resource locations. Each pulling and tensioning site and mid-span splice site will temporarily disturb an area of approximately 250 × 600 feet (3.4 acres). An estimate of between five and 10 pulling and tensioning sites will be needed, depending on which gen-tie alternative is selected. The pulling and tensioning sites will be cleared of all vegetation and graded to be relatively level, as needed for safe construction. The proposed location of pulling and tensioning sites along the gen-tie route will be provided in future versions of this POD.

1.5.2.5 LAYDOWN YARDS

Temporary laydown yards similar to those described in Section 1.5.1.9.1 will be needed during construction of the gen-tie. The proposed location of laydown yards along the gen-tie route will be provided in future versions of this POD.

1.5.3 Geotechnical Studies

A geotechnical analysis will be conducted to evaluate the suitability of soils and geology for engineering design and Project layout. Geotechnical investigations will be performed to identify subsurface conditions, which will dictate much of the design specifications of underground trenching, pile structure and specifications, and electrical grounding systems. Testing also will be completed to measure the soil's electrical properties to ensure the grounding system is properly designed. The specific geotechnical testing locations will be determined closer to final Project engineering design.

These investigations will need to be conducted prior to receiving the notice to proceed for this Project. Accordingly, the Applicant will file a separate SF-299 and POD for preconstruction studies. If additional information is warranted, the Applicant may also conduct geotechnical investigations after the ROW has been granted.

1.5.4 Water

Up to 420 acre-feet of water per year will be required for construction activities to support site preparation, grading, and dust suppression. During earthwork for the grading of access roads, foundations, equipment

pads, and Project components, the main use of water will be for compaction and dust control. Smaller quantities of water will be required to prepare the concrete required for foundations and other minor uses. Subsequent to earthwork activities, water usage will be in support of dust suppression and normal construction water requirements that are associated with construction of the O&M facility, on-site substation, access roads, and solar arrays.

The Applicant has secured a water rights option to lease 500 acre-feet per year of groundwater from Basin 230 (Amargosa Desert). Water will be trucked to the site from an existing point of diversion approximately 5 miles from the Project and stored in aboveground tanks with a storage capacity of up to 250,000 gallons. The tanks may be filled on a daily basis, or as needed, during the construction period. Estimated water requirements for construction and operations (Table 4) will be provided in future versions of this POD.

Table 4. Estimated Water Requirements

Water Consumption Requirements	Approximate Consumption during Construction	Approximate Consumption during Operation
Daily (gallons/day)	375,000	TBD
Annual (acre-feet/year)	420	TBD

TBD = to be determined

1.5.5 Wastewater

Wastewater will be generated during Project construction and operations. A septic system will be installed or a sanitary disposal service will be contracted to collect and transport the waste to a licensed disposal facility. As the Project will require only a few personnel during operations, the Applicant does not envision the need for a permanent wastewater facility.

1.5.6 Erosion Control and Stormwater Drainage

Prior to construction, the Applicant will obtain coverage under a Nevada Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP). As part of this POD, the Applicant will also develop a framework stormwater pollution prevention plan (SWPPP). The SWPPP will identify potential sources of pollution that may be reasonably expected to affect the quality of stormwater discharges from construction of the Project. The SWPPP will describe BMPs to reduce the pollutants in stormwater discharges associated with construction activities and implementation methods. Erosion control methods may include construction of water diversion structures and site-specific applications of BMPs to control surface water runoff across disturbed areas as suggested by the Nevada Division of Environmental Protection (NDEP) and in compliance with the NPDES CGP.

1.5.7 Vegetation Treatment and Weed Management

The Applicant will develop a weed management plan and a restoration and decommissioning plan in coordination with the BLM Southern Nevada District Office's current templates. Infestations of nonnative and invasive species, if present, will be treated in accordance with the weed management plan. Only BLM-approved herbicides will be used within the Project site on lands administered by the BLM. Any use of specific herbicides will be outlined in the weed management plan and approved by the BLM through a Pesticide Use Proposal in the pesticide management plan.

1.5.8 Waste and Hazardous Materials Management

Project wastes will include nonhazardous solid waste, hazardous solid waste, and hazardous liquid waste. A variety of safety-related plans and programs will be developed and implemented during construction and operations to ensure safe handling, storage, and use of hazardous materials. Plant personnel will be supplied with appropriate personal protective equipment and will be trained in its use and the handling, use, and cleanup of hazardous materials used at the facility, as well as procedures to be followed in the event of a leak or spill. Adequate supplies of appropriate cleanup materials will be stored on-site.

1.5.8.1 SOLID AND NONHAZARDOUS WASTE

Construction, operations, and maintenance of the Project will generate nonhazardous solid wastes typical of power generation or other industrial facilities. The wastes that are produced will include oily rags, worn or broken metal and machine parts, defective or broken electrical materials, other scrap metal and plastic, insulation material, empty containers, paper, glass, and other miscellaneous solid wastes, including the typical refuse generated by workers. These materials will be disposed by means of contracted refuse collection and recycling services. Waste collection and disposal will be in accordance with applicable regulatory requirements to minimize health and safety effects. Food waste will be disposed of in closed containers to prevent attracting predatory species to the area.

1.5.8.2 HAZARDOUS CHEMICALS

A variety of hazardous materials will be used and stored during Project construction. During Project operations, hazardous materials will be used but will not be stored on-site. A hazardous materials management plan and a spill prevention, control, and countermeasures (SPCC) plan will be developed and implemented in accordance with all federal and state requirements. Hazardous materials that will be used during construction include gasoline, diesel fuel, oil, lubricants, and small quantities of solvents and paints. During construction, all hazardous materials will be stored on-site in storage tanks or vessels/containers that are specifically designed for the characteristics of the materials to be stored. The storage facilities will include secondary containment in case of tank/vessel failure.

1.5.8.3 HAZARDOUS SOLID AND LIQUID WASTE

Small quantities of hazardous wastes will be generated during Project construction and operations. Hazardous wastes generated during the construction phase will include substances such as paint and primer, thinners, and solvents. Hazardous solid and liquid waste streams generated during operations include substances such as used hydraulic fluids, oils, greases, filters, etc., as well as spent cleaning solutions and spent batteries. A hazardous materials management plan and an SPCC plan will be developed and implemented in accordance with all federal and state requirements prior to the start of construction.

1.5.9 Fire Protection

The Applicant will prepare and implement a fire prevention plan to address appropriate safety and fire prevention measures. The plan will describe water sources, water delivery methods, and other design features and protocols for fire suppression, fire emergency preparedness, emergency notification, and follow-up procedures to address BLM fire guidelines. The fire prevention plan will also describe general measures (such as carrying fire extinguishers and shovels) that will be implemented to reduce fire risk. A perimeter fire break may also be implemented as a fire protection strategy.

1.5.10 Health and Safety Program

The Applicant will develop a health and safety program to protect workers and the general public. The health and safety program will be implemented during construction and operations and will include written safety programs and procedures, a hearing conservation program, a respiratory protection program, fall protection procedures, hot work procedures, heavy equipment procedures, and others. An emergency response plan will be developed as part of the program to provide instructions concerning the responsibilities and actions to be taken in the event of an emergency during Project construction and operations.

1.6 Alternatives Considered by the Applicant

The Applicant acquired the rights to be the preferred ROW applicant for solar PV energy development on the Project site (Parcel 1) through a competitive auction hosted by the BLM on June 27, 2023 (BLM 2023a). Accordingly, alternative sites for the generation and storage facility are not proposed as part of this application.

Three alternative interconnection options (proposed Beatty Substation, proposed Amargosa Substation, and proposed Valley Switchyard) and associated gen-ties are currently being considered as part of this application (see Figures 1 and 2). These gen-tie alternatives will be discussed with the BLM as part of the National Environmental Policy Act (NEPA) process.

1.7 Federal, State, and Local Agency Permit Requirements

Because the Project is located on federal land managed by the BLM, the agency has responsibility to decide whether to grant a ROW. The BLM's decision is subject to the NEPA environmental review process and other federal regulations. The Applicant has submitted a ROW application to the BLM (SF-299 – Application for Transportation and Utility Systems and Facilities on Federal Land) to initiate the preliminary procedures associated with the NEPA process. A draft Variance Factors Analysis Report is being submitted concurrent with this revised POD. Coordination with other federal, state, and local agencies will also be required as part of this process. Table 5 lists potential permits, authorizations, and approvals that may apply to the Project. Additional permits and authorizations may be identified as the Project progresses.

Table 5. Summary of Potential Permits Required

Authorization	Agency or Authority	Statutory Reference	Permit or Authorization Trigger
Federal			
ROW for Land under Federal Public Land Management	BLM	Federal Land Policy and Management Act of 1976 (PL 94-579; 43 USC 1761–1771; 43 CFR 2800)	Federal land, federal permit, federal funding (i.e., federal nexus).
Short-Term ROW (Temporary Use Permit)	BLM	Federal Land Policy and Management Act of 1976 (PL 94-579; 43 USC 1761–1771; 43 CFR 2800)	Preconstruction and construction activities on BLM-administered land.

Authorization	Agency or Authority	Statutory Reference	Permit or Authorization Trigger
NEPA compliance to process ROW application	BLM	NEPA (PL 91-190, 42 USC 4321−4347, January 1, 1970, as amended by PL 94-52, July 3, 1975; PL 94-83, August 9, 1975; and PL 97-258, 4(b), September 13, 1982)	Federal nexus.
Endangered Species Act (ESA)	USFWS	ESA (PL 93-205, as amended by PL 100-478 [16 USC 1531, et seq.])	Section 7 ESA triggered by USFWS determination that federal action may affect an ESA-listed species.
Migratory Bird Treaty Act	USFWS	16 USC 703–711; 50 CFR Subchapter B	Potential take of migratory birds.
Clean Water Act (CWA), Section 404	U.S. Army Corps of Engineers (USACE)	33 USC 1344	Placement of dredged or fill materials in waters of the United States (WOTUS) (e.g., wetlands, ponds, and streams) requires a federal permit. A preliminary review of site conditions indicates WOTUS may be present; a jurisdictional delineation survey is needed to confirm. If the Project will impact WOTUS, a Section 404 permit will be required.
National Historic Preservation Act (NHPA) compliance	Nevada State Historic Preservation Office (SHPO)	NHPA 106 (PL 89-665; 16 USC 470 et seq.)	Federal nexus.
No hazard declaration	Federal Aviation Administration (Military Aviation and Installation Siting Clearinghouse, see below)	49 USC 1501; 14 CFR 77; 49 USC 44718	Required if structures are more than 200 feet tall in designated air traffic areas.
Determination regarding potential impact to military overflights and operations	Department of Defense (DoD)	DoD	DoD clearance determination through Clearinghouse process.
State			
NHPA 106 determination of effect concurrence	Nevada SHPO	16 USC 470 et seq., NRS 383	Federal nexus or human remains are discovered.
Utilities Environmental Protection Act – permit to construct	Public Utilities Commission of Nevada	NRS 704.865, Nevada Administrative Code (NAC) 704.9063, NAC 704.9359–704.9361	Greater than 70-MW renewable energy facility or a 200-kV transmission line.
Rare and endangered plant permit	Nevada Division of Forestry	NRS 527.260–527.300	Removal of critically endangered plants.
Desert tortoise and Gila monster handling permit	Nevada Department of Wildlife	NAC 503.093	Handling of protected wildlife.
Incidental take permit	Nevada Department of Wildlife	NRS 503.584–503.589	Capture, removal, or destruction of a fully protected species.
Air quality operating permit	NDEP, Bureau of Air Pollution Control	NRS 445B.100 through 445B.640, NAC 445B.001 through 445B.3689	Operating Permit Class I, II, or III (depending on potential to emit).

Authorization	Agency or Authority	Statutory Reference	Permit or Authorization Trigger
CWA, Section 401 Water Quality Certification	NDEP, Bureau of Water Quality Planning	33 USC 1341	Activities requiring a Section 404 permit from the USACE (i.e., discharge into a WOTUS). NDEP requires a pre-filing meeting to initiate the mandatory 30-day wait period prior to submitting a certification request.
CWA, Section 402 National Pollutant Discharge Elimination System Notification for Stormwater Management during Construction	NDEP, Bureau of Water Pollution Control	33 USC 1342	Construction activities larger than 1 acre that will discharge stormwater runoff from the construction site into a municipal separate stormwater sewer system or into WOTUS.
Groundwater discharge permit	NDEP, Bureau of Water Pollution Control	NRS 445A.300−730, NAC 445A.070−348, NAC 445A.810−925	Discharge of groundwater from construction sites into WOTUS.
Permit to appropriate the public waters of the State of Nevada	Nevada State Engineer	NRS 533	Water right for a new groundwater well and change in beneficial use.
General permit to operate a septic system	NDEP, Bureau of Water Pollution Control	NRS 445A, NAC 445A	On-site sewage disposal system, if needed.
Hazardous waste management permit	NDEP, Bureau of Waste Management	NRS 459.400 through 459.600	Management of hazardous waste.
Hazardous materials permit	State Fire Marshal	NAC 477.323, NAC 477.325	Permit to store, use, or manufacture hazardous materials at a facility.
Hazardous materials transportation permit	Nevada Department of Transportation (NDOT)	NRS 459.400 through 459.600	Transporting hazardous materials.
ROW occupancy permit	NDOT	NRS 408.423, 408.210, NAC 408	Construction within an NDOT ROW (U.S. 95).
Over legal size/load permit	NDOT	NRS 484.437−775, NAC 484.300−580	Exceed 80,000 pounds gross weight; or Exceed 8 feet, 6 inches in width; or Exceed 14 feet in height; or Exceed 10 feet of front or rear overhang; or Exceed 70 feet in length.
Uniform permit (for transportation of hazardous materials)	Nevada Department of Public Safety	NAC 459.979	Transportation of hazardous materials in a vehicle on a public highway.

1.7.1 Bureau of Land Management Land Use Plan Amendment

As discussed in Section 1.4.3.2, one or more amendments to the Las Vegas RMP may be required. An amendment may be needed if the BLM determines that the Project could result in potential impacts to visual resources that conflict with the management direction for VRM Class III. A second plan amendment may be required to re-route and/or redesignate segments of the Amargosa–Roach and

U.S. 95–Crater Flat utility corridors that are currently located within the boundaries of the proposed generation and storage facility.

The land use plan amendment process follows BLM planning regulations (including the agency's *Land Use Planning Manual* [MS-1601] and *Land Use Planning Handbook* [H-1601-1]) and requires a NEPA environmental review. The BLM may use a single land use planning/NEPA process to make both land use plan and implementation decisions if both decisions are adequately addressed with the appropriate level of NEPA analysis (BLM 2005).

1.8 Financial and Technical Capability of Applicant

Boulevard Associates, LLC, is a subsidiary of NEER. NEER owns, develops, constructs, manages, and operates primarily domestic electric-generating facilities that sell power into the wholesale energy markets. NEER is an operator and owner of over 27,400 MW of energy facilities in North America as of 2022, including Mountain View Solar (20 MW) and Silver State South Solar (250 MW) in Clark County, Nevada. NEER recently completed the 200-MW Dodge Flat Solar and 100-MW Fish Springs Solar projects in Washoe County, Nevada. Additionally, NEER is completing construction of the Yellow Pine Solar Project and has submitted ROW grant applications to the BLM for the Dry Lake East Energy Center, both located in Clark County, Nevada.

2 CONSTRUCTION OF FACILITIES

This section describes the construction schedule and process. The Project will be designed in accordance with the latest edition of the International Building Code, state and local requirements, and applicable wind and seismic criteria for the Project location.

2.1 Construction Schedule

Project construction will consist of up to three phases. The expected construction duration is 60 to 72 months. The general sequence of construction stages will include mobilization and staging; site preparation; mechanical, electrical, and substation installation; solar array and BESS construction (posts, racking, modules, combiner boxes, and inverters); overhead gen-tie construction; commissioning (electrical testing and energization); demobilization of equipment and staging areas; and site reclamation. A preliminary construction schedule is provided in Table 6.

Table 6. Project Construction Schedule

Stage of Construction	Dates/Time Frames	Comments
Mobilization and staging	Winter 2027	N/A
Site preparation	Winter 2027 through spring 2028	N/A
Substation installation	Spring/summer 2028	Typically begins at the same time as array construction (i.e., immediately following site preparation) and takes 3 to 4 months.
Solar array and BESS construction	Spring/summer 2028	Includes installation of posts, racking, modules, combiner boxes, and inverters.
Gen-tie construction	Spring 2028	
Commissioning	Summer/fall 2029	Includes electrical testing and energization.

Stage of Construction	Dates/Time Frames	Comments
Commercial operation date	12/1/2029	
Demobilization	Winter 2029	Approximately 1 to 2 months after commercial operation date.
Site reclamation	Winter 2029 through winter 2034	Actual end date to be determined in coordination with the BLM and identified in the Project reclamation plan.

2.2 Construction Access and Transportation

U.S. 95 and SR 373, which are managed by the Nevada Department of Transportation, will provide the main transportation routes for construction materials, equipment, and workers to the Project site (see Figure 2; see Section 1.5.1.7.1). Frontier Road, administered by Nye County, and BLM Road 927515 are south and west of the Project, respectively. The primary access road is proposed to intersect SR 373.

At the peak of construction, construction workers will be driving to and from the Project site each day during the typical a.m. and p.m. peak hours. In addition, although most workers are expected to arrive and depart during these peak hours, specialty workers are expected to arrive on-site during non-peak hours. On-site residential areas for construction workers will not be provided, so the workforce will be expected to commute to the Project site from Las Vegas or nearby communities in personal or company vehicles and park in construction laydown yards.

In addition to personal commuting vehicles, trucks will also be needed to deliver construction materials and equipment. In accordance with BLM requirements, the Applicant will implement a posted speed limit on Project access roads for safety and dust control. Delivery vehicles will be directed to the temporary construction laydown yards or active construction sites. Vehicles not needed for installation of Project components will be staged at the laydown yards until the end of the workday.

A traffic management plan will be developed and included in future versions of this POD. The plan will include vehicle estimates for workers and construction vehicles. Traffic management procedures will be designed to minimize potential hazards from increased truck traffic and worker traffic and to minimize impacts to traffic flow in the vicinity of the Project.

2.3 Construction Workforce and Equipment

The general contractor will be responsible for hiring subcontractors, including local workers, when possible, for surveying, clearing and grubbing, trucking, water supply, and general labor. The Project is estimated to require an average on-site construction workforce of 100 to 200 workers. During peak periods of construction, approximately 300 to 400 daily workers will be needed.

Construction will generally occur between 5 a.m. and 5 p.m., up to 7 days per week. Additional hours may be necessary to make up schedule deficiencies or to complete critical or ancillary construction activities, including night work. Hot weather may require alternative start and stop times. During the start-up phase, and for some work during the production phase, some construction activities (such as transformer oil filling/processing, equipment and system testing, etc.) may continue 24 hours per day, 7 days per week. All work activities will comply with all applicable Nevada labor laws.

A summary of the anticipated equipment needs for Project construction activities is provided in Table 7.

Table 7. Anticipated Construction Equipment

Equipment	Construction Activities
Bulldozers, tractors, pan scrapers, and excavators	Clearing, grading, excavating, and moving soil
Graders	Road and pad construction
Water trucks	Compaction, erosion, and dust control
Rollers and compactors	Road and pad construction
Trenchers and backhoes	Digging trenches for underground utilities and backfill
Truck-mounted drill rig	Drilling pole foundations
Concrete trucks and pumps	Pouring pole and structure foundations
Dump trucks	Hauling road and pad materials
Flatbed trucks	Hauling equipment
Pickup trucks and all-terrain vehicles	Hauling minor equipment and general use
Cranes and forklifts	Lifting and erecting components; framing and erecting poles

2.4 Site Preparation

The sequential steps and methods required to prepare the Project site for construction activities are described below.

2.4.1 Surveying and Staking

Prior to the commencement of construction, a land surveyor will obtain or calculate benchmark data, grades, and alignment from plan information and provide control staking to establish the alignments, benchmarks, and elevations. The detailed design documents will furnish data for the horizontal and vertical control points and horizontal alignments, profiles, and elevations. During construction, the surveyor will reestablish and set additional control points to maintain the horizontal and vertical control points as needed.

2.4.2 Mojave Desert Tortoise Exclusion Fencing

After the Project boundary has been surveyed and staked, permanent and temporary tortoise exclusion fencing will be installed inside the boundary prior to initiating site preparation activities. An approximately 20-foot buffer between the fencing and the boundary perimeter will be established as a temporary work area for fence construction access. Tortoise fencing will include tortoise-proof gates or one-slot guards (as required by the USFWS) with a well-maintained path of escape for Mojave desert tortoises. All tortoise exclusion fencing will be in accordance with USFWS-recommended specifications.

2.4.3 Site Preparation Methods

The Applicant will use a variety of site methods to prepare the site using the least impactful method that meets development, engineering, construction, and safety requirements. Potential methods may include the following:

- **Grading and leveling**: Grading and leveling is a technique that removes vegetation and surface soils, resulting in flat, smooth surfaces devoid of vegetation. This method is used in areas with steep slopes and/or dense vegetation with large, sharp stumps that can damage equipment. It is

also used for preparing surfaces for roads and access ways between solar arrays, electrical equipment pads, and buildings. In some cases, such as inverter and substation foundations, excavation is also used in which surface and subsurface soils are removed to a depth of 12 inches or greater. Grading and related heavy earthwork may also be used to install necessary drainage and flood control systems. Typical equipment used includes bulldozers, scrapers, graders, and excavators. The final value will be dependent on a variety of conditions, including topography, engineering, construction, design criteria, safety, and other site-specific conditions that require further analysis.

- **Overland Travel**: Using this method, vehicles and equipment tires drive over existing vegetation and soils with no other treatment. The final amount of overland travel will depend on a variety of conditions, including topography, engineering, construction, design criteria, safety, and other site-specific conditions that require further analysis.

2.5 Solar Facility

2.5.1 Solar Energy Generation System

Construction of the solar tracker/mounting assemblies may be conducted in a single area. Should this occur, the assemblies will then be transported to the proper location and placed on the pre-installed supports. Alternatively, the solar array assembly may occur at the installation point. Final assembly typically requires the use of tractors and forklifts to place the tracker/mounts onto the support structures. During this work, there will be multiple crews working at the site with vehicles, including special vehicles for transporting the arrays.

The solar tracker/mount installations will be constructed using driven steel posts, screw piles, or possibly concrete foundations if required. Final assembly typically involves small cranes, tractors, welding machines, and forklifts to place the tracker/mounts onto the support structures. During this work, there will be multiple crews working on the site with vehicles, including special vehicles for transporting the arrays.

2.5.2 Electrical Collection System

Within the solar fields, the electrical and instrumentation control wiring will be installed in underground trenches. The wiring will be run to the location of the solar field controls and the circuits will be checked. Electrical distribution system cables for each circuit will be buried in trenches or run aboveground using a cable management system. The trenches typically are 24 to 44 inches wide and 36 to 48 inches deep. In locations where two or more sets of underground lines converge, a deadbreak junction box will be used to tie the lines together into one or more sets of larger feeder conductors. Where underground collector lines cannot be installed due to terrain or geotechnical conditions, collector lines will be installed overhead on a series of wooden pole structures.

2.5.3 On-site Substation

The construction of the on-site substation will begin early in the construction process. Construction of the on-site substation will consist of clearing and grubbing the site and digging trenches in a grid around the switchgear site to install a grounding grid. Steel-copper ground rods will be driven into the ground at key locations and bonded to the ground grid. Heavy foundations and equipment pads will be constructed using trenching machines, compactors, concrete trucks and pumpers, vibrators, forklifts, boom trucks, and large cranes. Circuit breakers, metal-enclosed switchgear, disconnect switches, relays, battery and

charger, surge arrestors, AC and DC supplies, control house, and grounding and associated control wiring will then be installed.

After the equipment is connected, electrical service will be verified, motors checked, and control logic verified. The various hydraulic systems and electrical transformers will be charged with their appropriate fluids and go through individual start-up testing. Once all the individual systems have been tested, the solar facility will be ready to be tested under fully integrated conditions.

2.5.4 Battery Energy Storage System

If a DC-coupled BESS system is used, a shallow foundation will be placed next to as many inverters as are needed to achieve the required battery storage capacity. The battery containers will be delivered directly to the inverter locations and placed on the foundation. The battery containers will then be connected to the inverters by installing DC cables, AC auxiliary power, and fiber optics.

If an AC-coupled BESS system is used, the collector substation area will be expanded to incorporate the additional space required for the battery storage system and additional inverters. The ground will be graded, and level concrete pads will be poured for battery containers. The battery containers will be placed and connected to the grounding grid. Underground conduit will be installed to connect the batteries and inverters to the control house inside the substation.

Site geotechnical conditions permitting, the foundations for the BESS will be an approximately 3-foot-deep gravel foundation or approximately 1-foot-thick rebar reinforced concrete slab, or piles/piers, over approximately 3-foot-deep gravel or engineered fill.

2.5.5 Operations and Maintenance Facility

Construction of the O&M building will include clearing and grading, pouring a concrete slab foundation, and placing the pre-manufactured building on the concrete slab. The area around the O&M building will be graded and covered with compacted dirt or gravel to provide necessary parking and outdoor storage areas. Exterior lighting at the O&M facility will be required for safety; all lighting will be directed downward and shielded to minimize emissions to the night sky. A small distribution line will be extended from the on-site substation to provide power to the O&M facility.

2.5.6 Access Roads

The primary and internal access roads will be cleared using a bulldozer and/or grader, as dictated by site conditions. Where necessary, a 3-inch layer of gravel will be installed, then rollers and compactors will be used to level and compact the travel surface. See Section 1.5.1.7 for a description of access road types.

2.5.7 Solar Meteorological Station

One solar meteorological station will be constructed prior to other facilities in the Project site in an approximately 20 × 20–foot area, equivalent to 0.009 acre. The station will be enclosed within a 6.5-foot-tall chain-link, three-strand barbed-wire-topped fence. Additional stations may be required for O&M.

2.5.8 Generation Tie-in Transmission Line

One or more gen-ties will be required for the Project and will be constructed with crews working continuously along the gen-tie corridor. The sequence of construction activities will typically be as follows:

- Spur road construction
- Clearing and grading of pole sites
- Foundation preparation and installation of poles
- Conductor installation
- Cleanup and site reclamation

2.5.9 Generation Tie-in Transmission Line Spur Roads

Gen-tie spur roads will typically be 24 feet wide with a 20-foot-wide travel surface and will be constructed only where pole structures cannot be accessed by existing roads. The spur roads will be graded and compacted; construction methods will be similar to those described for solar facility access roads and maintenance pathways (see Section 2.5.6)

2.5.10 Generation Tie-in Transmission Line Structures

A temporary work area will be needed to install structure foundations, pole structure assembly, and the necessary crane maneuvers at each gen-tie pole structure. The temporary work areas will be cleared of vegetation and leveled to the minimum extent necessary to facilitate the safe operation of equipment, such as cranes.

2.5.10.1 POLE ERECTION

A vehicle-mounted power auger or backhoe will be used to excavate the structure foundations; drill rigs may be necessary for some foundations. Although not expected, in some instances blasting could be necessary depending on specific geologic conditions. Concrete trucks and pumps will then be used to pour the foundation for each pole structure. Finally, pole structure components and associated hardware will be shipped to each site by truck where they will be fastened together to form a complete structure and hoisted into place by crane.

2.5.10.2 CONDUCTOR INSTALLATION

After the structures are erected, insulators, hardware, and stringing sheaves will be delivered to each structure site. The structures will be rigged with insulator strings and stringing sheaves at each ground wire and conductor position. Pilot lines will be pulled (strung) from structure to structure and threaded through the stringing sheaves at each pole structure. Following the pilot lines, a larger-diameter, stronger line will be attached to the conductors to pull them onto the structures. This process will be repeated until the ground wire or conductor is pulled through all sheaves.

The conductors will be strung using powered pulling equipment at one end. Tensioners and/or pullers, line trucks, wire trailers, and tractors needed for stringing and anchoring ground wire or conductor will be necessary at each pulling site. The tensioner, in concert with the puller, will maintain tension on the conductors while they are pulled through the structures. The pulling and tensioning sites will be cleared of all vegetation as needed for safe construction. Grading is not typically required in these areas.

2.5.11 Gravel, Aggregate, and Concrete Needs and Sources

Aggregate materials will be needed for trench backfill and for the parking lot and substation areas. The Applicant will identify potential local sources of these materials for BLM review and approval.

Concrete will be poured in place for foundations, equipment pads, fence footings, and other facilities. The Applicant anticipates that concrete will be supplied from commercially available sources produced in nearby communities, most likely Las Vegas.

2.5.12 Aviation Lighting

The Applicant will assist as needed in the BLM's coordination with the Department of Defense (DoD) and civilian airspace managers to identify all air transportation facilities and minimize any potential impacts from the Project on airspace use. No components of the Project are anticipated to exceed 200 feet in height (the Federal Aviation Administration [FAA] threshold for a no hazard declaration).

2.5.13 Site Stabilization, Protection, and Reclamation Practices

Construction sites, material storage yards, and access roads will be kept in an orderly condition throughout the entirety of the construction period. Approved enclosed refuse containers will be used throughout the Project site. Disturbances to vegetation and soils will be carefully planned and minimized during construction. The postconstruction ROW will be restored in accordance with the restoration and decommissioning plan. To the degree practical, the original natural contours of the landscape will be restored. The Applicant will prepare a site restoration and decommissioning plan in coordination with the BLM.

3 RELATED FACILITIES AND SYSTEMS

3.1 Transmission System Interconnect

3.1.1 Existing and Proposed Transmission System

Most of the power produced by the Project will be delivered to the transmission grid. Any power needed at the site for plant auxiliaries, such as control systems and general facility loads, including lighting and heating, ventilation, and air conditioning, will be provided from external sources and not from on-site generation (see Section 3.2.1 below). The net power produced by the facility will be delivered from the on-site substation to the interconnection facility through a 230- or 500-kV gen-tie.

3.1.2 Status of Power Purchase Agreements

The Applicant intends to negotiate one or more power purchase agreements with utilities or large industrial businesses to sell power produced from the solar facility.

3.1.3 Status of Interconnect Agreement

The Applicant has four interconnection requests (IRs) with transmission owners for this Project: two 500-MW IR at the proposed GridLiance Beatty 230-kV Substation; one 1,000-MW IR at the proposed GridLiance 230-kV Valley Switchyard; and one 1,000-MW IR at the proposed NV Energy 500-kV Amargosa Substation.

3.2 Other Related Systems

3.2.1 Supervisory Control and Data Acquisition System

The Project requires a supervisory control and data acquisition (SCADA) system to monitor the solar facility, control production, respond to grid demands, and be able to take the solar facility off-line quickly if required for operation or safety reasons. A SCADA system collects data from various sensors throughout the facility and sends the data to a central computer, which then manages and controls the data. This system also communicates with the rest of the grid. To comply with the grid interconnection requirements, the Project must provide redundant communications to the solar facility. Technology is changing rapidly in the field of plant control communications, but for the purposes of this POD, the Applicant assumes that a physical communication connection will be needed and plans to install the connection overhead on the proposed gen-tie. This system will be used entirely by the Project and have no third-party uses.

3.2.2 Communications Systems

Various communication systems will be used during construction and operations, including telephone, fiber optics, Internet, and microwave. The Applicant plans to use existing wired or wireless telecommunications systems in the Project vicinity. If these facilities are not available, new communications systems will need to be installed as part of electrical construction activities.

4 OPERATIONS AND MAINTENANCE

4.1 Operations and Maintenance Activities

The solar facility will be maintained by staff personnel for normal preventative maintenance. Maintenance activities will include regular inspection of field components, condition assessment of critical equipment, and routine lubrication of equipment. Any painted facilities will be repainted on a regular basis to maintain their appearance and provide protection from the elements.

4.1.1 Water Storage and Photovoltaic Panel Washing

The water storage tanks installed as part of the construction phase will remain on-site for O&M. Water tanks will be replaced with a new tank of similar size, if necessary, will require frequent inspection, and may need occasional repairs. The tanks will be painted as needed to protect them from corrosion.

Based on data from PV plant operations across the county, it is not anticipated that panel washing will be needed. Water use during O&M will include dust suppression if larger maintenance and repair projects are needed and for operation of the O&M facility.

4.1.2 Vegetation Maintenance

The solar facility site will be allowed to revegetate after construction has been completed. Vegetation will be maintained on-site through a combination of mowing or trimming native species and use of herbicides on nonnative or noxious species. Native vegetation in areas that were mowed during construction will be maintained at a sufficient height below the panels to allow for full movement of the tracker systems and will be mowed or trimmed as necessary. Equipment includes a commercial-sized raised deck mower, or

similar. A bush hog or similar typically is not needed but could be used in limited areas if vegetation becomes thick. Herbicide application will be applied following the BLM-approved Pesticide Use Proposal in the pesticide management plan and will only be applied to nonnative vegetation or noxious weed species.

4.1.3 Road Maintenance

Road maintenance will be performed as needed to maintain accessibility to Project features. Damage to roads will be repaired as needed and drainage will be maintained. Water will be applied, as required, to limit fugitive dust.

4.1.4 Battery Energy Storage System Maintenance

Battery systems have an initial right-size capacity (this includes auxiliary loads and losses) to deliver nameplate energy beginning the first day of operations. To maintain the same level of nameplate energy throughout the duration of the agreement, it will be necessary to periodically add new batteries and inverters to compensate for degradation of the initial batteries. The battery enclosures will be constructed to allow for the addition of new batteries and inverters as necessary. Periodic replacement of the batteries is expected as often as every 5 years based on usage and quarterly inspections, though it is not uncommon for the batteries to last longer than 10 years. Battery inspections will be performed as part of the preventative maintenance program. Spent batteries will be recycled or disposed of off-site in accordance with 40 CFR 273.2 and 40 CFR 266.

4.1.5 On-Site Substation and Electrical Maintenance

Substation structures will be inspected regularly from the ground for corrosion, misalignment, and foundation condition. Ground inspection will include the inspection of hardware, insulator keys, and conductors. This inspection will also check conductors and fixtures for corrosion, breaks, broken insulators, and bad splices. Electric lines, support systems, and instrumentation and controls will also be inspected regularly to ensure their safe, efficient, and economical operation.

4.2 Operations Workforce and Equipment

The Project will operate year-round and be staffed by approximately two operations personnel during the site's daytime working hours, Monday through Friday, assuming the need for an O&M building. When the solar facility is not fully staffed, it will be remotely monitored via a SCADA system. Operations personnel will conduct periodic inspections and maintenance activities. Under emergency conditions, additional personnel will be notified and report to the Project site, as required. Specialty personnel may also be located on-site during non-working hours to perform facility maintenance as needed. Under emergency conditions, additional personnel will be notified and report to the solar facility, as required.

O&M vehicles will typically include pickup trucks and small utility vehicles to perform on-site welding, lubricating, panel cleaning, and other maintenance activities. In addition, flatbed trucks, dump trucks, and front-end loaders may be present on-site at various times. Heavy-haul transport equipment will be brought to the site as needed for any major maintenance or equipment repair or replacement.

5 DECOMMISSIONING, ABANDONMENT, AND RESTORATION

The operational lifespan of the Project is anticipated to be 30 years as determined by electrical demand, maintenance requirements, and the expected life of facilities and components. At that time, the continued feasibility of the Project and the integrity of structures associated with the Project will be evaluated. If the Project is decommissioned after this 30-year period, Project equipment will be dismantled and removed from the site, and disturbed land associated with the Project will be reclaimed based on consultation with the BLM. Many of the activities associated with decommissioning are similar to the activities performed during Project construction.

At the end of the useful life of the facility and the termination of the BLM ROW grant, the Applicant will decommission the Project. During this time the site will remain fenced and gated. Materials that can be reused or recycled will be hauled away from the site and sold. The recycling of end-of-life solar panels will follow regulations and management in place at the time of decommissioning (U.S. Environmental Protection Agency [EPA] 2022). Batteries include lithium-ion, which degrades but can be recycled or repurposed. Metal and scrap equipment and parts that do not have free-flowing oil may be sent away for salvage.

Materials that cannot be reused or recycled will be dismantled and hauled to the nearest approved landfill. Hazardous materials that cannot be reused or recycled will be disposed of at approved facilities. The Applicant will remove foundations to 3 feet below ground surface, restore contours over the foundations to pre-Project conditions, remove the stormwater management berms, and restore the pre-Project contours to the maximum extent possible. During these reclamation operations, it is anticipated that fugitive dust abatement measures comparable to those applied during construction will be implemented. Weed control will be implemented as described in Section 1.5.7. The gen-tie and towers may be removed. Some structures and equipment may be required to remain in place based on final interconnection agreements. Conductors and tower steel will be sold for reuse or recycling. The substation, including all structures and fencing, will be removed. Foundations for the towers and substation facilities will be removed to 3 feet below the ground surface, and contours will be restored.

The Applicant will be required to post a reclamation bond as a condition of the ROW authorization. The value of this bond will be determined subject to BLM policy. As required by the BLM, the Applicant will develop a restoration and decommissioning plan for BLM review and approval prior to receiving the notice to proceed. This plan will describe which facilities and access routes will be removed and/or reclaimed and how this will occur. This plan will also describe procedures for disposing all hazardous and toxic materials and chemicals associated with the Project and procedures for notifying regulatory agencies in the event of a spill or other release. This plan will be updated and approved by the BLM prior to any decommissioning activities.

6 ENVIRONMENTAL CONSIDERATIONS AND OTHER RESOURCES

This section describes general site characteristics and identifies preliminary environmental considerations and other resources that may be associated with the Project. The evaluation of environmental resources is based on a desktop review of reasonably available information for the Project site, including published literature, reports, maps, aerial photography, databases, public records, and available GIS data sets. Data from some field studies conducted in spring 2024 has also been included. This section also includes a

preliminary statement concerning Applicant-committed measures pertaining to design features, baseline studies, planning documents, and BMPs.

6.1 General Site Characteristics

The Project is located on BLM-administered land in Nye County, Nevada, a county that is primarily rural and sparsely populated with an estimated population of 54,738 in 2022 (U.S. Census Bureau 2023). Ninety-seven percent of the land in Nye County is under federal jurisdiction (BLM 2010). The unincorporated township of Amargosa Valley (formerly Lathrop Wells) is the closest population center (see Figure 2) with a population of about 1,355 residents spread over about 98.7 square miles (U.S. Census Bureau 2022a).

Existing land uses in Nye County include open space, ranching, farming, mining, oil and gas production, low-density residential, limited commercial development, recreation and tourism, and federally restricted lands (Nevada National Security Site [i.e., Nevada Test Site], Nevada Test and Training Range, and the proposed Yucca Mountain Nuclear Waste Repository) (Nye County 2011). More recently, Nye County is becoming known for its renewable energy resources, including its potential for utility-scale solar development.

The Project is located within the Northern Basin and Range Physiographic Province (also known as the Great Basin), consisting of north-south trending basins bordered by relatively long, narrow mountain ranges (National Park Service [NPS] 2020). The Amargosa Desert of the Northern Mojave Desert Ecoregion is situated within this area (Bryce et al. 2023). An arid, internally drained basin, the Amargosa Desert lies in a valley between the Funeral Mountains and Death Valley (west) and Yucca Mountain and Nellis Air Force Range (east) and is notable for extreme temperatures and aridity. Elevation in the area ranges from 750 to 800 feet above mean sea level. The topography is relatively flat with braided, shallow washes that cross the site from northeast to southwest, the largest being Fortymile Wash. These washes drain to the ephemerally flowing Amargosa River. The basin receives an average of only 4.2 inches of precipitation per year but is also subject to heavy precipitation events that can lead to flooding. Rainfall occurs mostly between October and April. Vegetation is characterized as creosote desertscrub, dominated by creosote bush (*Larrea tridentata*).

6.1.1 Special Land Use Designations

6.1.1.1 BLM-DESIGNATED AREAS

The BLM's special planning designation areas include SRMAs, wilderness areas, wilderness study areas, national conservation areas, and ACECs (BLM 2023c). BLM-designated utility corridors are discussed in Sections 1.4.3.1.4, 1.4.3.2, and 1.7.1.

The Big Dune SRMA and Big Dune ACEC are located approximately 4 miles west of the generation and storage facility boundary. The Amargosa and Beatty gen-tie alternatives are routed through the northeast corner of the Big Dune SRMA. The Ash Meadows ACEC and Amargosa Mesquite ACEC are located approximately 6 miles and 11 miles southeast of the generation and storage facility boundary, respectively, and do not overlap any Project components. The Valley Switchyard gen-tie alternative does not intersect with either ACEC (Ash Meadows or Amargosa Mesquite) and terminates at the proposed Valley Switchyard located approximately 3 miles north of the Ash Meadows ACEC and 10 miles west of the Amargosa Mesquite ACEC.

There are no wilderness areas, wilderness study areas, or lands with wilderness characteristics on BLM-administered land within or adjacent to the Project. The closest wilderness study area is Resting Springs,

which is located approximately 21 miles southeast of the Project (BLM n.d.). There are no national conservation areas within 50 miles of the Project. The closest national historic trail, the Old Spanish National Historic Trail, is located more than 40 miles from the Project and will not be impacted by the Project.

6.1.1.2 NON-BLM SPECIALLY DESIGNATED AREAS

In addition to the BLM special planning designation areas, there are special planning designation areas managed by other federal agencies and one global initiative (with four sites) in the Project vicinity.

Death Valley National Park, located in California southwest of the Project (approximately 8 miles from the Project boundary to the park boundary), is administered by the NPS. Ash Meadows National Wildlife Refuge (NWR) is located approximately 7 miles southeast of the Project and is administered by the USFWS. Devils Hole, a water-filled geothermal cave system, is located within the Ash Meadows NWR and is administered by the NPS. Devils Hole provides the only natural habitat for the endangered Devils Hole pupfish (*Cyprinodon diabolis*) (NPS 2024).

Important Bird Areas (IBAs) are areas globally identified as necessary for the conservation of birds and their cohabitants. Although they are not administered by any federal or state agency, they are recognized for their importance to migratory birds. Many IBAs are requisite for successful migration and serve as crucial stopover points. There are three designated IBAs within 30 miles of the Project, and each serves to provide critical stopover foraging grounds for migratory birds along the Pacific Flyway. Oasis Valley IBA overlaps the north end of the proposed Beatty gen-tie and is located approximately 19 miles northwest of the generation and storage facility. Ash Meadows NWR is additionally considered an IBA and provides crucial habitat for the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*). Lastly, Spring Mountains IBA is located approximately 25 miles southeast of the Project site. Notable avian presence in this IBA is limited to the high density of breeding flammulated owls (*Psiloscops flammeolus*) that occur in the coniferous forests at this location (National Audubon Society 2024).

6.2 Environmental Considerations

This section provides a brief discussion of potential environmental considerations associated with the Project's development. A complete review of environmental and social considerations will be conducted as part of the NEPA process.

6.2.1 Vegetation

General vegetation found in the Project site consists primarily of Sonora-Mojave Creosotebush–White Bursage Desert Scrub, North American Warm Desert Wash, and North American Warm Bedrock Cliff and Outcrop (USGS 2004). The creosote-bursage ecological system is found in broad valleys, lower bajadas, plains, and low hills in the Mojave Desert and lower Sonoran Desert. This system ranges from sparse to moderately dense layer (2%–50% cover). Creosote bush and white bursage (*Ambrosia dumosa*) are the typical dominant species, but a variety of shrub, dwarf-shrub, and cacti may be present or co-dominant.

North American Warm Desert Wash is restricted to intermittently flooded washes or arroyos that dissect bajadas, mesas, plains, and basin floors throughout the warm deserts of North America. This system occurs as linear or braided strips within desertscrub. North American Warm Bedrock and Outcrop occupies an insignificant amount of space within the Project site.

A desktop evaluation of sensitive plant species presence identified 12 species that could potentially occur in the Project site and gen-tie alignments (Table 8) (BLM 2023d; Nevada Division of Natural Heritage [NDNH] 2022; USFWS 2023a). The USFWS's Information for Planning and Consultation (IPaC) online database identified one federally threatened species with potential to be affected by the Project, spring-loving centaury (*Centaurium namophilum*) (USFWS 2023a). The spring-loving centaury is found in "fine-textured, alluvial soil of alkaline meadows and moist, alkaline flats fed by desert springs" (Stone et al. 2022), a habitat that does not occur within the footprint of the Project. Due to the lack of habitat, the spring-loving centaury is not expected to occur in the Project site. Botanical surveys will be completed for the Project by BLM-approved botanists and biologists. The botanical survey report will provide details on vegetation and soil types and include discussion and recommendations for minimizing impacts to vegetation communities. The survey will also determine density estimates of cacti and yucca in the Project site.

In addition to general vegetation, the BLM and the State of Nevada have protections in place for cacti and yucca species (NRS 527.060–537.120 and Nevada Administrative Code [NAC] Chapter 527). The BLM requires preparation of a restoration and decommissioning plan that includes measures to salvage these species.

6.2.2 Invasive Plant Species and Noxious Weeds

The State of Nevada regulates invasive plant species through NRS 555.005–201. These statutes require the State Quarantine Office to determine which nonnative species will be defined as invasive or "noxious" and regulated. These species are categorized in accordance with NAC 555.010 and are listed online at the Nevada Department of Agriculture Nevada Noxious Weed List website (Nevada Department of Agriculture 2023). Any invasive or noxious weeds will be identified in botanical surveys.

To reduce potential colonization of invasive plants and noxious weed species, a restoration and decommissioning plan and a weed management plan will be developed for the Project and implemented during Project construction and restoration activities. These plans will include BLM-approved mitigation measures and industry-standard BMPs with the intent to avoid impacts to these plant species during Project construction and operations. To reduce potential impacts to native species, revegetation will occur immediately following construction and areas of temporary disturbance will be replanted and or re-seeded with native plants to begin the restoration process and prevent invasive species from dominating the site. New infestations of nonnative and invasive species will be treated in accordance with the weed management plan.

6.2.3 Wildlife

Wildlife in the Project site includes mammals, reptiles, amphibians, insects, birds, and game and non-game species found in the Mojave Desert ecosystem. Although these species are important to the Mojave Desert ecosystem, they are not afforded any special protection. The habitats they use are widespread in Southern Nevada and are not protected. Additionally, the following categories of wildlife may be impacted by development of the Project:

- **Golden Eagle:** Mortality of golden eagle (*Aquila chrysaetos*) is not anticipated to occur, though development of the Project site may result in a loss of foraging habitat.
- **Avian Species:** Avian species are protected under the Migratory Bird Treaty Act of 1918. Mortality of avian species is not anticipated to occur, though development of the Project site may result in a loss of habitat. Avian Power Line Interaction Committee guidelines (2006, 2012) will be followed in relation to any power lines or power line posts constructed.

6.2.3.1 THREATENED AND ENDANGERED SPECIES

There are seven federally listed endangered, threatened, or candidate species (in accordance with the Endangered Species Act [ESA]) with the potential to be found in the Project site. These data were compiled using the USFWS IPaC online tool (USFWS 2023a). Of these seven species, one is known to occur within the Project site: Mojave desert tortoise (NDNH 2022; USFWS 2023a).

The USFWS first listed the Mojave desert tortoise as endangered under the federal ESA through an emergency ruling on August 4, 1989 (*Federal Register* 54:32326). The Mojave desert tortoise north and west of the Colorado River was subsequently listed as a threatened species on April 2, 1990, under the agency's formal rulemaking process (*Federal Register* 55:12178). The species is also listed as a State -protected reptile (NAC 503.080) and considered a Species of Conservation Priority in the Nevada State Wildlife Action Plan (Nevada Department of Wildlife 2022). The BLM has designated the Mojave desert tortoise as a sensitive species (see Section 6.2.3.2).

The USFWS designated critical habitat for the Mojave population of the desert tortoise on February 8, 1994 (*Federal Register* 59:5820). The designated areas contain habitat vital to the survival and reestablishment of the species. Disturbance of critical habitat requires consultation with the USFWS under the ESA. The Project site does not overlap any critical habitat but does overlap USFWS Priority 2 connectivity habitats for Mojave desert tortoise in the following amounts: solar facility (9,529.3 acres), Beatty gen-tie (187.2 acres), Amargosa gen-tie (191.2 acres), and Valley Switchyard gen-tie (50.0 acres) (USFWS 1994).

Project development and operations may kill, injure, or displace individual Mojave desert tortoises. The development of the Project will require the BLM to prepare a draft biological assessment in accordance with legal requirements set forth under Section 7 of the ESA, as the Project likely does not fall under the programmatic biological opinion for the BLM Southern Nevada District (USFWS 2020) due to the amount of disturbance associated with the Project. The draft biological assessment will address the potential effects from implementation of the Project on the threatened Mojave desert tortoise.

Should a Mojave desert tortoise enter the area of activity, all activity shall cease until the animal leaves of its own accord or is moved out of harm's way, in coordination with BLM and USFWS protective measures. Additional Project-specific mitigation measures, including a Mojave desert tortoise translocation plan, will be identified within the biological assessment and through consultation with the USFWS to minimize impacts to Mojave desert tortoise.

6.2.3.2 SENSITIVE SPECIES

The BLM and State of Nevada maintain lists of sensitive and protected species, respectively. The BLM manages special-status species according to the policy set forth in BLM Manual 6840: *Special Status Species Management* (BLM 2008). The goals of the policy are to conserve and/or recover ESA-listed species and the ecosystems they depend on so that ESA protections are no longer needed and to implement proactive conservation measures to minimize the likelihood of needing to list BLM sensitive species under the ESA.

An initial assessment was completed for sensitive species with the potential to occur in the Project site. This list was compiled using the Nevada BLM sensitive species list, species occurrence data from the NDNH, and the USFWS IPaC online tool (BLM 2023d; NDNH 2022; USFWS 2023a). Based on this assessment, two arachnids, six insects, 15 birds, eight mammals, four reptiles, and 12 plants have the potential to occur in the Project site and may require further survey and assessment prior to construction (see Table 8).

Table 8. BLM Sensitive Species with Potential to Occur Within and Around the Project Site

Common Name	Scientific Name	Status*†
Arachnids		
Ash Meadows dune scorpion	*Paruroctonus arenicola arenicola*	NS
Atomic tarantula	*Aphonopelma atomicum*	NS
Insects		
Amargosa Valley darkling beetle	*Lariversius* sp.	NS
Amargosa miloderes weevil	*Miloderes amargosensis*	NS
Mercury miloderes weevil	*Miloderes mercuryensis*	NS
Monarch butterfly	*Danaus plexippus*	Candidate, NS, SGCN
Nevada admiral	*Limenitis weidemeyerii nevadae*	NS
Robber fly sp.	*Stackelberginia cerberus*	NS
Birds		
Bendire's thrasher	*Toxostoma bendirei*	NS, SGCN
Black-chinned sparrow	*Spizella atrogularis*	NS, SGCN
Brewer's sparrow	*Spizella breweri*	NS, SGCN
Burrowing owl	*Athene cunicularia*	NS, SGCN
Crissal thrasher	*Toxostoma crissale*	NS, SGCN
Ferruginous hawk	*Buteo regalis*	NS, SGCN
Golden eagle	*Aquila chrysaetos*	BGEPA, NS, SGCN
LeConte's thrasher	*Toxostoma lecontei*	NS, SGCN
Loggerhead shrike	*Lanius ludovicianus*	NS, SGCN
Phainopepla	*Phainopepla nitens*	NS
Sagebrush sparrow	*Artemisiospiza nevadensis*	NS, SGCN
Scott's oriole	*Icterus parisorum*	NS, SGCN
Short-eared owl	*Asio flammeus*	NS, SGCN
Swainson's hawk	*Buteo swainsoni*	NS, SGCN
Verdin	*Auriparus flaviceps*	NS
Mammals		
Bighorn sheep	*Ovis canadensis*	NS, SGCN
California myotis	*Myotis californicus*	NS
Canyon bat	*Parastrellus hesperus*	NS, SGCN
Greater bonneted bat (western mastiff bat)	*Eumops perotis*	NS, SGCN
Pallid bat	*Antrozous pallidus*	NS, SGCN
Townsend's (western) big-eared bat	*Corynorhinus townsendii*	NS, SGCN
Western small footed myotis	*Myotis ciliolabrum*	NS, SGCN
Yuma myotis	*Myotis yumanensis*	NS, SGCN
Reptiles		
Common chuckwalla	*Sauromalus ater*	NS, SGCN
Desert iguana	*Dipsosaurus dorsalis*	NS, SGCN

Common Name	Scientific Name	Status*†
Mojave desert tortoise	*Gopherus agassizii*	Threatened, Critical Habitat, NS, SGCN
Mojave shovel nosed snake	*Sonora occipitalis*	NS, SGCN
Plants		
Amargosa buckwheat	*Eriogonum contiguum*	NS
Ash Meadows sunray	*Enceliopsis nudicaulis* var. *corrugata*	Threatened, Critical Habitat, NS, Fully Protected
Beaver dam breadroot	*Pediomelum castoreum*	NS
Clarke phacelia	*Phacelia filiae*	NS
Death Valley beardtongue	*Penstemon fruticiformis* ssp. *amargosae*	NS
Death Valley sage	*Salvia funerea*	NS
Halfring milkvetch	*Astragalus mohavensis* var. *hemigyrus*	NS
Mojave fishhook cactus	*Sclerocactus polyancistrus*	NS
Nye milkvetch	*Astragalus nyensis*	NS
Screwbean mesquite	*Prosopis pubescens*	NS
White bearpoppy	*Arctomecon merriamii*	NS
White-margined beardtongue	*Penstemon albomarginatus*	NS

* Status data taken from the BLM sensitive species list (BLM 2023d); Nevada endangered, threatened, sensitive, or otherwise protected species list (NDNH 2022); USFWS IPaC (USFWS 2023a).

Notes:

NS = BLM Nevada sensitive species.

State of Nevada Agency Listing Definitions:

SGCN = Species of Greatest Conservation Need under Nevada State Wildlife Action Plan (Nevada Department of Wildlife 2022).

Fully Protected = NRS 527.050, 527.300; species determined as critically endangered species of native flora by the Nevada Division of Forestry, these species may not be removed or destroyed unless issued a permit by the State of Nevada.

USFWS Listing Definitions:

Threatened = Listed by the USFWS as threatened under the ESA as a species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Candidate = Species for which the USFWS has deemed sufficient information exists on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

Critical Habitat = Specific areas within the geographic area determined by the USFWS, occupied by the species at the time it was listed, that contain the physical or biological features that are essential to the conservation of endangered and threatened species that may need special management protection.

BGEPA = Bald and Golden Eagle Protection Act (16 USC 668—668d) prohibits the take of bald and golden eagles except under specific conditions.

6.2.4 Water Quality and Hydrology

6.2.4.1 WETLANDS AND JURISDICTIONAL WATERS

Surface water features that may be considered waters of the United States (WOTUS) by the U.S. Army Corps of Engineers (USACE) are present in the Project site. Based on a preliminary desktop review of USFWS National Wetlands Inventory data, the USGS National Hydrography Dataset, available aerial photographs, and the arid conditions of vicinity, the Project site is unlikely to include any special aquatic sites (e.g., wetlands), relatively permanent waters, perennial waters, or traditional navigable waters (TNWs). USFWS- and USGS-mapped stream features that cross the Project site include the Amargosa River, Fortymile Wash, and more than 30 unnamed streams (USFWS 2023b; USGS 2023b).

Fortymile Wash and the unnamed streams in the Project site are all tributaries to the Amargosa River, which flows generally south from the Project site through the Amargosa Desert, crossing the Nevada-

California state border before turning west and then north around the south end of the Saddle Peak Hills. The Amargosa River flows generally north through Death Valley until it terminates into Badwater Basin. Badwater Basin is an endorheic (i.e., terminal) basin that is not hydrologically connected to Owens Lake, the nearest designated TNW. Any flow events that would act to redistribute pollutants, organic matter, nutrients, and/or debris from the Project site could influence the Amargosa River and Badwater Basin but would not influence any designated TNWs. However, the Amargosa River is an interstate water and previous approved jurisdictional determinations by the USACE outside of the Project site (e.g., USACE File No. SPK-2012-00932) have resulted in tributaries to the Amargosa River being considered WOTUS (USACE 2023). The Amargosa River is a designated Wild and Scenic River approximately 68 miles downstream of the Project site.

Because the Amargosa River is an interstate water, the segments of the river and its tributaries that cross the Project site may be considered WOTUS and are regulated under Section 404 of the Clean Water Act (CWA). A jurisdictional delineation survey will be needed to evaluate site conditions to confirm if the features on-site meet the definition of a WOTUS (e.g., presence of ordinary high-water mark indicators).

6.2.5 Surface Water and Groundwater

No relatively permanent surface waters are present within the Project site. Storm events may lead to the temporary presence of water in the ephemeral or intermittent streams on-site that may act to redistribute pollutants, organic matter, nutrients, and/or debris from the Project site to downstream surface waters. To minimize the potential for stormwater impacts to surface water quality, the Applicant will obtain coverage under an NPDES CGP, develop a SWPPP, and implement BMPs in accordance with CWA Section 402.

The Project site is located in the Amargosa Desert groundwater basin, as designated by the State Engineer (Nevada Division of Water Resources 2023). The Project is not anticipated to result in impacts to groundwater quality. Water will be needed during construction (primarily for dust control and compaction) and will be provided from an existing point of diversion approximately 5 miles from the Project site.

6.2.6 Air Quality

The BLM does not regulate air quality; instead, the agency cooperates with regulatory agencies to ensure air quality compliance is achieved for the activities it authorizes. The EPA has regulatory authority over the enforcement of the Clean Air Act and has set air pollutant emission standards for six criteria pollutants: carbon monoxide, nitrogen dioxide, ozone, lead, sulfur dioxide, and fine particulates with a nominal aerodynamic diameter of 10 micrometers or less (PM_{10})/fine particulates with a nominal aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$). In the state of Nevada, the EPA and the NDEP Bureau of Air Pollution Control have authority under the Clean Air Act to regulate and maintain air quality standards.

The Applicant is coordinating with the BLM to conduct an air emissions inventory and will be completing and air quality modeling report to identify potential impacts associated with the Project. A dust abatement plan and a wind erosion management plan will also be completed for the Project.

6.2.7 Visual Resources

The Project is located within the broad, flat Amargosa Desert, which is dominated by natural vegetation and, in general, has limited existing large-scale development except for the existing transmission lines paralleling U.S. 95 (138-kV transmission line) and SR 373 (66-kV transmission line). At the intersection of these highways, the setting has been modified by a truck stop and RV campground. Additionally, the

existing U.S. Ecology waste facility, located northwest of the Project site along U.S. 95, has modified the adjacent landscape character. Based on the scale of these developments, these features do not detract from the overall character of Amargosa Valley. Agricultural and residential development in the Amargosa Desert, south and southwest of the Project, has modified the natural character of the landscape, resulting in a landscape with agrarian characteristics that contrast with the more arid, natural landscapes in the Project site. The proposed Project, including the three potential gen-tie alignment alternatives, will mostly be visible to those traveling along U.S. 95 and SR 373, as well as from the Big Dune SRMA (see Figures 1 and 2). Additionally, residences located south of the Project will have level views of the Project, including the Valley Switchyard gen-tie paralleling SR 373.

A viewshed analysis will be conducted to assess visibility from more distant viewing locations, including elevated (or superior) views from adjacent lands, such as designated recreation areas and travel routes in the Ash Meadows NWR and Death Valley National Park, located approximately 8 miles southwest and southeast, respectively, from the Project site (see Figure 1). The construction and operation of the Project, including solar PV panels, BESS, and gen-tie, is expected to attract attention in the landscape, particularly where the existing transmission lines are not readily visible and views of the Project will be unobstructed. In addition to the typical viewshed and viewpoint analysis, the proximity of the Project site to Death Valley National Park may require coordination with the NPS to identify concerns related to potential impacts to night skies and potential impacts from glint and glare on views from the park. Additionally, the BLM has recently released Technical Note 457, *Night Sky and Dark Environments: Best Management Practices for Artificial Light at Night on BLM-Managed Lands* (BLM 2023b), which provides technical guidance on practical methods for reducing the impacts from artificial outdoor lighting associated with proposed projects (or activities), including the identification of specific BMPs.

Based on the Las Vegas RMP, the BLM has designated the Project site as VRM Classes III and IV (BLM 1998). The objective for VRM Class III, as defined in the Las Vegas RMP, is that "authorized actions may alter the existing landscape, but not to the extent that they attract or focus attention of the casual viewer" (BLM 1998:3). This definition differs notably from the VRM Class III objectives defined in BLM Manual H-8410-1, *Visual Resource Inventory*, which states that "management activities may attract attention but should not dominate the view of the casual observer" (BLM 1986b:7). However, the Las Vegas RMP provides the specific management direction for this area. The objective for VRM Class IV in the Las Vegas RMP states that "actions may create significant landscape alterations and would be obvious to casual viewers" (BLM 1998:3). The proposed gen-ties that extend beyond the solar/BESS portion of the Project, paralleling either U.S. 95 or SR 373, will mostly cross lands designated as VRM Class III. The Project is expected to meet the objectives of VRM Class IV, but, depending on the final configuration of the Project and through contrast rating analysis conducted from BLM-approved key observation points, the Project may not meet the objectives associated with VRM Class III, especially where the Project will attract the attention of the casual viewer and the existing modifications in the landscape are not readily visible. If nonconformance with VRM Class III objectives result from the Project attracting attention of the casual viewer, this portion of the Project may require a plan amendment to the Las Vegas RMP.

6.2.8 Noise

Noise from construction activities will vary, depending on such factors as equipment used, operations schedule, and meteorological conditions. Truck traffic, heavy equipment, and possibly pole foundation blasting will cause elevated noise levels at and near active construction sites. Noise will also be generated along access roads by vehicles transporting workers and construction materials. Most construction activities will occur during the day, and nighttime noise levels are anticipated to drop to the background levels of the Project site. Once in operation, inverters, transformers, and HVAC equipment will be the

primary sources of noise associated with the BESS and the on-site substation (Eriksson and Lai 2023; Keefe 2019). Gen-ties may also generate corona noise.

The Applicant will identify potential noise-sensitive receptors within the Project vicinity to assess potential Project-related noise impacts in comparison to ambient noise levels.

6.2.9 Soils

The National Resources Conservation Service (NRCS) Web Soil Survey mapping tool was used to identify soil map units in the location of the proposed generation and storage facility and gen-tie alternatives (NRCS 2024). Two soil map units account for soils in more than 90% of the Project: the Yermo, hot-Yermo-Arizo association (45.8%), and the Shamock gravelly fine sandy loam, 2 to 4 percent slopes (47.2%). Approximately 46.6% of the soils in the Project have low erodibility ratings and 53.3% have moderate erodibility ratings, with 0.1% unrated (NRCS 2024).

The Applicant plans to perform site-specific geotechnical investigations to identify subsurface conditions. These field data will inform the design specifications of piles, footings, foundations, roads, underground trenching, and electrical grounding systems. Soil tests will also be conducted to measure the soil's electrical properties to ensure proper design of the grounding system. The specific geotechnical testing locations will be determined closer to final Project engineering design. At that time, the Applicant will submit a separate SF-299 and POD. The geotechnical POD will include information detailing the proposed testing procedures and locations, and the estimated disturbance acreage, including potential disturbance at testing locations and associated with access to testing locations. The testing procedures and locations will be designed to avoid, minimize, and mitigate impacts to sensitive resources in coordination with the BLM's regulations and permitting requirements. The geotechnical POD will also be subject to a NEPA review by the BLM. Biological and cultural resources monitors will be present when geotechnical investigations are performed within the Project site to ensure additional protection to sensitive resources.

Project construction activities will require the removal of subsurface and surface soils in some areas. Within temporary use areas, topsoil will be removed temporarily and replaced following the completion of development. Information regarding topsoil depth and quality will be collected prior to construction and will inform topsoil removal efforts in areas of temporary use. Topsoil removed from these areas will be stored on-site and segregated from subsoil storage piles. Impacts to vegetation and soil will be minimized through the development and implementation of a dust abatement plan and a restoration and decommissioning plan.

6.2.10 Cultural Resources

The Applicant has conducted a preliminary cultural resources records search through the State Historic Preservation Office's (SHPO's) Nevada Cultural Resource Information System to identify previous cultural resources projects and archaeological sites within the Project site. These data were supplemented with internal data sets available from previous inventory projects overlapping with the Project site. The records search revealed that 32 prior cultural resources projects have been completed within the proposed Project site, accounting for approximately 46% survey coverage. Previous cultural resources projects overlapping with the Project site consist of surveys for transmission lines, material pits, fiber-optic cables, drilling sites, off-road races, and proposed solar facilities.

In total, 49 cultural resources (48 archaeological sites and one architectural feature) have been previously recorded in the proposed Project site as a result of these inventories. Eight of the archaeological sites have been recommended eligible for the National Register of Historic Places, three sites are currently

unevaluated, and 16 sites have an unknown eligibility status. The remaining 21 sites and single architectural resource have been recommended ineligible for the National Register of Historic Places.

The Applicant is coordinating with the BLM to conduct an intensive Class III pedestrian survey of the Project, including the three gen-tie route alternatives, to augment the desktop research. The report will be used to identify Project-specific measures to reduce potential impacts to cultural resources in consultation with the BLM and SHPO in compliance with Section 106 of the National Historic Preservation Act (16 USC 470). To the extent feasible, cultural resources will be avoided. In the event that cultural resources cannot be avoided, mitigation may be required. Mitigation may include the presence of an authorized cultural resources monitor on-site during activities conducted within areas of known cultural resources and/or the preparation of a Historic Properties Treatment Plan. A cultural resources management plan for post-review discoveries and unanticipated effects will also be prepared.

6.2.11 Native American Tribal Resources

Though there are no federally designated Native American Tribal reservations or individual Indian allotted lands in the Project vicinity, many Native American Tribes have expressed interest in the area. The BLM is responsible for conducting government-to-government Tribal consultation with all Native American Tribes that maintain a cultural interest in the area. The BLM will use the cultural resources reports prepared by the Applicant for this Project (see Section 6.2.10) as part of the consultation process to consider the potential effect of Project actions on traditional Native American religious and cultural values and practices, including Traditional Cultural Properties. If Native American resources are present, Project-related activities will be designed to avoid those areas to the extent feasible, with the plan of resulting in no impacts. In the event that Tribal resources cannot be avoided, mitigation may be required.

6.2.12 Paleontological Resources

The BLM uses the Potential Fossil Yield Classification (PFYC) system to evaluate the potential for paleontological resources to be present in an area (as determined by the presence of mapped geologic units) and the sensitivity of the resource to adverse impacts from a proposed action on public lands. The PFYC classification system ranks geologic units from very low (Class 1) to very high (Class 5) sensitivity for the purposes of desktop assessment.

Most of the Project site and the gen-tie routes overlap land designated with a Class 1 PFYC rating (BLM 2022b). A PFYC rating is not available for a small portion of the Beatty gen-tie route in Section 36, Township 13 South, Range 47 East. The undesignated area consists of poorly consolidated basin fill sediments and is unlikely to contain paleontological resources. This preliminary assessment indicates that paleontological resources are unlikely to be impacted by the Project. The Applicant is planning to prepare an unanticipated discoveries plan for the Project, as an appendix to the Project POD.

6.3 Other Land Uses in the Project Vicinity

This section provides a brief discussion of other potential land uses in and around the Project site.

6.3.1 Livestock Grazing

The Project site is located within a BLM-designated unallotted area permanently closed to livestock grazing in accordance with the Las Vegas RMP, Management Direction LG-1-h (BLM 1998).

6.3.2 Wild Horses and Burros

The Project does not overlap with a BLM-designated horse and burro management area (BLM 2011). The Ash Meadows and Amargosa herd management areas are located approximately 6 miles southeast and 9 miles south, respectively, of the generation and storage facility.

6.3.3 Public Access, Roads, and Recreation

The mountains and deserts in the Project vicinity support a variety of dispersed recreation activities, including off-highway vehicles (OHVs) on existing roads and dry washes, hunting, camping, wildlife viewing, and sightseeing. The BLM Southern Nevada District manages all public land that is not included within a special management area as part of the Southern Nevada Extensive Recreation Management Area, emphasizing dispersed and diverse recreation activities (BLM 1998). The BLM's Interactive National OHV Story Map identifies a designated OHV staging area on Frontier Road, 0.25 mile west of the junction with SR 373 (BLM 2024b). Big Dune SRMA is located approximately 4 miles west of the generation and storage facility and is popular for OHV recreation (see Figure 2). The five existing BLM roads (926339, 926567, 927527, 927531, and 927554) that traverse through the Project site will be closed to public access and used for siting solar arrays.

6.3.4 Aviation and Military

The Project site is located approximately 80 miles northwest of Nellis Air Force Base, 80 miles south of the Tonopah Test Range, and 40 miles west of Creech Air Force Base. McCarran International Airport, the closest major airport, is located nearly 80 miles east of the Project site in Las Vegas. The Nye County government website lists three airports in the Project vicinity at Beatty, Tonopah, and Gabbs, Nevada (Nye County 2023). An abandoned airstrip (Jackass Aeropark) is located at the northeast corner of the Project site. No components of the Project are anticipated to exceed 200 feet in height and so will not require an FAA evaluation of safety hazards.

6.3.5 Mining Claims and Mineral Resources

According to the Las Vegas RMP (BLM 1998), the Project generation and storage facility does not include potential for locatable minerals but has a moderate potential for fluid leasable minerals (oil and gas potential) and saleable minerals (common varieties of sand, gravel, stone, pumice, pumicite, cinders, clay, petrified wood, and minerals not defined as locatable or leasable). The Project site does overlap two existing material site ROW grants: NVNV-106086157 and NVNV-106263800.

The Project will be sited to minimize conflicts with valid existing mineral rights and ongoing mineral development, as identified by the BLM. Additionally, BLM solar energy development ROWs contain the stipulation that the BLM retains the right to issue oil and gas or geothermal leases with a stipulation of no surface occupancy within the ROW area.

6.3.6 Residential and Commercial Development

Two unincorporated townships, Amargosa Valley and Beatty, are located within the Project vicinity. Both townships have area plans that include development guidance. These plans have been adopted as amendments to the *Nye County 2011 Comprehensive Master Plan* (Nye County 2011).

The unincorporated township of Amargosa Valley consists of a rural population of approximately 1,355 people occupying a geographic area of 98.7 square miles according to the U.S. Census Bureau (2022a).

The *Amargosa Valley Area Plan* (Amargosa Valley Area Plan Committee 2009) describes the township size as approximately 505 square miles. Isolated homesteads and limited commercial developments are located within this area. The closest commercial development complex is located 0.7 mile from the Project site at the intersection of U.S. 95 and SR 373.

The Town of Beatty is approximately 3 miles north of the terminus of the proposed Beatty gen-tie (see Figures 1 and 2). The town has a population of 596 people within an area of approximately 17.7 square miles (U.S. Census Bureau 2022b). The unincorporated town boundary covers 708 square miles (Beatty Town Advisory Board 2014). Beatty has approximately 516 housing units. Beatty's commercial development is related to tourism and hospitality, mining, agriculture, federal and state government facilities, and other economic sectors.

6.4 Applicant-Committed Mitigation Measures

The Project will be designed to be in conformance with applicable design features, studies, reports, plans, BMPs, and mitigation measures from the:

- Las Vegas RMP (BLM 1998), as amended;
- Tonopah RMP (BLM 1997), as amended;
- 2012 Western Solar Plan (BLM 2012);
- Baseline Needs Assessment for the Project (BLM 2024c) per NV IM 2023-003, Change 1 (BLM 2023e); and
- mitigation measures identified and required during the NEPA process.

6.4.1 Design Features

The applicable design features from the 2012 Western Solar Plan (BLM 2012) are included in Appendix D. Alternative or additional design features may be added as the Project progresses as a result of agency coordination, engineering, field surveys, and regulatory requirements.

6.4.2 Studies and Reports

The Applicant is committed to completing applicable studies and reports, as detailed in the baseline needs assessment (BLM 2024c), to inform the Project's design and engineering and to gather baseline data and information on environmental resources associated within the Project site and vicinity.

6.4.3 Plans

As the Project is further defined through engineering, design, and permitting, this preliminary POD will be revised, and any necessary plans will be developed to reflect the Project design and siting requirements. The Applicant will, as needed, prepare the following list of plans to accompany future versions of the POD to support the BLM ROW grant application. Those denoted with an * are required by the 2012 Western Solar Plan (BLM 2012); those denoted with a † were identified in the baseline needs assessment for the Project (BLM 2024c).

- Access Management Plan†
- Air Quality Monitoring Plan†
- Lighting Plan†
- Mojave Desert Tortoise Long-Term Monitoring Plan†

- Biological Assessment†
- Bird and Bat Conservation Strategy†
- Blasting Plan
- Cultural Resources Management Plan†
- Dust Abatement Plan*†
- Eagle Conservation Plan†
- Emergency Response Plan†
- Environmental Compliance Management Plan
- Flagging and Signage Plan†
- Fencing Plan†
- Fire Management Plan†
- General Design and Construction Information
- Glint and Glare Mitigation and Monitoring Plan†
- Groundwater Modeling Plan†
- Hazardous Materials and Waste Management Plan*†
- Health and Safety Plan*†
- Historic Properties Treatment Plan†
- Insect and Indoor Rodent Control Plan†
- Mojave Desert Tortoise Safety and Avoidance Measures Plan†
- Mojave Desert Tortoise Translocation Plan†
- Nesting Bird Management Plan†
- Noise Management Plan†
- Paleontological Mitigation and Discovery Plan†
- Pesticide Management Plan†
- Raven Management Plan†
- Restoration and Decommissioning Plan*†
- Soil and Topsoil Management Plan†
- Surface Water Quality Management Plan†
- SPCC Plan*†
- SWPPP*†
- Technical Drainage Plan†
- Traffic Management Plan†
- Trash Abatement Plan†
- Weed Management Plan†
- Wind Erosion Management Plan†
- Worker Education and Awareness Plan*

Additional management plans may be prepared for the POD after the NEPA process has been initiated.

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APPENDIX A

Legal Description

ROCK VALLEY ENERGY CENTER PROJECT LEGAL DESCRIPTION

PRELIMINARY LEGAL DESCRIPTION

The legal description for the Project is approximate and based on best available GIS data from the BLM and Nye County. Title and survey review has been conducted for the generation and storage facility. The legal description for the gen-tie alternatives is approximate and based on best available GIS data from the BLM and Nye County. A licensed surveyor will conduct a legal land survey at a future date to determine the gen-tie boundaries once the preferred alternative is selected, at which point the legal description will be updated. Note, some of the sections below do not have full quarter quarter survey data available and the preliminary description is an approximation.

Generation and Storage Facility

Mount Diablo Meridian

Township (T.) 15 South (S.), Range (R.) 49 East (E.),
- secs. 20 thru 22;
- sec. 23, SW1/4NE1/4, S1/2NW1/4, S1/2;
- sec. 24, SW1/4 and S1/2SE1/4;
- secs. 25 thru 29;
- sec. 32, NE1/4, NE1/4NW1/4, and NE1/4SE1/4;
- secs. 33 thru 35;
- sec. 36, N1/2, SW1/4, and W1/2SE1/4.

T. 16 S., R. 49 E,
- sec. 01, W1/2;
- secs. 02 and 03;
- sec. 04, NE1/4, NE1/4NW1/4, and NE1/4SE1/4.

Valley Switchyard Gen-Tie

Mount Diablo Meridian

T. 16 S., R. 49 E.,
- sec. 12, NW1/4 and W1/2SW1/4;
- sec. 13, W1/2NW1/4 and W1/2SW1/4;
- sec. 14, SE1/4SE1/4;
- sec. 23, E1/2NE1/4 and E1/2SE1/4;
- sec. 24, NW1/4NW1/4, S1/2SW1/4, and SW1/4SE1/4;
- sec. 25, lot 1, NW1/4NE1/4, NE1/4NW1/4.

T. 16 S., R. 50 E.,
- sec. 19, lot 4;
- sec. 30, lot 1.

Amargosa Gen-Tie

Mount Diablo Meridian

T. 14 S., R. 48 E.,
sec. 29, S1/2SW1/4;
sec. 30, SW1/4NE1/4, SE1/4NW1/4, N1/2SW1/4, SW1/4SW1/4, N1/2SE1/4, and SE1/4SE1/4;
sec. 32, W1/2NE1/4, SE1/4NE1/4, N1/2NW1/4, and NE1/4SE1/4;
sec. 33, N1/2SW1/4, SE1/4SW1/4, and S1/2SE1/4;

T. 15 S., R. 48 E.,
sec. 02, W1/2SW1/4 and SE1/4SW1/4;
sec. 03, SW1/4NE1/4, W1/2NW1/4, SE1/4NW1/4, N1/2SE1/4, and SE1/4SE1/4;
sec. 04, N1/2NE1/4;
sec. 11, W1/2NE1/4, SE1/4NE1/4, NE1/4NW1/4, and NE1/4SE1/4;
sec. 12, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, SW1/4SE1/4;
sec. 13, N1/2NE1/4 and SE1/4NE1/4;

T. 15 S., R. 49 E.,
sec. 17, SW1/4SW1/4;
sec. 18, lot 2, SE1/4NW1/4, NE1/4SW1/4, W1/2SE1/4, and SE1/4SE1/4;
sec. 19, NE1/4NE1/4.

Beatty Gen-Tie

Mount Diablo Meridian

T. 12 S., R 47 E.,
sec. 30, SE1/4SW1/4;
sec. 31, E1/2NW1/4, NE1/4SW1/4, and W1/2SE1/4.

T. 13 S., R. 47 E.,
sec. 05, W1/2SW1/4;
sec. 06, lots 1 and 2, SE1/4NE1/4, and NE1/4SE1/4;
sec. 08, W1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4, W1/2SE1/4, and SE1/4SE1/4;
sec. 16, W1/2NW1/4, SE1/4NW1/4, NE1/4SW1/4, W1/2SE1/4, and SE1/4SE1/4;
sec. 17, NE1/4NE1/4;
sec. 21, N1/2NE1/4 and SE1/4NE1/4;
sec. 22, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, and SW1/4SE1/4;
sec. 27, N1/2NE1/4, SE1/4NE1/4, and E1/2SE1/4;
sec. 34, E1/2NE1/4 and NE1/4SE1/4;
sec. 35, N1/2SW1/4 and N1/2SE1/4;
sec. 36, N1/2SW1/4, SE1/4SW1/4, and SW1/4SE1/4.

T. 14 S., R. 47 E.,
sec. 09, E1/2NE1/4;
sec. 10, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, and SW1/4SE1/4;
sec. 14, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, and SW1/4SE1/4;
sec. 15, N1/2NE1/4 and SE1/4NE1/4;
sec. 23, N1/2NE1/4 and SE1/4NE1/4;

sec. 24, S1/2NW1/4, N1/2SW1/4, W1/2SE1/4, and SE1/4SE1/4;
sec. 25, NE1/4NE1/4.

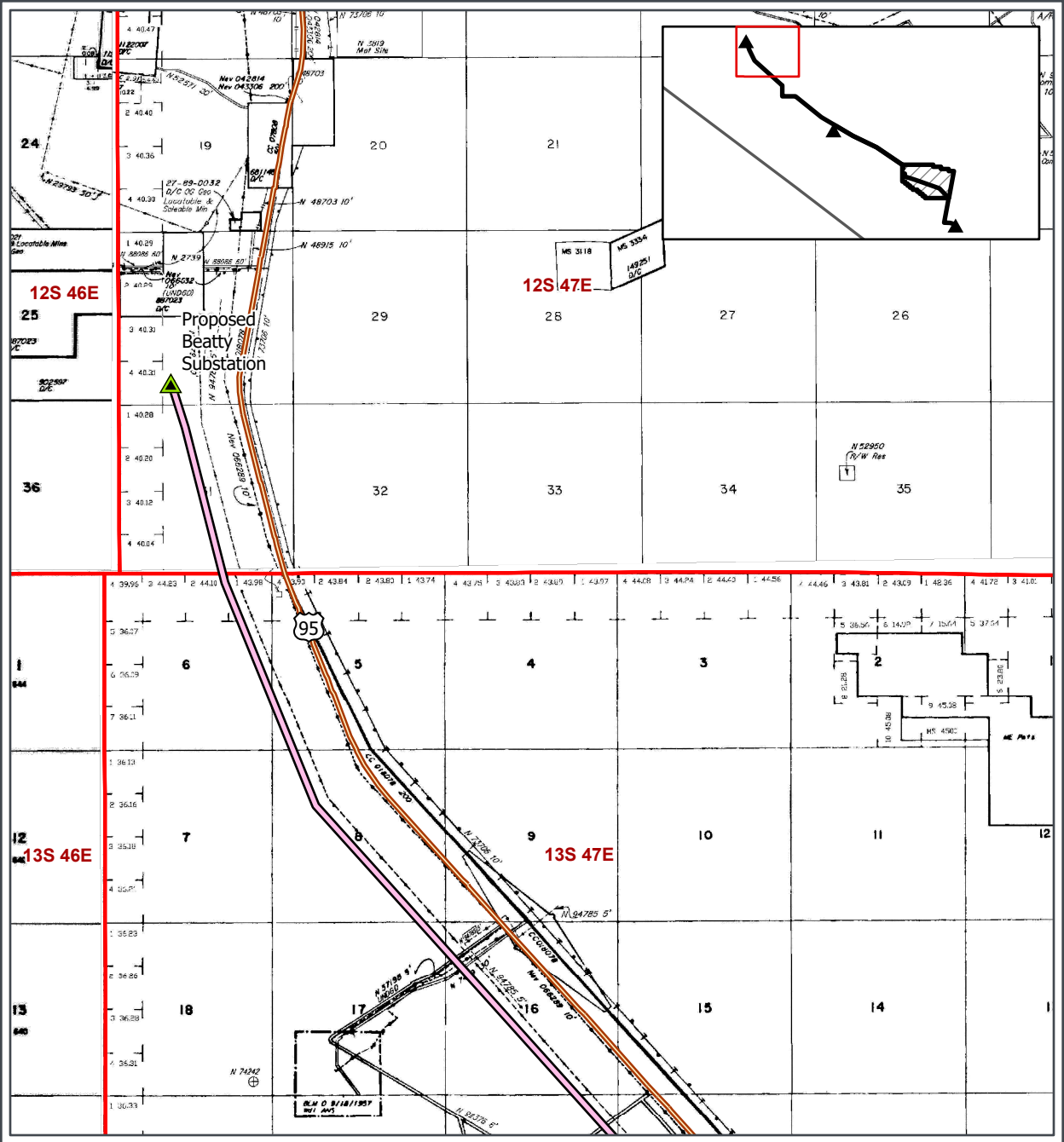
T. 14 S., R. 48 E.,
sec. 29, S1/2SW1/4;
sec. 30, SW1/4NE1/4, N1/2NW1/4, SE1/4NW1/4, N1/2SE1/4, and SE1/4SE1/4;
sec. 32, W1/2NE1/4, SE1/4NE1/4, NE1/4NW1/4, and NE1/4SE1/4;
sec. 33, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, and S1/2SE1/4.

T. 15 S., R. 48 E.,
sec. 02, W1/2SW1/4 and SE1/4SW1/4;
sec. 03, SW1/4NE1/4, NW1/4, and N1/2SE1/4;
sec. 04, NE1/4NE1/4;
sec. 11, NE1/4 and NE1/4NW1/4;
sec. 12, SW1/4NW1/4, N1/2SW1/4, SE1/4SW1/4, and SW1/4SE1/4;
sec. 13, N1/2NE1/4 and SE1/4NE1/4.

T. 15 S., R. 49 E.,
sec. 17, SW1/4SW1/4;
sec. 18, lot 2, SE1/4NW1/4, NE1/4SW1/4, W1/2SE1/4, and SE1/4SE1/4.

APPENDIX B

Rock Valley Energy Center Master Title Plat Map Book



- Proposed Substation/Switchyard*
- Amargosa Gen-Tie
- Beatty Gen-Tie

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.8426°N 116.7273°W

*Proposed substations are not a part of Rock Valley Energy Center Project

Base Map: ESRI ArcGIS Online
accessed April 2024
Updated: 4/26/2024
Project No. 830598
Layout: MTP
Aprx: 83059_RVEC_Solar_Dist

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0 0.5 1 Kilometers

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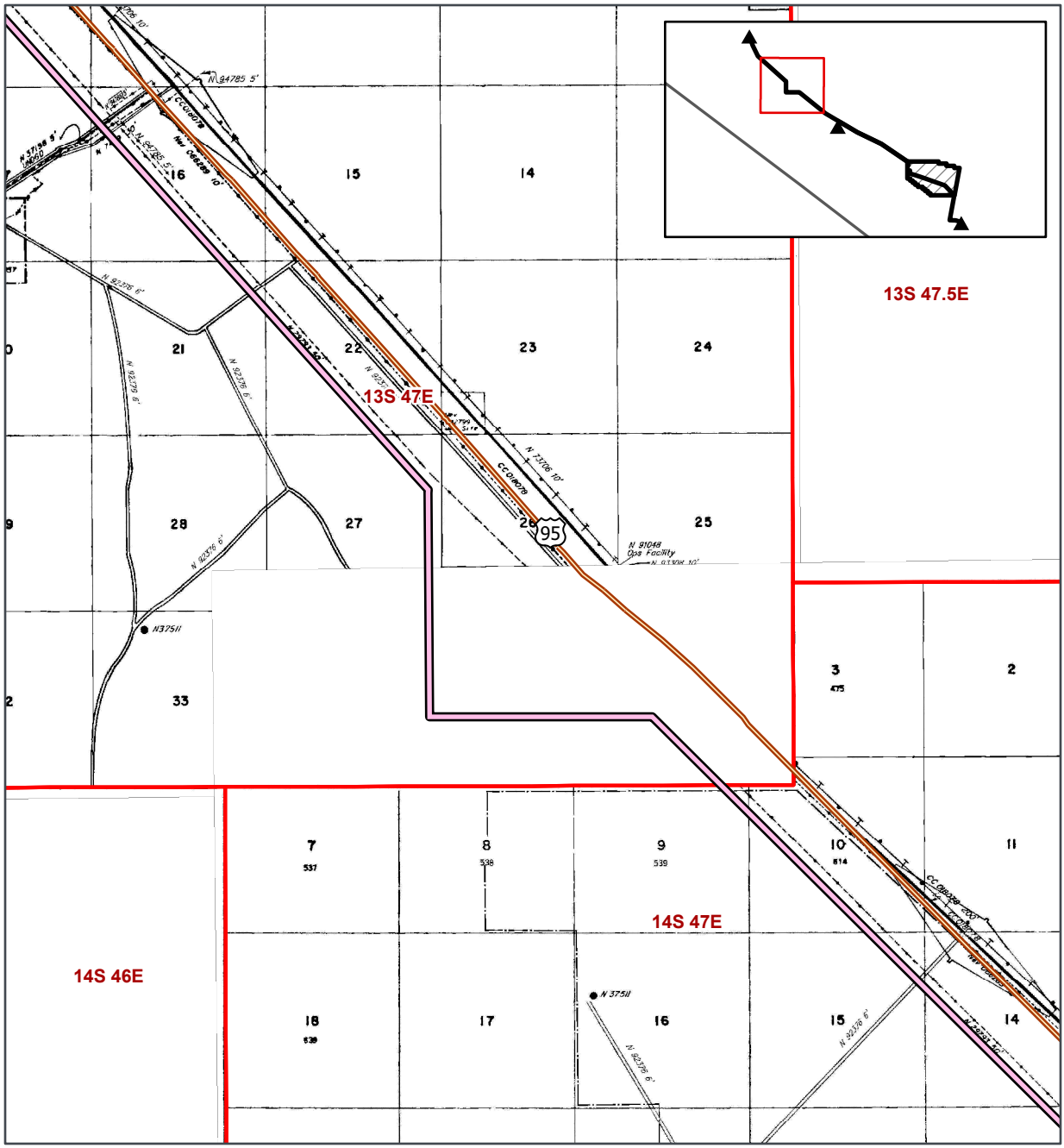
1:60,000

SWCA ENVIRONMENTAL CONSULTANTS



Amargosa Gen-Tie

Beatty Gen-Tie

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.7727°N 116.691°W

*Proposed substations are not a part of Rock Valley Energy Center Project

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Base Map: ESRI ArcGIS Online accessed April 2024
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Project No. 830598
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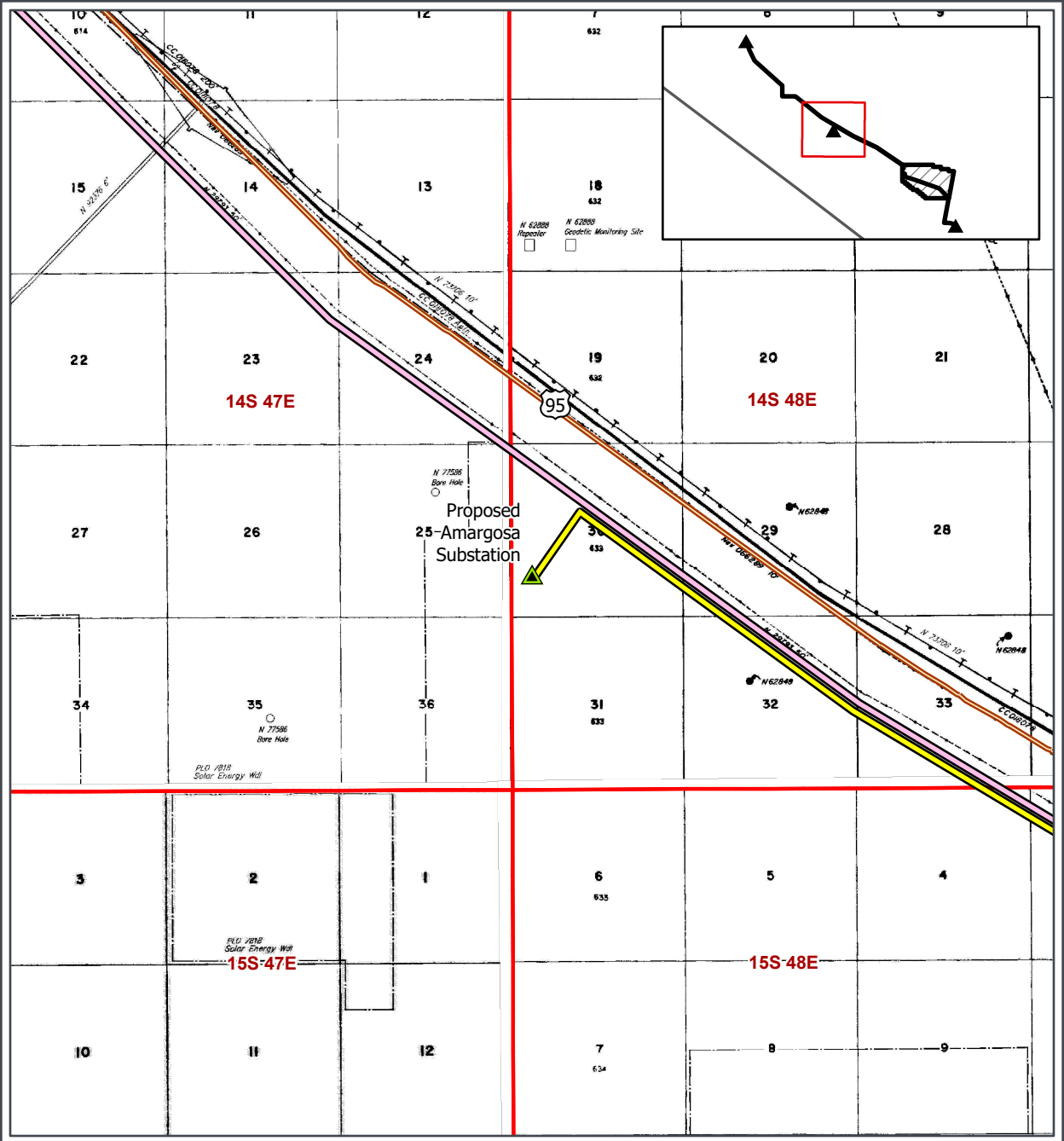
SWCA ENVIRONMENTAL CONSULTANTS



Proposed Substation/Switchyard*

Amargosa Gen-Tie

Beatty Gen-Tie

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.7032°N 116.6126°W

*Proposed substations are not a part of Rock Valley Energy Center Project

Base Map: ESRI ArcGIS Online
accessed April 2024
Updated: 4/26/2024
Project No. 830598
Layout: MTP
Aprx: 83059_RVEC_Solar_Dist

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0 0.5 1 Kilometers

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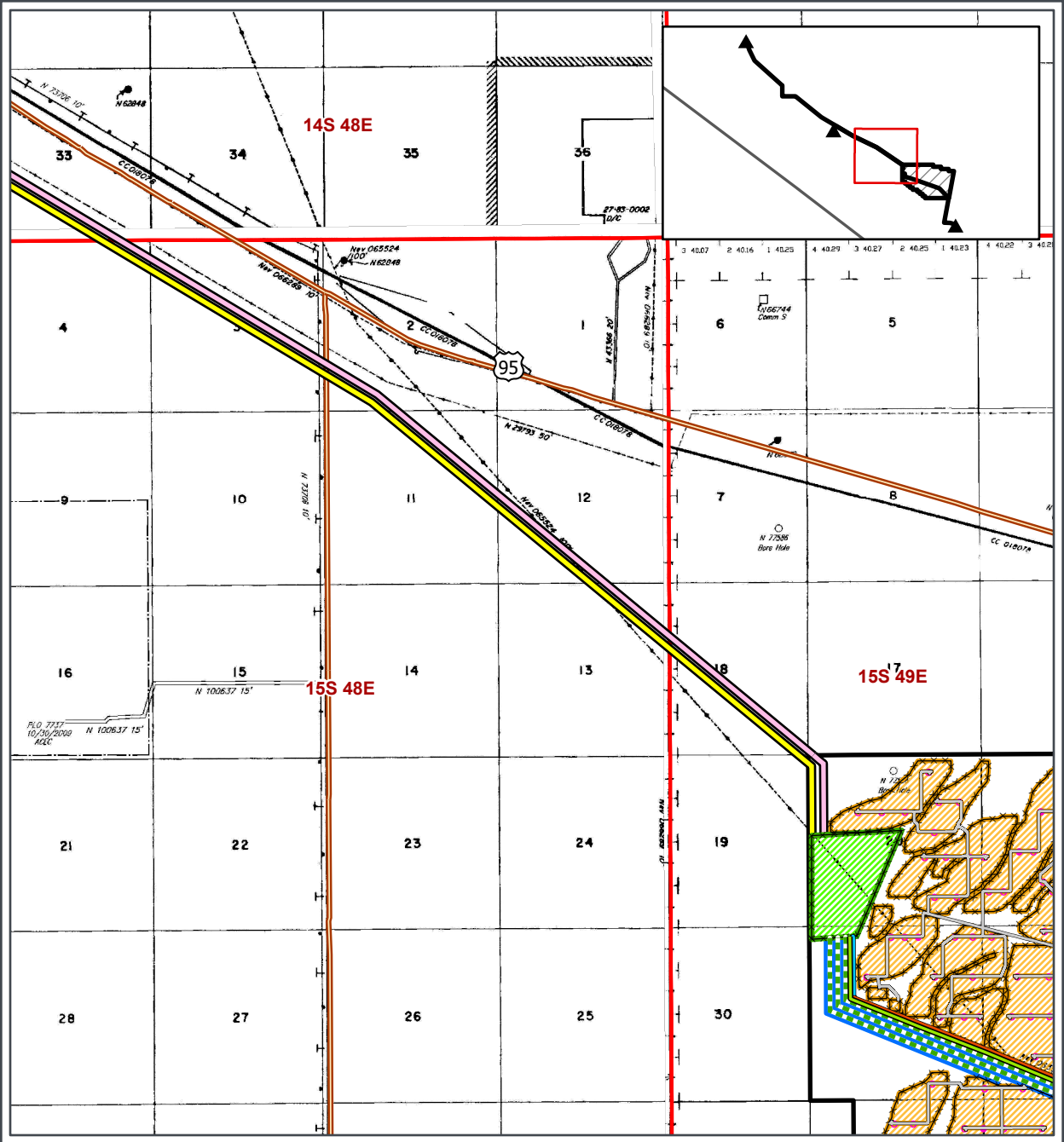
SWCA ENVIRONMENTAL CONSULTANTS



Rock Valley Energy Center

Project Components

- Fence
- Medium-Voltage Line
- Existing Primary Access Road (to be improved to 20 feet wide)
- New Primary Access Road (20 feet wide)
- New Internal Access Road (10 feet wide)
- Amargosa Gen-Tie
- Beatty Gen-Tie
- Valley Switchyard Gen-Tie
- Inverter
- Substation/BESS
- Medium-Voltage Corridor
- Solar Array Area

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.657°N 116.5213°W

*Proposed substations are not a part of Rock Valley Energy Center Project

Base Map: ESRI ArcGIS Online accessed April 2024
Updated: 4/26/2024
Project No. 830598
Layout: MTP
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0 0.5 1 Miles
0 0.5 1 Kilometers

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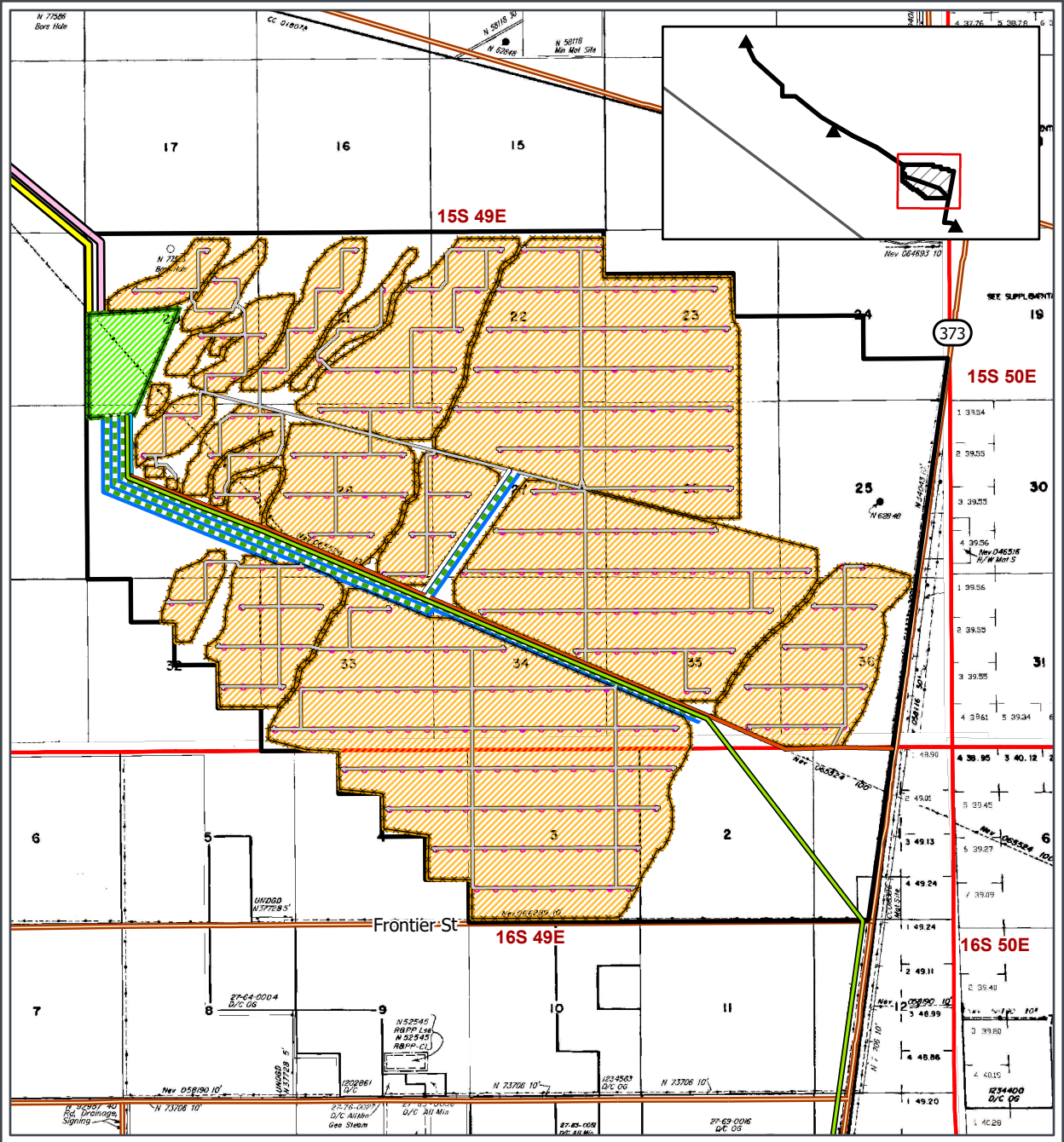
SWCA ENVIRONMENTAL CONSULTANTS



Rock Valley Energy Center

Project Components

- Fence
- Medium-Voltage Line
- Existing Primary Access Road (to be improved to 20 feet wide)
- New Primary Access Road (20 feet wide)
- Existing Internal Access Road (10 feet wide)
- New Internal Access Road (10 feet wide)
- Amargosa Gen-Tie
- Beatty Gen-Tie
- Valley Switchyard Gen-Tie
- Inverter
- Substation/BESS
- Medium-Voltage Corridor
- Solar Array Area

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.6129°N 116.4463°W

*Proposed substations are not a part of Rock Valley Energy Center Project

Base Map: ESRI ArcGIS Online
accessed April 2024
Updated: 4/26/2024
Project No. 830598
Layout: MTP
Aprx: 83059_RVEC_Solar_Dist

0 0.5 1 Miles
0 0.5 1 Kilometers

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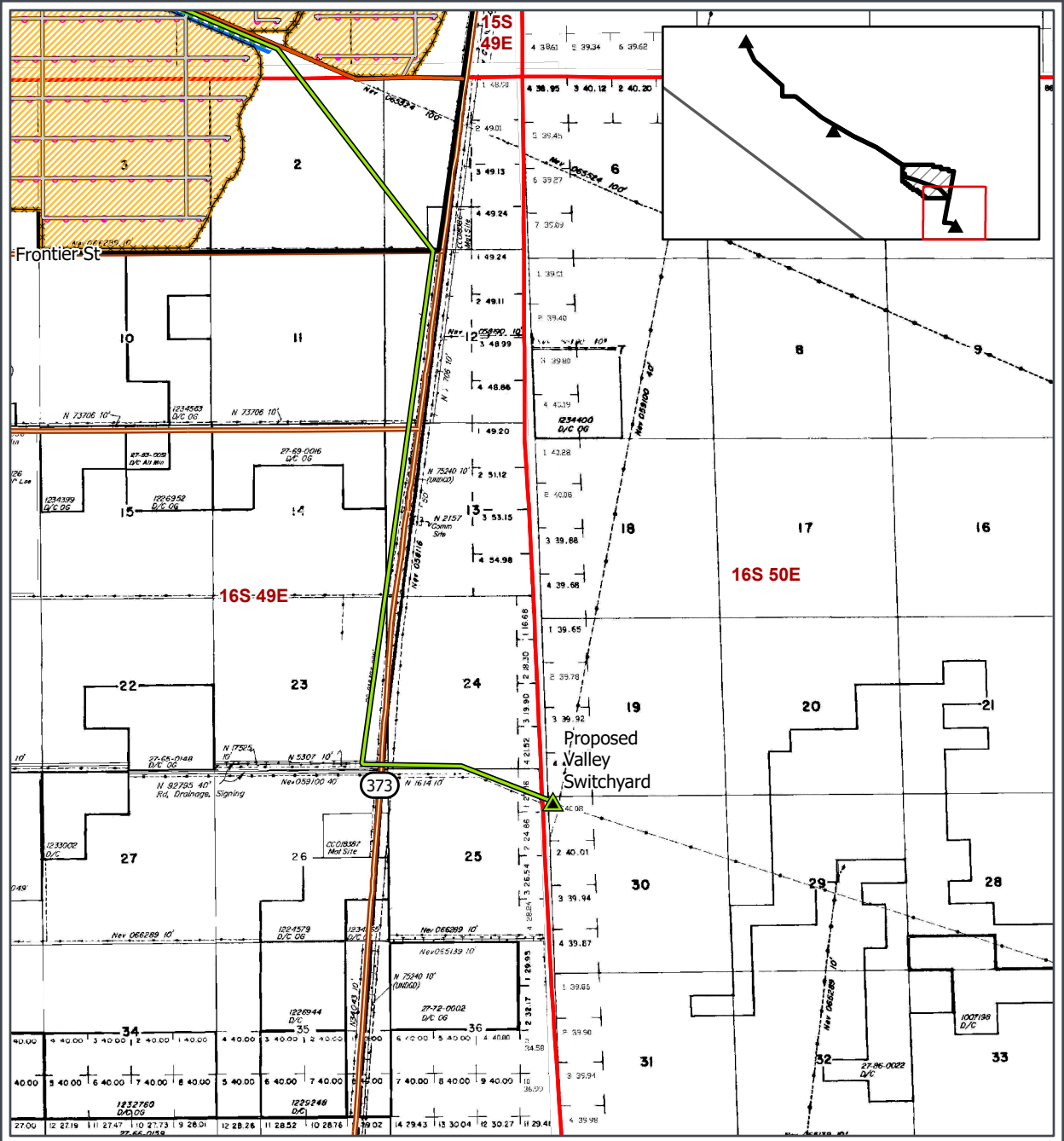
SWCA ENVIRONMENTAL CONSULTANTS



- Proposed Substation/Switchyard*
- Rock Valley Energy Center

Project Components

- Fence
- Medium-Voltage Line
- Existing Primary Access Road (to be improved to 20 feet wide)
- New Internal Access Road (10 feet wide)
- Amargosa Gen-Tie
- Valley Switchyard Gen-Tie
- Inverter
- Medium-Voltage Corridor
- Solar Array Area

Nye County, NV
USGS 7.5' Quadrangle:
Lathrop Wells, NV, 36116-F4
S of Amargosa Valley, NV, 36116-E4
T15S R49E Section
15,16,17,20,21,22,23,24,25,
26,27,28,29,32,33,34,35,36
T16S R49E Section
01,02,03,04,10,11,12
NAD 1983 UTM Zone 11N
36.5564°N 116.402°W

*Proposed substations are not a part of Rock Valley Energy Center Project

Base Map: ESRI ArcGIS Online
accessed April 2024
Updated: 4/26/2024
Project No. 830598
Layout: MTP
Aprx: 83059_RVEC_Solar_Dist

0 0.5 1 Miles
0 0.5 1 Kilometers

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SWCA ENVIRONMENTAL CONSULTANTS

APPENDIX C

2012 Western Solar Plan Programmatic Design Features

Table C-1. 2012 Western Solar Plan Programmatic Design Features

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
LR1-1	Project developers shall consult with the BLM in the early phases of project planning to identify potential land use conflicts and constraints. (a) Identification of potential land use conflicts shall include, but is not limited to, the following: • Identifying potential land use conflicts in proximity to the proposed project. In coordination with the BLM, developers shall consult existing BLM land use plans and local land use plans, as well as with appropriate Federal, state, and local agencies; affected tribes; and adjacent property owners. • Identifying legal access to private, state, and Federal lands surrounding the solar facilities and the potential to create areas that are inaccessible to the public. • Considering the effects on the manageability and uses of public lands around boundaries of solar energy facilities. • Considering the potential effects on prime and unique farmland. • Evaluating land use impacts and constraints as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM. • Providing notification to existing BLM ROW authorization holders within solar energy development areas, pursuant to Title 43, Part 2807.14 of the Code of Federal Regulations (43 CFR 2807.14), to inform them that an application that might affect their existing ROW has been filed and request their comments. • Proposed solar energy developments within one-quarter mile of any project boundary will require issuance of a Chain of Survey Certificate in conformance with the Departmental standard. In some cases, Land Description Reviews, Certificates of Inspection and Possession, Boundary Assurance Certificates, resurveys, re-monumentation, and/or referencing of Public Land Survey System (PLSS) corners may be required before the start of any action. (b) Methods to minimize land use conflicts and constraints may include, but are not limited to, the following: • Informing project personnel of all laws and regulations that they may be subject to, such as international borders, limitations on the removal of salable materials such as stone or wood from a project site for personal use, and use of vehicles off of the project site in limited access areas. This information should be incorporated into a Worker Education and Awareness Plan (WEAP) that is provided to all project personnel prior to entering the project worksite. The WEAP shall be provided on a regular basis, covering multiple resources, to ensure the awareness of key mitigation efforts of the project worksite during all phases of the project's life. The base information the WEAP provides shall be reviewed and approved by the BLM prior to the issuance of a Notice to Proceed and incorporate adaptive management protocols for addressing changes over the life of the project, should they occur.	Yes	S
LR2-1	Solar facilities shall be sited, designed, and constructed to avoid, minimize, and/or mitigate impacts on BLM land use planning designations. (a) Methods to minimize impacts on BLM land use planning designations may include, but are not limited to, the following: • Locating existing designated transmission corridors within the area of a proposed solar energy development project in consultation with the BLM. Reviewing future transmission capacity in the corridor to determine whether the corridor should be excluded from solar energy development or whether the capacity of the designated transmission corridor can be reduced. Options to partially relocate the corridor to retain the current planned capacity or to relocate the solar energy project outside the designated corridor may be considered. • Identifying and protecting evidence of the PLSS and related Federal property boundaries prior to commencement of any ground-disturbing activity. This will be accomplished by contacting the BLM Cadastral Survey to coordinate data research, evidence examination and evaluation, and locating, referencing, or protecting monuments of the PLSS and related land boundary markers from destruction. In the event of obliteration or disturbance of the Federal boundary evidence, the responsible party shall immediately report the incident, in writing, to the Authorizing Official. The BLM Cadastral Survey will determine how the marker is to be restored. In rehabilitating or replacing the evidence the responsible party will be instructed to use the services of a Certified Federal Surveyor (CFedS), whose procurement shall be per qualification-based selection, or to reimburse the BLM for costs. All surveying activities will conform to the Manual of Surveying Instructions and appropriate state laws and regulations. Local surveys will be reviewed by Cadastral Survey before being finalized or filed in the appropriate state or county office. The responsible party shall pay for all survey, investigation, penalty, and administrative costs. • Considering opportunities to consolidate access to and other supporting infrastructure for single projects and for cases where there is more than one project in close proximity to another in order to maximize the efficient use of public land and minimize impacts.	Yes	S, C
LWC1-1	Protection of existing values of specially designated areas and lands with wilderness characteristics shall be evaluated during the environmental analysis for solar energy projects, and the results shall be incorporated into the project planning and design. (a) Assessing potential impacts on specially designated areas and lands with wilderness characteristics shall include, but is not limited to, the following: • Identifying specially designated areas and lands with wilderness characteristics in proximity to the proposed projects. In coordination with the BLM, developers shall consult existing land use plans and updated inventories. • Identifying lands that are within the geographic scope of a proposed solar energy project that have not been recently inventoried for wilderness characteristics or any lands that have been identified in a citizen's wilderness proposal in order to determine whether they possess wilderness characteristics. Developers shall consider including the wilderness characteristics evaluation as part of the processing of a solar energy ROW application for those lands without a recent wilderness characteristics inventory. All work must be completed in accordance with current BLM policies and procedures. • Evaluating impacts on specially designated areas and lands with wilderness characteristics as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM. (a) Methods to mitigate unavoidable impacts on specially designated areas and lands with wilderness characteristics may include, but are not limited to, the following: • Acquiring wilderness inholdings from willing sellers. • Acquiring private lands from willing sellers adjacent to designated wilderness. • Acquiring private lands from willing sellers within proposed wilderness or Wilderness Study Areas. • Acquiring other lands containing important wilderness or related values, such as opportunities for solitude or a primitive, unconfined (type of) recreation. • Restoring wilderness, for example, modifying routes or other structures that detract from wilderness character. • Contributing mitigation monies to a "wilderness mitigation bank," if one exists, to fund activities such as the ones described above. • Enacting management to protect lands with wilderness characteristics in the same field office or region that are not currently being managed to protect wilderness character. Areas that are to be managed to protect wilderness characteristics under this approach must be of sufficient size to be manageable, which could also include areas adjacent to current WSAs or adjacent to areas currently being managed to protect wilderness characteristics.	Yes	S
LWC2-1	Solar facilities shall be sited, designed, and constructed to avoid, minimize, and/or mitigate impacts on the values of specially designated areas and lands with wilderness characteristics.	Yes	S, C

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
RG1-1	Project developers shall consult with the BLM early in project planning to identify activities that could impact rangeland resources and grazing. (a) Identifying impacts on rangeland resources and grazing shall include, but is not limited to, the following: • Identifying rangeland resources and grazing use in proximity to the proposed projects. In coordination with the BLM, developers shall consult existing land use plans and updated inventories. • Coordinating with affected grazing permittees/lessees to discuss how a proposed project may affect grazing operations and to address possible alternatives to avoid and minimize impacts, as well as mitigation and compensation strategies. • Evaluating impacts on rangeland resources and grazing use as part of the environmental impact analysis for the project, and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM. Issues to be considered include, but are not limited to, maintenance or relocation of range improvements and fencing, access to water and water rights, delineation of open range, and traffic management.	Yes	S
RG2-1	Roads shall be constructed, improved, and maintained to minimize their impact on grazing operations. Road design shall include fencing, cattle guards, and speed control and information signs where appropriate.	No The Project is located within a BLM-designated unallotted area permanently closed to livestock grazing.	S, C, O
WHB1-1	Project developers shall coordinate with the BLM and other stakeholders early in the project planning process to assess and consider options to avoid, minimize, and/or mitigate impacts on wild horses and burros and their management areas. (a) Assessing impacts on wild horses and burros and their management areas shall include, but is not limited to, the following: • Identifying wild horses and burros and their management areas in proximity to the proposed projects. In coordination with the BLM, developers shall consult existing land use plans and updated inventories. • Evaluating potential impacts on wild horses and burros and their management areas as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM. (b) Methods to minimize impacts on wild horses and burros and their management areas may include, but are not limited to, the following: • Installing fencing and access control. • Providing for movement corridors. • Delineating open range. • Requiring traffic management measures (e.g., vehicle speed limits). • Ensuring access to or replacement of water sources. • Incorporating key elements to mitigate impacts on wild horses and burros in a WEAP that is provided to all project personnel prior to entering the project worksite. The WEAP shall be provided on a regular basis, covering multiple resources, to ensure the awareness of key wild horse and burro mitigation efforts of the project worksite during all phases of the project's life. The base information the WEAP provides shall be reviewed and approved by the BLM prior to the issuance of a Notice to Proceed and incorporates adaptive management protocols for addressing changes over the life of the project, should they occur	Yes	S
WHB2-1	Project access roads shall be sited, designed, constructed, fenced, and/or improved to minimize potential wild horse and burro collisions. Fences, or other appropriate structures, should be constructed to exclude wild horses and burros from solar energy project site facilities. Either water sources or access routes to water sources for horses and burros should be excluded from the solar energy development area, or alternate water sources or routes should be provided.	Yes	S, C
WF1-1	Project developers shall coordinate with the BLM and other appropriate fire organizations early in the project planning process to determine fire risk and methods to minimize fire risk. (a) Identifying fire risk shall include, but is not limited to, the following: • Assessing the potential for fire risk associated with the proposed project in coordination with the BLM and other appropriate fire organizations. Developers shall consult existing land use plans and fire management plans. • Evaluating fire risk as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate such risk in coordination with the BLM. (b) General methods to minimize fire risk shall include, but are not limited to, the following: • Developing and implementing fire management measures that include providing worker training. • Incorporating key elements to mitigate the potential for fire into a WEAP that is provided to all project personnel prior to entering the project worksite. The WEAP shall be provided on a regular basis, covering multiple resources, to ensure the awareness of key fire mitigation efforts of the project worksite during all phases of the project's life. The information provided in the WEAP shall be reviewed and approved by BLM prior to the issuance of a Notice to Proceed and incorporate adaptive management protocols for addressing changes over the life of the project, should they occur. • Incorporating inspection and monitoring measures, including adaptive management protocols, into the POD and other applicable plans to monitor and respond to fire risk during construction, operations, and decommissioning of a solar energy development.	Yes	S, C, O, D
WF2-1	Solar facilities shall be sited and designed to minimize fire risk. (a) Methods to minimize fire risk may include, but are not limited to, the following: • Siting and designing the solar facilities to ensure sufficient room for fire management within the ROW and its facilities to minimize the risk of fire moving outside the ROW and the risk of fire threatening the facility from outside. • Consulting fire management personnel to determine actions, both active and passive (e.g., vegetation manipulation), that may minimize the need for protective responses by the BLM and state and local fire organizations. • Developing and implementing measures to integrate vegetation management to minimize the potential to increase the frequency of wildland fires and prevent the establishment of non-native, invasive species on the solar energy facility and its transmission line and roads.	Yes	S, C, O, D

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
R1-1	Project developers shall consult with the BLM in the early phases of project planning to identify public access and recreation use areas in and adjacent to a project site. (a) Identifying public access and recreation in and adjacent to a project shall include, but is not limited to, the following: • Considering existing public access through or around proposed solar facilities that allows for access to and use of BLM- administered public lands and non-BLM administered lands. Developers shall conduct this assessment in coordination with the BLM and consult existing land use plans, recreation management plans, etc. • Identifying legal access to private, state, and Federal lands surrounding the solar facilities to avoid creating areas that are inaccessible to the public. • Evaluating impacts on public access and recreation as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM. (b) Methods to minimize access and recreation conflicts may include, but are not limited to, the following: • Considering replacement of acreage lost for identified recreation opportunities, such as off-highway vehicle use. • Considering, to the extent practicable, providing access through or around a solar energy facility to provide for adequate public access and/or recreation. • Incorporating environmental inspection and monitoring measures into the POD and other applicable plans to monitor and respond to impacts on recreation during construction, operations, and decommissioning of a solar energy development, including adaptive management protocols.	Yes	S
R2-1	Solar facilities shall not be sited in areas designated as unique or important recreation resources (such as Special Recreation Management Areas), where it has been determined that a solar facility or other such development of the land would be in direct conflict with the objectives of the relevant management plan.	No The Project is not proposed for siting in an area that has been designated as a unique or important recreation resource,	S
MCA1-1	Project developers shall coordinate with the BLM, military personnel, and civilian airspace managers early in the project planning process to identify and minimize impacts on military and civilian airport and airspace use. (a) Identifying impacts on military and civilian airport and airspace use shall include, but is not limited to, the following: • Submitting plans for proposed construction of any facility that is 200 ft (~61 m) or taller and plans for other projects located in proximity to airports to the Federal Aviation Administration (FAA) to evaluate potential safety hazards. • Consulting with the U.S. Department of Defense (DoD) to minimize and/or eliminate impacts on military operations, and encouraging compatible development. This consultation will be initiated by the BLM and will include both general discussions for early planning and detailed assessments of specific proposals at the local level. The BLM will accept formal DoD submissions once they have been vetted through both the Military Departments and the DoD Siting Clearinghouse. • Evaluating impacts on military and civil aviation as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM.	Yes	S
SR1-1	Project developers shall coordinate with the BLM and other Federal, state, and local agencies early in the project planning process to assess soil erosion and geologic hazard concerns and to minimize potential impacts. (a) Assessing soil erosion and geologic hazard concerns shall include, but is not limited to, the following: • Identifying soil erosion and geologic hazard concerns on-site and in proximity to the proposed projects. In coordination with the BLM, developers shall consult existing land use plans, updated inventories, soil surveys, etc. • Identifying local factors that can cause slope instability (e.g., groundwater conditions, precipitation, earthquake activity, slope angles, and the dip angles of geologic strata). • Consulting with local Federal, state, and county agencies regarding road design on the basis of local meteorological conditions, soil moisture, and erosion potential. • Determining the potential safety and resource impacts associated with soil erosion. • Evaluating soil erosion and geologic hazard concerns as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM.	Yes	S
SR2-1	Solar facilities shall be sited, designed, and constructed to minimize soil erosion and geologic hazard concerns. (a) Methods to minimize soil erosion may include, but are not limited to, the following: • Designing structures to meet the requirements of all applicable Federal, state, and county permits and building codes. • Minimizing ground-disturbing activities. • Preventing channel erosion from project runoff. • Controlling culvert outlets with appropriate structures (e.g., rock lining or apron) to reduce soil erosion and scouring. • Recontouring and revegetating project roads that are no longer needed in order to increase infiltration and reduce soil compaction. • Considering utilizing originally excavated materials for backfill. • Controlling project vehicle and equipment speeds to reduce dust erosion. • Controlling water runoff and directing it to settling or rapid infiltration basins. • Retaining sediment- laden waters from disturbed, active areas within the project through the use of barriers and sedimentation devices (e.g., berms, straw bales, sandbags, jute netting, or silt fences). Removing sediment from barriers and sedimentation devices to restore sediment-control capacity. • Placing barriers and sedimentation devices around drainages and wetlands. • Siting project structures and facilities to avoid disturbance in areas with existing biological soil crusts. • Replanting project areas with native vegetation at spaced intervals to break up areas of exposed soil and reduce soil loss through wind erosion. • Minimizing land disturbance (including crossings) in natural drainage systems and groundwater recharge zones (i.e., ephemeral washes and dry lake beds). • Locating and constructing drainage crossing structures so as not to decrease channel stability or increase water volume or velocity. Providing adequate space (i.e., setbacks) between solar facilities and natural washes to preserve hydrologic function. • Considering the use of existing roads, disturbance areas, and borrow pits before creating new infrastructure. The use of any existing infrastructure shall be analyzed in the environmental analysis for the proposed project.	Yes	S, C, O, D

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
	• Siting, designing, and constructing new roads and walking trails consistent with the appropriate design standards and criteria, such as those described in BLM Manual 9113 and 43 CFR 8342.1. Roads and trails should follow natural land contours, and hill cuts should be minimized in the project area. • Avoiding areas with unstable slopes and soils. • Avoiding excessive grades on roads, road embankments, ditches, and drainages during site preparation and construction. • Considering use of special construction techniques in areas of steep slopes, erodible soil, and drainageways. • Considering implementing construction in stages to limit the areas of exposed and unstabilized soils. • Reducing construction activity timeframes so that ground- disturbing activities take place over as short a timeframe as possible. • Lessening fugitive dust emissions and site soils compaction by avoiding unpaved surfaces with construction traffic. • Avoiding clearing and disturbing areas outside the construction zone. • Clearly identifying construction zone boundaries on the ground (e.g., through the use of construction fencing) to minimize conflict with other resource concerns. • Avoiding ground disturbance in areas with intact biological soil crusts and desert pavement. • Burying electrical lines from solar collectors along existing features (e.g., roads or other paths of disturbance) to minimize the overall area of surface disturbance. • Obtaining borrow materials from authorized and permitted sites. • Conducting construction grading in compliance with industry practice (e.g., the American Society for Testing and Materials [ASTM] international standard methods) and other requirements (e.g., BLM and/or local grading and construction permits). • Using temporary stabilization devices (i.e., erosion matting blankets, or soil stabilizing agents) for areas that are not actively under construction. • Salvaging topsoil from all excavation and construction and reapplying it to disturbed areas upon completion of construction. • Restoring native plant communities as quickly as possible in disturbed areas through natural revegetation or by seeding and transplanting (using weed-free native grasses, forbs, and shrubs), on the basis of BLM recommendations. • Minimizing soil-disturbing activities on wet soils. • Performing studies to determine the effects from construction activities on the eolian processes that maintain any nearby sand dunes, if applicable. • Incorporating environmental inspection and monitoring measures into the POD and other applicable plans to monitor and respond to impacts on soil resources during construction, operations, and decommissioning of a solar energy development, including adaptive management protocols. (b) Methods to minimize geologic hazard concerns may include, but are not limited to, the following: • Building project structures in accordance with the design-basis recommendations in the project-specific geotechnical investigation report. • Considering special siting, design, and engineering strategies in areas that involve high seismic activity or have potential for flooding or debris flow.		
SR3-1	Compliance with the conditions for soil resources and geologic hazards shall be monitored by the project developer. Consultation with the BLM shall be maintained through the operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods to maintain the soil erosion and geologic hazard design elements during operations and maintenance of the project shall include, but are not limited to, the following: • Applying design features developed for the construction phase to similar activities during the operations phase. • Performing routine site inspections to assess the effectiveness of maintenance requirements for erosion and sediment control systems. • Maintaining permanent barriers and sedimentation devices to ensure effective control. • Regularly maintaining catch basins, roadway ditches, and culverts. • Identifying soil erosion and geologic hazard requirements within the POD and other applicable plans.	Yes	C, O
SR3-2	Permanent stabilization of disturbed areas shall occur during final grading and landscaping of the site and be maintained through the life of the facility	Yes	C, O
SR4-1	All design features for soil erosion and geologic hazards developed for the construction phase shall be applied to similar activities undertaken during the decommissioning and reclamation phase.	Yes	D
SR4-2	To the extent possible, the original grade and drainage pattern shall be re-established	Yes	C, O, D
SR4-3	Native plant communities in disturbed areas shall be restored by natural revegetation or by seeding and transplanting (using weed-free native grasses, forbs, and shrubs), on the basis of recommendations by the BLM, once decommissioning is completed.	Yes	C, O, D
MR1-1	Project developers shall consult with the BLM in the early phases of project planning to identify potential impacts on mineral development activities and ways to minimize potential adverse impacts. (a) Assessing impacts on mineral resources shall include, but is not limited to, the following: • Identifying active mining claims or mineral development activities and potential for mineral development in proximity to a proposed project. In coordination with the BLM, developers shall consult existing land use plans and updated inventories. • Evaluating impacts on mineral development as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM.	Yes	S
MR1-2	All solar energy development ROWs shall contain the stipulation that the BLM retains the right to issue oil and gas or geothermal leases with a stipulation of no surface occupancy within the ROW area. Upon designation, SEZs will be classified as no surface occupancy areas for oil and gas and geothermal leasing.	Yes	S
MR2-1	Solar development projects shall be located to minimize conflicts with valid existing mineral rights and/or ongoing mineral development.	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
WR1-1	Project developer shall control project site drainage, erosion, and sedimentation related to stormwater runoff. The project developer shall identify site surface water runoff patterns and develop measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the project site and project-related construction areas. This shall be implemented within a Stormwater Pollution Prevention Plan and incorporated into the POD, as appropriate. (a) Assessing stormwater runoff concerns shall include, but is not limited to, the following: • Conducting hydrologic analysis and modeling to define the 100-year, 24-hour rainfall for the project area and calculating projected runoff from this storm at the site. • Demonstrating the project will not increase off-site flooding potential, and including provisions for stormwater and sediment retention on the project site. • Demonstrating compliance with construction stormwater permitting through the EPA or state-run NPDES program (whichever applies within the state). • Demonstrating compliance with the EPA requirement that any development larger than 20 acres (0.08 km^2) and begun after August 2011 must monitor construction discharges for turbidity concentrations. (b) Methods to minimize stormwater runoff concerns may include, but are not limited to, the following: • Directing runoff from parking lots, roofs, or other impervious surfaces. • Creating or improving landscaping used for stormwater treatment to capture runoff. • Considering reduction of impervious surfaces through the use of permeable pavement or other pervious surfaces. • Maintaining natural drainages and pre-project hydrographs for the project ROW to the extent practicable. • Maintaining pre-development flood hydrograph for all storms up to and including the 100-year rainfall event. • Incorporating environmental inspection and monitoring measures into the POD and other applicable plans to monitor and respond to impacts from stormwater runoff during construction, operations, and decommissioning of a solar development, including adaptive management protocols.	Yes	S, C, O
WR1-2	Project developers shall conduct hydrologic study (or studies) that demonstrate a clear understanding of the local surface water and groundwater hydrology. (a) Assessing surface water and groundwater hydrology shall include, but is not limited to, the following: • Determining the relationship of the project site hydrologic basin to the basins in the region. • Identifying surface water bodies within the watershed of SEZs or individual projects (including rivers, streams, ephemeral washes/drainages, lakes, wetlands, playas, and floodplains) and identifying the 100-year floodplain of any surface water feature on the site. • Identifying applicable groundwater aquifers. • Quantifying physical characteristics of surface water features, such as streamflow rates, stream cross sections, channel routings, seasonal flow rates. • Quantifying physical characteristics of the groundwater aquifer, such as physical dimensions of the aquifer, sediment characteristics, confined/unconfined conditions, hydraulic conductivity, and transmissivity distribution of the aquifer. • Quantifying the regional climate, including seasonal and long-term information on temperatures, precipitation, evaporation, and evapotranspiration. • Quantifying the sustainable yield of surface waters and groundwater available to the project. • Consulting with the U.S. Army Corps of Engineers (USACE) regarding the siting of solar energy generating facilities in relation to hydrological features that have the potential to be subject to USACE jurisdiction.	Yes	S
WR1-3	Project developers shall coordinate with the BLM and other federal, state, and local agencies early in the planning process in order to identify and minimize water use for the solar project, and to secure water rights needed to meet project water needs. (a) Assessing water use shall include, but is not limited to, the following: • Quantifying water use requirements for project construction, operation, and decommissioning. • Meeting potable water supply standards of federal, state, and local water quality authorities (e.g., Sections 303 and 304 of the CWA). • Identifying wastewater treatment measures and new or expanded facilities, if any, to be included as part of the facility's National Pollutant Discharge Elimination System (NPDES) permit. (b) Methods for minimizing water use may include, but are not limited to, the following: • Utilizing appropriate water sources with respect to management practices for maintaining aquatic, riparian, and other water-dependent resources. • Considering water conservation measures related to solar energy technology water needs to reduce project water requirements (i.e., use dry cooling, use recycled or impaired water). • Incorporating environmental inspection and monitoring measures into the POD and other applicable plans to monitor water use during construction, operations, and decommissioning of the solar development, including adaptive management protocols.	Yes	S
WR1-4	Project developers shall avoid and/or minimize impacts on existing surface water features, including streams, lakes, wetlands, floodplains, intermittent/ephemeral streams, and playas (any unavoidable impacts would be minimized or mitigated) and in nearby regions resulting from the development in accordance with the following: • All sections of the Clean Water Act (CWA), including Sections 401, 402, and 404 addressing licensing and permitting issues; • Executive Orders (E.O.s) 11988 and 11990 of May 24, 1977, regarding floodplain and wetland management: E.O. 11988, "Floodplain Management" (Federal Register, Volume 42, page 26951 [42 FR 26951]), and E.O. 11990, "Protection of Wetlands" (42 FR 26961); • U.S. Environmental Protection Agency (EPA) stormwater management guidelines and applicable state and local guidelines; • Include submittal of a jurisdictional delineation for consultation with the USACE, in accordance with the 1987 wetlands delineation manual and appropriate regional supplement; avoidance, minimization and compensation proposals; • USACE permit, nationwide verification, or other approved jurisdiction. This includes identification of a Least Environmentally Damaging Practicable Alternative (LEDPA) within the environmental analysis. The USACE permit, nationwide verification, or approved jurisdiction letter shall be provided to the BLM prior to a decision; • National Wild and Scenic Rivers System (Public Law 90-542; 16 United States Code [U.S.C.] 1271 et seq.); and • Required CWA Section 303(d) identification of impaired surface water bodies.	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
WR2-1	Project developers shall avoid, minimize, and mitigate impacts on groundwater and surface water resources in accordance with the laws and policies above. (a) Methods to minimize impacts on surface water and ground water resources may include, but are not limited to, the following: • Reclaiming disturbed soils as quickly as possible. • Preventing the release of project waste materials into stormwater discharges. • Avoiding impacts on sole source aquifers according to EPA guidelines. • Developing measures to prevent potential groundwater and surface water contamination and incorporating them into the Spill Prevention and Emergency Response Plan and POD, as appropriate. • Minimizing land disturbance in ephemeral washes and dry lakebeds. Stormwater facilities shall be designed to route flow through or around the facility using existing washes when feasible, instead of concrete-lined channels. • Designing culverts and water conveyances to comply with BLM, state, and local standards, or to accommodate the runoff of a 100-year storm, whichever is larger. • Designing stormwater retention and/or infiltration and treatment systems for storm events up to and including the 100-year storm event. • Utilizing geotextile matting to stabilize disturbed channels and streambanks. • Diverting work-site runoff from entering disturbed streams using earth dikes, swales, and lined ditches. • Placing sediment control devices so that sediment-laden water can pond, thus allowing sediment to settle out. • Considering placement of check dams (i.e., small barriers constructed of rock, gravel bags, sandbags, fiber rolls, or reusable products) across a swale or drainage ditch to reduce the velocity of flowing water. • Considering special construction techniques in areas of erodible soil, alluvial fans, and stream channel/wash crossings. • Backfilling foundations and trenches with originally excavated material. • Disposing of excess excavated material according to state and federal laws. • Maintaining drilling fluids or cuttings in a manner so as not to contact aquatic habitats. Temporary impoundments for storing drilling fluids and cuttings shall be lined to minimize the infiltration of runoff into groundwater or surface water. • Avoiding washing equipment or vehicles in streams and wetlands. • Constructing entry and exit pits in work areas to trap sediments from vehicles so they do not enter streams at stream crossings. • Providing for periodic removal of wastewater generated in association with sanitary facilities by a licensed hauler. • Avoiding the creation of hydrologic conduits between two aquifers. • Using herbicides and pesticides within the framework of BLM and DOI policies and standard operating procedures, to include the use of only EPA-registered pesticides/herbicides that also comply with state and local regulations. • Transporting, storing, managing, and disposing of hazardous materials and vehicle/equipment fuels in accordance with accepted best management practices (BMPs) and in compliance with all applicable regulations, and where applicable, the SWPPP.	Yes	S, C, O, D
WR3-1	Compliance with the terms and conditions for water resource mitigation shall be monitored by the project developer. The developer shall consult with the BLM through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Maintaining the water resource design elements during operations and maintenance of the project shall include, but not be limited to, the following: • Monitoring water quantity and quality in areas adjacent to or downstream from development areas through the life of the project to ensure that water flows and water quality are protected. • Treating of sanitary and industrial wastewater either on-site or off-site to comply with federal, state, and local regulations. Any discharges to surface waters would require NPDES permitting. Any storage or treatment of wastewater on-site must use proper lining of holding ponds and tanks to prevent leaks. • Implementing monitoring using adaptive management strategies to ensure that long-term water use during operations does not contribute to long-term decline of groundwater levels or surface water flows and volumes.	Yes	C, O
WR4-1	Reclamation of the project site shall begin immediately after decommissioning to reduce the likelihood of water resource impacts from project activities. Developers shall coordinate with the BLM in advance of interim/final reclamation to have the BLM or other designated resource specialists on-site during reclamation to work on implementing water resource requirements and BMPs. (a) Methods for minimizing water resource impacts associated with reclamation and decommissioning activities may include, but are not limited to, the following: • Restoring the project area to predevelopment water conditions or to the extent acceptable by the BLM. • Considering contouring soil borrow areas, cut-and-fill slopes, berms, water bars, and other disturbed areas to approximate naturally occurring slopes. • Feathering edges of vegetation to reduce form and line contrasts with the existing landscapes. • Salvaging and reapplying topsoil from all decommissioning activities during final reclamation. • Continuing groundwater and surface water monitoring activities.	Yes	D
ER1-1	Project developers shall consult with the BLM and other federal, state, and local agencies, in the early phases of project planning to help ensure compliance with federal regulations which address the protection of fish, wildlife, and plant resources, with appropriate federal, state, and local agencies. (a) Assessing compliance with pertinent regulations for ecological resources shall include, but is not limited to, the following: • Developing in coordination with the BLM and U.S. Fish and Wildlife Service (USFWS) strategies for complying with regulatory requirements of the Bald and Golden Eagle Act. • Developing in coordination with appropriate federal and state agencies (e.g., BLM, USFWS, and state resource management agencies) measures to protect birds (including migratory species protected under the Migratory Bird Treaty Act [MBTA]). • Contacting appropriate agencies (e.g., BLM, USFWS, and state resource management agencies) early in the project planning process to identify potentially sensitive ecological resources such as aquatic habitats, wetland habitats, unique biological communities, crucial wildlife habitats, and special status species locations and habitats located within or in the vicinity of the areas occupied by the solar energy facility and associated access roads and ROWs. • Consulting with the USACE regarding the siting of solar energy generating facilities and energy transmission infrastructure in relation to hydrological features that have the potential to be subject to USACE jurisdiction. • Considering restrictions on timing and duration of activities developed in coordination with the BLM, USFWS, and other appropriate agencies to minimize impacts from project activities on nesting birds (especially passerines and listed species). • Considering recommendations contained in Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocol and Other Recommendations in Support of Golden Eagle Management and Permit Issuance. • Adhering to instruction Memorandum 2010-156, the Bald and Golden Eagle Protection Act – Golden Eagle National Environmental Policy Act and Avian Protection Plan Guidance for Renewable Energy until programmatic permits from the USFWS are available. The analysis of potential impacts on, and mitigation for, golden eagles shall be made in coordination with the USFWS. • Avoiding take of golden eagles and other raptors. Mitigation regarding the golden eagle shall be developed in consultation with the USFWS and appropriate state natural resource agencies. A permit may be required under the Bald and Golden Eagle Protection Act. • Discussing potential impacts on sensitive habitats resulting from operation of vehicles and construction of structures, including transmission lines, within the environmental analysis.	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
	(b) Methods to minimize regulatory conflicts for ecological resources may include, but are not limited to, the following: • Including submittal of a jurisdictional delineation for consultation with the USACE, in accordance with the 1987 wetlands delineation manual and appropriate regional supplement; avoidance, minimization and compensation proposals. • Identifying a Least Environmentally Damaging Practicable Alternative (LEDPA) and analyzing within the environmental analysis. A USACE permit, nationwide verification, or approved jurisdiction letter shall be provided to the BLM prior to a decision. • Developing measures to ensure protection of raptors in coordination with appropriate federal and state agencies (e.g., BLM, USFWS, and state resource management agencies). • Developing measures to ensure protection of bats in coordination with appropriate federal and state agencies (e.g., BLM, USFWS, and state resource agencies). • Developing measures to ensure mitigation and monitoring of impacts on special status species in coordination with appropriate federal and state agencies (e.g., BLM, USFWS, and state resource management agencies). • Consulting with the USFWS upon discovery of federally listed threatened and endangered species during any phase of the project. An appropriate course of action shall be determined to avoid, minimize, or mitigate impacts. All applicable terms and conditions and conservation measures listed in the programmatic Biological Opinion, issued by the USFWS, shall be followed. • Informing project personnel that only qualified biologists are permitted to handle listed species according to specialized protocols approved by the USFWS. • Considering plants, wildlife, and their habitats in the facility's Dust Abatement Plan. • Limiting herbicide use to non-persistent, immobile substances. Only herbicides with low toxicity to wildlife and non-target native plant species shall be used, as determined in consultation with the USFWS. Section 5.10.2.1.5 discusses the potential impacts of herbicides on wildlife. All herbicides shall be applied in a manner consistent with their label requirements and in accordance with guidance provided in the Final Solar PEIS on vegetation treatments using herbicides. Prior to application of herbicide treatments, a qualified person, such as a biologist, shall conduct surveys of bird nests and of special status species to identify the special measures or BMPs necessary to avoid and minimize impacts on migratory birds and special status species. • Developing a SWPPP for each project that includes avoids, to the extent practicable, changes in surface water or groundwater quality (e.g., chemical contamination, increased salinity, increased temperature, decreased dissolved oxygen, and increased sediment loads) or flow that result in the alteration of terrestrial plant communities or communities in wetlands, springs, seeps, intermittent streams, perennial streams, and riparian areas (including the alteration of cover and community structure, species composition, and diversity) off the project site. • Utilizing block or check valves on both sides of the waterway or habitat to minimize product release from pipelines that transport hazardous liquids (e.g., oils) that pass through aquatic or other habitats. Such pipelines shall be constructed of double-walled pipe at river crossings. • Considering compensatory mitigation and monitoring of significant direct, indirect, and cumulative impacts on, and loss of habitat for, special status plant and animal species. • Incorporating key elements on the identification and protection of ecological resources (especially for special status species), including knowledge of required design features, in instructions to all personnel. Incorporate the knowledge into a WEAP that is provided to all project personnel prior to entering the project work site. The WEAP shall be provided on a regular basis, so as to ensure the continued ecological awareness of the project work site during all phases of the project's life. The base information the WEAP provides shall be reviewed and approved by BLM prior to the issuance of a Notice to Proceed and incorporate adaptive management protocols for addressing ecological changes over the life of the project, should they occur. • Planning for vegetation management that is consistent with applicable regulations and agency policies for the control of noxious weeds and invasive plant species (Sections 5.10.1.1.2 and 5.10.1.1.4 discuss the need for local and regional native plants in revegetation and restoration). • Developing measures for fire management and protection that minimize the potential for a human- or facility-caused fire to affect ecological resources and that respond to natural fire situations (Section 5.10.1.1.2-3 discusses the potential impacts of fire on native plant communities). • Developing measures to investigate the possibility of revegetating parts of the solar array area. • Designating a qualified biologist who will be responsible for overseeing compliance with all design features related to the protection of ecological resources throughout all project phases, particularly in areas requiring avoidance or containing sensitive biological resources. This person shall be reviewed and approved by the USFWS and the BLM for designation as a qualified biologist. • Conducting pre-construction surveys, in coordination with BLM, USFWS, and state agency statutes, programs, and policies. • Conducting seasonally appropriate inspections by a qualified biologist or team of biologists to ensure that important or sensitive species or habitats are not present in or near project areas. Attendees at the inspections may include appropriate federal agency representatives, state natural resource agencies, and construction contractors, as appropriate. Habitats or locations to be avoided shall be clearly marked.		
ER2-1	Solar facilities shall be sited and designed, and constructed to minimize impacts on ecological resources. (a) Methods to minimize impacts on ecological resources may include, but are not limited to the following: • Siting and designing projects to avoid and minimize direct and indirect impacts on important, sensitive, or unique habitats in the project vicinity, including, but not limited to waters of the United States, wetlands (both jurisdictional and non-jurisdictional), springs, seeps, streams (ephemeral, intermittent, and perennial), 100-year floodplains, ponds and other aquatic habitats, riparian habitat, remnant vegetation associations, rare or unique biological communities, crucial wildlife habitats, and habitats supporting special status species populations (including designated and proposed critical habitat). • Avoiding siting projects in designated critical habitat, ACECs, or other specially designated areas that are identified as necessary for special status species and habitat conservation. • Considering siting projects on previously disturbed lands in close proximity to energy load centers to avoid and minimize impacts on remote, undisturbed lands. • Designing project facilities to reduce the number of stream crossings within a particular stream or watershed (e.g., access roads and utilities could share common ROWs, where feasible), and locating facilities in pre-disturbed areas to reduce potential for habitat fragmentation. • Preventing establishment and spread of invasive species and noxious weeds within the ROW and in associated areas where there is ground surface disturbance or vegetation cutting. Developers should consider siting project facilities and activities, including associated roads and utility corridors, out of occupied habitats of special status animal species. • Determining, in coordination with appropriate federal and state agencies, the translocation of special status species, including the steps to implement the translocation and the follow-up monitoring of populations in the receptor locations, as determined in coordination with the appropriate federal and state agencies. Developers should plan for translocation of special status species when appropriate. • Considering the salvage of Joshua trees (Yucca Brevifolia), other Yucca species, and most cactus species in coordination with the local BLM field office. • Considering conducting interim and final restoration activities as soon as possible after development activities are completed in order to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats. • Implementing revegetation, soil stabilization, and erosion reduction measures to ensure temporary use areas are restored. • Conducting a nesting bird survey or other necessary survey for nesting birds. If active nests are detected, the nest area shall be flagged, and no activity shall take place near the nest (at a distance determined by BLM in coordination with the USFWS and/or appropriate state agencies), or until the appropriate agencies agree that construction can proceed with the incorporation of agreed-upon monitoring measures. • Siting and designing project activities away from habitats occupied by special status animal species. Developers should consider establishing buffers around sensitive habitats to prevent destructive impacts associated with project activities (e.g., identified in the land use plan or substantiated by best available information or science in consultation with the BLM). • To the extent practicable, avoiding entry into aquatic habitats, such as streams and springs, during site characterization activities until surveys by qualified biologists have evaluated the potential for unique flora and fauna to be present. • Planning for and developing measures that identify management practices to minimize increases in nuisance animals and pests in the project area. The plans should identify nuisance and pest species that are likely to occur in the area, risks associated with these species, species-specific control measures, and monitoring requirements. • Designing solar facilities to avoid, minimize, and mitigate impacts on wetlands, waters of the United States, and other special aquatic sites.	Yes	S, C

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
	• Locating and designing individual project facilities to minimize disruption of animal movement patterns and connectivity of habitats. Section 5.10.2.1.2 discusses the potential impacts of habitat loss and fragmentation on wildlife. • Avoiding surface water or groundwater withdrawals that adversely affect sensitive habitats (e.g., aquatic, wetland, playa, microphyll woodland, and riparian habitats) and habitats occupied by special status species. • Designing water intake facilities to minimize the potential for aquatic organisms from surface waters to be entrained in cooling water systems. • Demonstrating, through hydrologic modeling, that the withdrawals required for the project are not going to affect groundwater discharges that support special status species or their habitats. • Considering the use of fencing and netting for evaporation ponds to prevent their use by wildlife. • To the extent practicable, locating meteorological towers and solar sensors, soil borings and wells, and travel routes to avoid sensitive habitats or areas where wildlife (e.g., sage-grouse) is known to be sensitive to human activities. • To the extent practicable, avoiding siting solar power facilities near open water or other areas that are known to attract large numbers of birds. • To the extent practicable, placing tall structures, such as meteorological towers and solar power towers, to avoid known flight paths of birds and bats. • Implementing current guidelines and methodologies in the design and analysis of proposed transmission facilities in order to minimize the potential for raptors and other birds to collide or be electrocuted by them. • Placing mechanisms to visually warn birds (permanent markers or bird flight diverters) on transmission lines at regular intervals to prevent birds from colliding with the lines. • Designing transmission line support structures and other facility structures to discourage use by raptors for perching or nesting (e.g., by using monopoles rather than lattice support structures or by use of anti-perching devices). • Considering spanning important or sensitive habitats with transmission line conductors within the limits of standard structure design. • Using low-water crossings (fords) during the driest time of the year. Developers should consider using rocked approaches to fords and returning the crossing to pre-existing stream channel conditions after the need for a low-water ford has passed. • Employing noise reduction devices (e.g., mufflers) to minimize the impacts on wildlife and special status species populations. Explosives shall be used only within specified times and at specified distances from sensitive wildlife or surface waters as established by the BLM or other federal and state agencies. • Minimizing the number of areas where wildlife could hide or be trapped (e.g., open sheds, pits, uncovered basins, and laydown areas). Movement of a discovered special status species that is hidden or trapped is prohibited. If necessary, the animal should be moved only to remove the animal from the path of harmful activity, until the animal can escape. • Implementing measures for proper trash removal and storage, such as using secured containers and periodic emptying, on the project site to reduce attractive opportunistic species, such as common ravens, coyotes, and feral cats and dogs. • Constructing, improving, and maintaining access roads to minimize potential wildlife/vehicle collisions and facilitate wildlife movement through the project area. • Limiting project vehicle speeds and using shuttle vans and carpooling in areas occupied by special status animal species. Traffic shall yield to wildlife, allowing safe road crossing. • Utilizing existing access roads, utility corridors, and other infrastructure to the maximum extent feasible. • Locating staging and parking areas within the site of the utility-scale solar energy facility to minimize habitat disturbance. • Considering rolled and compacted on-site construction access routes to allow trucks and equipment to access construction locations. • Minimizing vehicle use off of access roads and foot traffic through undisturbed areas. • Constructing fences (as practicable) to exclude livestock and wildlife from project facilities. • Prohibiting project personnel from bringing firearms and pets to project sites. • Placing food refuse and other garbage in closed containers so it is not available to scavengers. • Reducing the collection, harassment, or disturbance of plants, wildlife, and their habitats (particularly special status species) through employee and contractor education about applicable state and federal laws. • Advising personnel to minimize stopping and exiting their vehicles in the winter ranges of large game while there is snow on the ground. • Coordinating with BLM and appropriate project personnel to handle unreasonable traffic delays caused by wildlife in roads. Utilizing appropriate personnel to move live, injured, or dead wildlife off roads, ROWs, or the project site. • Reporting any vehicle-wildlife collisions. Observations of potential wildlife problems, including wildlife mortality, shall be immediately reported to the BLM or other appropriate agency authorized officer. • Considering road closures or other travel modifications (e.g., lower speed limits, no foot travel) during crucial periods (e.g., extreme winter conditions, calving/fawning seasons, raptor nesting). • Conducting pre-construction surveys by qualified personnel, such as a qualified biologist, in areas with potential to adversely affect special status species (Section 5.10.4.1.1) and utilizing approved survey techniques or established species-specific survey protocols to determine the presence of special status species in the project area. • Considering the number of qualified biological monitors (as determined by the federal authorizing agency and USFWS) to be on-site during initial site preparation and during the construction period to monitor, capture, and relocate animals that could be harmed and are unable to leave the site on their own. • Relocating wildlife found in harm's way from the area of the activity. Qualified personnel shall be required to relocate some animals such as rattlesnakes. • Establishing a controlled inspection and cleaning area to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces. • To the extent practicable, avoiding placement of transmission towers within aquatic and wetland habitats, or other sensitive habitats such as riparian habitats. If towers must be placed within these habitats, they shall be designed and installed to not impede flows or fish passage. • Designing necessary stream crossings to provide in-stream conditions that allow for and maintain uninterrupted movement and safe passage of fish during all project periods. • Considering cutting trees in stream buffers that are able to grow into a transmission line conductor clearance zone within 3 to 4 years. • Considering the use of helicopters where access roads do not exist or where access roads could not be constructed without significantly impacting habitats.		

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
ER3-1	The developer shall manage vegetation utilizing the principles of integrated pest management, including biological controls to prevent the spread of invasive species, per the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States, and the National Invasive Species Management Plan, 2009. Consultation with the BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods to manage vegetation, including controlling for invasive species, during operations and maintenance of the project may include, but are not limited to, the following: • Using certified weed-free seed and mulching. • Cleaning vehicles to avoid introducing invasive weeds. • Educating project personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. • Considering periodic monitoring, reporting, and immediate eradication of noxious weed or invasive species occurring within all managed areas. • Limiting vegetation maintenance and performing maintenance mechanically rather than with herbicides. • Considering retaining short (i.e., less than 7-in. [18-cm] tall) native species during maintenance and operation activities. • Reducing risk of non-native and nuisance aquatic species introductions. Developers should decontaminate equipment used in surface water, especially equipment used to convey water (i.e., pumps). • Monitoring for and eradicating invasive species. • Reestablishing vegetation within temporarily disturbed areas immediately following the completion of construction activities. • Focusing revegetation efforts on the establishment of native plant communities similar to those present in the vicinity of the project site. Considering dominant native species within the plant communities that exist in adjacent areas and have similar soil conditions for revegetation. • Considering post-translocation surveys for target species (especially if the target species are special status species) and releasing individuals to protected off-site locations as approved by federal and state agencies.	Yes	C, O
ER3-2	The developer shall, in consultation with the BLM, manage projects so as to minimize impacts on ecological resources during operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods to minimize impacts on ecological resources during operations and maintenance of the project shall include, but are not limited to, the following: • Monitoring for increase in predation of special status species (e.g., desert tortoise, Utah prairie dog, and greater sage-grouse) from ravens and other species that are attracted to developed areas and use tall structures opportunistically to spot vulnerable prey. • Turning off all unnecessary lighting at night to limit attracting wildlife, particularly migratory birds. (b) Other methods for maintaining compliance with ecological resource design elements during operations and maintenance of the project may include, but are not limited to, the following: • Monitoring for and reporting bird mortality species (e.g., raptors) that are associated with power lines to the BLM and the USFWS. • Monitoring for the effects of groundwater withdrawals on plant communities. • Monitoring unavoidable impacts on wetlands and waters of the United States. • Removing raptor nests only if the birds are not actively using the nest. • Considering relocating nests to nesting platforms. Reporting on relocated or destroyed nests to the appropriate federal and/or state agencies. • Coordinating with the USFWS and BLM project personnel in the event that a raptor nest is located on a transmission line support structure. • Removing raven nests only when inactive (i.e., no eggs or young); if removal is otherwise necessary, an MBTA take permit from the USFWS is required. The removal of raven nests may be addressed in the minimization measures that incorporate the most current USFWS guidance (e.g., FONSI, Implementation of a Desert Tortoise Recovery Plan Task: Reduce Common Raven Predation on the Desert Tortoise, 2008). • Considering trench breakers and/or sealing the trench bottom to maintain the original wetland hydrology where a pipeline trench drains a wetland. • Minimizing removal of deadfall or overhanging vegetation in streams for crossings. • Installing fish screens on cooling water intakes to limit the potential for impingement impacts on organisms in surface water sources used for cooling water. • Maintaining areas left in a natural condition during construction (e.g., wildlife crossings) in as natural a condition as possible within safety and operational constraints. • Avoiding use of guy wires to minimize impacts on birds and bats. If guy wires are necessary, permanent markers (e.g., bird flight diverters) shall be used to increase their visibility. • Maintaining native vegetation cover and soils and minimizing grading. • Monitoring unavoidable impacts on wetlands and waters of the United States. • Instructing personnel to avoid harassment and disturbance of local plants and wildlife. • Informing personnel of the potential for wildlife interactions around facility structures.	Yes	O
ER4-1	Reclamation of the construction and project site shall begin immediately after decommissioning to reduce the likelihood of ecological resource impacts in disturbed areas as quickly as possible. (a) Addressing ecological resource impacts during reclamation and decommissioning shall include, but is not limited to, the following: • Applying design features developed for the construction phase to similar activities during the decommissioning and reclamation phase. • Developing and implementing a Decommissioning and Site Reclamation Plan specific to the project, approved by the BLM in consultation with appropriate agencies, that incorporates adaptive management strategies. • Using weed-free seed mixes of native shrubs, grasses, and forbs of local sources where available, as required in the Decommissioning and Site Reclamation Plan. • Developing and implementing monitoring measures to ensure successful reclamation per the Decommissioning and Site Reclamation Plan. (b) Other methods to minimize ecological resource impacts during reclamation and decommissioning may include, but are not limited to, the following: • Lightly raking and/or ripping and reseeding with seeds from low-stature plant species collected from the immediate vicinity in disturbed areas. • Reclaiming access roads when they are no longer needed, considering seasonal restrictions. • Filling or grading holes and ruts created by the removal of structures and access roads. • Considering maximizing area reclaimed during solar energy operations to minimize habitat loss and fragmentation. • Maintaining a clean and orderly worksite during and after decommissioning to ensure land is clear of debris. • Planning to return land surfaces to pre-development contours immediately following decommissioning. • Expediting the reestablishment of vegetation for site stabilization. • Continuing vegetation reestablishment efforts until all success criteria have been met, as identified within the Decommissioning and Site Reclamation Plan.	Yes	D

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
	• Focusing revegetation on the establishment of native plant communities similar to those present in the vicinity of the project site. Considering dominant native species within the plant communities that exist in adjacent areas and have similar soil conditions for revegetation. • Leaving the facility fencing in place for several years, or replacing it with new exclusion fencing, to assist reclamation (e.g., the fence could preclude large mammals and vehicles from disturbing revegetation efforts). Shorter times for maintaining fencing may be appropriate in cases where the likelihood of disturbance by cattle and wildlife is low.		
AQC1-1	Project developers shall consult with the BLM in the early phases of project planning to help determine the potential conformance to air quality and other potential constraints. (a) Assessing conformance to air quality and other related constraints shall include, but is not limited to, the following: • Identifying air quality and other related constraints associated with the proposed project site. In coordination with BLM, the appropriate state and local air regulatory authorities shall be consulted to identify air quality and related constraints and requirements. • Determining any applicable federal, state, and local laws and regulations related to air quality. • Considering effects on particulate matter PM_{10} and $PM_{2.5}$ from the solar energy project and its facilities. • Evaluating potential contributions to air quality impacts as part of the environmental impact analysis for the project and considering options to avoid, minimize and/or mitigate adverse impacts in coordination with the BLM.	Yes	S
AQC2-1	Solar facilities shall be sited and designed, and constructed to minimize impacts on air quality. (a) Methods to minimize air quality impacts shall include, but are not limited to, the following: • Using equipment that meets emission standards specified in the state code of regulations and meets the applicable U.S. EPA (EPA) Tier 3 and Tier 4 emissions requirements. • Preparing a Dust Abatement Plan for the solar facilities that considers multiple methods for dust suppressant (i.e., water, paving, gravel, and/or regulation-compliant palliatives). (b) Other methods to minimize air quality impacts and related constraints may include, but are not limited to, the following: • Considering surfacing access roads with aggregate that is hard enough that vehicles cannot crush it. • Managing unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during project activities as frequently as necessary to effectively minimize fugitive dust generation. • Using machinery that has air-emission-control devices as required by federal, state, and local regulations or ordinances. • Limiting travel to stabilized roads. • Considering paving main access road to the main power block and the main maintenance building. • Enforcing posted speed limits (e.g., 10 mph [16 km/hour]) within the construction site to minimize airborne fugitive dust. • Covering vehicles that transport loose materials as they travel on public roads, using dust suppressants on truck loads, and keeping loads below the freeboard of the truck bed. • Installing wind fences around disturbed areas that could affect the area beyond the site boundaries (e.g., nearby residences). • Suspending soil disturbance activities and travel on unpaved roads during periods of high winds. Site-specific wind speed thresholds shall be determined on the basis of soil properties determined during site characterization. • Utilizing compatible native vegetative plantings to limit dust generation from stockpiles that will be inactive for a relatively long period. • To the extent practicable, avoiding chemical dust suppressants that emit volatile organic compounds within or near ozone nonattainment areas. • Considering use of ultra-low sulfur diesel with a sulfur content of 15 parts per million (ppm) or less for project vehicles. • Limiting the idling time of equipment to no more than 5 minutes, unless idling must be maintained for proper operation (e.g., drilling, hoisting, and trenching). • Minimizing use of dust palliatives in areas of close proximity to sensitive soil and streams. • Accessing transmission lines from public roads and designated routes to minimize fugitive dust emissions. • Minimizing on-site vehicle use and requiring routine preventive maintenance, including tune-ups to meet the manufacturer's specifications, to ensure efficient combustion and minimal emissions. • Encouraging use of newer and cleaner equipment that meets more stringent emission controls. • Limiting access to the construction site and staging areas to authorized vehicles only through the designated treated roads. • Staging construction to limit the exposed areas at any time. • Considering inspection and cleaning of tires of all construction-related vehicles to ensure they are free of dirt before they enter paved public roadways. • Cleaning up visible trackout or runoff dirt on public roadways resulting from the construction site (e.g., street vacuum/sweeping). • Salvaging topsoil from all excavations and construction activities during reclamation or interim reclamation and reapplying to construction areas not needed for facility operation as soon as activities in that area have ceased. • Considering atmospheric conditions when planning construction activities to minimize dust. • To the extent practicable, avoiding ground disturbance from construction-related activities in areas with intact biological soil crusts and desert pavement. Developers should salvage soil crusts, for restoration, on the basis of recommendations by the BLM once construction has been completed. • Incorporating environmental inspection and monitoring measures into the POD and other relevant plans to monitor and respond to air quality during construction, operations, and decommissioning of a solar development, including adaptive management protocols.	Yes	S, C
AQC3-1	Compliance with the terms and conditions for air quality shall be monitored by the project developer. Consultation with BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods for maintaining compliance with the terms and conditions for air quality during operations and maintenance shall include, but are not limited to, the following: • Monitoring and treating areas that have been graded, scraped, bladed, compacted, or denuded of vegetation ahead of actual construction/assembly. (b) Other methods to maintain compliance with the terms and conditions for air quality during operations and maintenance may include, but are not limited to, the following: • Reapplying palliatives or water as necessary for effective fugitive dust management. • Considering use of design features for portions of facilities maintained to be free of vegetation during operations, and use of the dust control design features that were listed above under AQC2-1 to limit fugitive dust emissions during the construction phase to minimize fugitive dust emissions from bare surfaces and unpaved access roads. • Ensuring compliance of all combustion sources with state emission standards (e.g., best available control technology requirements).	Yes	C, O

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
AQC4-1	Reclamation of the site shall incorporate the design features listed above for construction under AQC2-1 to reduce the likelihood of air quality impacts associated decommissioning.	Yes	D
VR1-1	Project developers shall consult with the BLM in the early phases of project planning to help determine the proposed project's potential conformance to VRM class designations and other potential constraints, thus avoiding costly unforeseen planning implications and re-design. (a) Assessing conformance to VRM class designations and identifying visual resource conflicts shall include, but is not limited to, the following: • Consulting with the appropriate BLM field office for VRM class designations and associated management objectives during the early phases of project planning, including those related to project site selection, planning, and design. The BLM visual resource inventory (VRI) class values—including those for scenic quality, sensitivity, and distance zones—shall also be factored into the project planning, design, and decision making. • Analyzing how the visual values influence project design and how the impacts on these values will be minimized through consideration for the proposed project location and its relationship to the surrounding viewshed. • Including a qualified professional, such as a landscape architect, with demonstrated experience of the BLM's VRM policies and procedures as part of the developer's and the BLM's respective planning teams, to evaluate visual resource issues as project siting options are considered. • Consulting with the locally based public to provide input on identifying important visual resources in the project area and on the siting and design process. The public shall be involved and informed about the visual site design elements of the proposed solar energy facilities. • Consulting on viewshed protection objectives and practices with the respective land management for landscapes having special designations, such as Wilderness Areas, National Scenic and Historic Trails, Wild and Scenic Rivers, National Parks, and National Wildlife Refuges located within the project's viewshed. Developers shall demonstrate a concerted effort to reconcile conflicts while recognizing that the BLM retains authority for final decisions determining project approval and conditions. • For applications that include artifacts and remnants of a National Historic Trail, are located within the viewshed of a National Historic Trail's designated centerline, or include or are within the viewshed of a trail eligible for listing on the National Register of Historic Places (NRHP) by virtue of its important historical or cultural values and integrity of setting, evaluating the potential visual impacts on the trail associated with the proposed project; avoiding, minimizing, and/or mitigating adverse effects through the Section 106 consultation process; and identifying appropriate mitigation measures for inclusion as stipulations in the POD. • Considering landscape settings observed from a unit of the National Park system, National Historic Sites, National Trails, and cultural resources of tribal concern that may be a part of the historic context contributing to the historic significance of the site or trail. Projects shall be sited and designed to avoid altering the visual setting in a way that would reduce the historic significance or function, even if compliant with VRM objectives. • Project developers are encouraged to obtain topographical data of engineering-design quality and use digital terrain mapping tools at a landscape-viewshed scale for project location selection, site planning and design, visual impact analysis, and visual impact mitigation planning and design. The digital terrain mapping tools shall be at a resolution and contour interval suitable for site design and accurate placement of proposed developments into the digital viewshed. Visual simulations shall be prepared and evaluated in accordance with BLM Handbook H-8431-1 and other agency directives, to create spatially accurate and realistic depictions of the appearance of proposed facilities. Simulations shall depict proposed project facilities from key observation points (KOPs) and other visual resource sensitive locations. • Conducting outreach through public forums as necessary to disseminate visual resource information such as offering organized tours of operating solar energy development projects, and using simulations in public presentations. • Performing visual mitigation planning and design through field assessments, applied global positioning system (GPS) technology, photo documentation, use of computer-aided design and development software, three-dimensional GIS modeling software, and imaging software to depict visual simulations to reflect a full range of visual resource mitigation measures.	Yes	S
VR2-1	Solar facilities shall be sited and designed to minimize glint and glare. (a) Identification of glint and glare effects shall include, but is not limited to, the following: • Assessing and quantifying potential glint and glare effects and determining the potential safety and visual impacts associated with glint and glare using appropriate and commonly accepted software, procedures, and past project examples. • Having qualified individuals conduct assessments for glint and glare. (b) Methods to minimize glint and glare effects may include, but are not limited to, the following: • Limiting use of signs and project construction signs. Beyond those required for basic facility and company identification for safety, navigation, and delivery purposes, commercial symbols or signs and associated lighting on buildings and other structures should be prohibited. • Utilizing retro-reflective or luminescent markers in lieu of permanent lighting. • Minimizing off-site visibility of all commercial symbols and signs and associated lighting. Necessary signs should be made of non-glare materials and utilize unobtrusive colors. The reverse sides of signs and mounts should be painted or coated by using a suitable color selected from the BLM Standard Environmental Color Chart to reduce contrasts with the existing landscape; however, placement and design of any signs required by safety regulations must conform to regulatory requirements. • Considering off-site mitigation of visual impacts. In some situations, off-site mitigation may serve as a means to offset and/or recover the loss of visual landscape integrity. For example, off-site mitigation could include reclaiming unnecessary roads, removing abandoned buildings, reclaiming abandoned mine sites, putting utility lines underground, rehabilitating and revegetating existing erosion or disturbed areas, or establishing scenic conservation easements. Appropriate offsite mitigation will be determined on a project-specific basis in consultation with the BLM.	Yes	S
VR2-2	Solar facilities shall be sited and designed to minimize night-sky effects. (a) Identification of night-sky effects shall include, but is not limited to, the following: • Assessing and quantifying potential lighting impacts on the night sky and nocturnal wildlife, while providing lighting for hazard marking, safety, and other necessary site needs. • Conducting assessments for night-sky effects by qualified individuals using appropriate and commonly accepted procedures and past project examples. (b) Methods to minimize night sky effects may include, but are not limited to, the following: • Using minimum intensity lighting that meets safety criteria. When accurate color rendition is not required (e.g., roadway, basic security), lighting shall be amber in color, using either low-pressure sodium lamps or yellow LED lighting, or equivalent. When white light is required for accurate color rendition, it shall be equal to or less than 3500° Kelvin color temperature. Bluish-white lighting is discouraged. • Prohibiting the use of red or white strobe lighting unless the BLM approves its use because of conflicting mitigation requirements. • Fully shielding all permanent lighting (e.g., full cut-off), except for collision markers required by the FAA or other emergency lighting triggered by alarms. • Mount lighting so that no light is emitted above an imaginary horizontal plane through the fixture. • Considering lighting control through timers, sensors, dimmers, or switches that are available to facility operators. • Considering vehicle-mounted lights over permanently mounted lighting for nighttime maintenance activities. When possible, such vehicle-mounted lighting shall be aimed toward the ground to avoid causing glare and skyglow.	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
VR2-3	The siting and design of solar facilities, structures, roads, and other project elements shall explore and document design considerations for reducing visual dominance in the viewshed and shall comply with the VRM class objectives in conformance with VR1-1. (a) Assessing visual dominance shall include, but is not limited to, the following: • Conforming with VRM class objectives through the use of the BLM contrast rating procedures defined in BLM Handbook H-8431-1. Visual contrast rating mitigation of visual impacts shall abide by the requirements outlined in the handbook and other BLM directives. Revised project plans and simulations are to be reevaluated by using the contrast rating procedures. • Selecting KOPs by first determining the extent of the viewshed by using the viewshed modeling tools previously cited under VR1-1. The viewshed modeling shall illustrate the areas from which the proposed facilities may be seen out to 25 mi (40 km). From within the areas, KOPs are to be selected at places where people would be expected: at scenic overlooks, roads, trails, campgrounds, recreationally active river corridors, residential areas, etc. For the purpose of conducting a visual contrast rating evaluation, the number of KOPs would be reduced to those that serve as the best representations for demonstrating conformance to the respective VRM class objectives. The BLM is consulted on the KOP selections, and the BLM reserves the right to require additional KOPs to further determine the extent of visual impact and conformance to VRM class objectives. • Integrating visual design elements into the construction plans, details, drawings, and specifications for the project. • Incorporating facility siting measures to minimize the profile of all facility-related structures to reduce visibility and visual dominance within the viewshed, particularly for facilities proposed within the foreground/middleground distance zone (0–5 mi [0–8 km]) of sensitive viewing locations. (b) Measures to minimize visual dominance may include, but are not limited to, the following: • Using existing topography and vegetation as screening or partially screening devices. • Incorporating visual design elements when planning for grubbing and clearing, vegetation thinning and clearing, grading, revegetation, drainage, and structural measures. • Minimizing visual dominance of projects by siting projects outside the viewsheds of KOPs or by diminishing dominance through maximizing visible separation with distance. • Avoiding, when feasible, locating facilities near visually prominent landscape features (e.g., knobs and waterfalls) that naturally draw an observer's attention. • Avoiding visual "skylining" by placing structures, transmission lines, and other facilities away from ridgelines, summits, or other locations where they would silhouette against the sky from important viewing locations. • Designing linear features (e.g., ROWs and roads) to follow natural land contours rather than straight lines; however, consideration should be given to the potential for increased ground disturbance. • Locating linear developments (e.g., transmission lines, pipelines, roads) at edges of natural clearings or natural lines of transition between vegetation type and topography. • Considering alternative means of access in visually sensitive areas, to preserve the natural landscape conditions between tower locations. • Minimizing vegetation and ground disturbance, and taking advantage of existing clearings where feasible. • Reducing cut and fill for structures and roads by design and location. Retaining walls, binwalls, half bridges, etc., can be used to reduce cut and fill. • Minimizing the use of signs. Where signs are necessary, they shall be made of non-glare materials and utilize unobtrusive colors. The reverse sides of signs and mounts shall be painted or coated by using the most suitable color selected from the BLM Standard Environmental Color Chart; however, placement and design of any signs required by safety regulations must conform to regulatory requirements. • Clearly delineating construction boundaries and minimizing areas of surface disturbance; preserving vegetation to the greatest extent possible; utilizing undulating surface disturbance edges; stripping, salvaging, and replacing topsoil; using contoured grading; controlling erosion; using dust suppression techniques; and stabilizing exposed soils. • Preserving existing rocks, vegetation, and drainage patterns to the maximum extent possible. • Employing brush-beating, mowing, or use of protective surface matting rather than removing vegetation. • Considering mulching and spreading slash from vegetation removal over fresh soil disturbances. • Avoiding leaving slash piles in sensitive viewing areas. • Considering restoration of disturbed soils by use of weed-free native grasses, forbs, and shrubs representative of the surrounding and intact native vegetation composition and/or using non-native species, if necessary, to ensure successful revegetation. • Reducing visual color contrast of graveled surfaces with approved color treatment practices. • Considering segregating and spreading topsoil from cut-and-fill activities on freshly disturbed areas to reduce color contrast. • Avoiding leaving topsoil piles in sensitive viewing areas. • Spreading excess cut and fill material within project disturbance area and vegetate per approved restoration plan requirements while maintaining natural drainage pathways. Where soil cannot reasonably be spread within project disturbance areas, excess cut and fill materials should be hauled out to minimize ground disturbance and impacts from piles. • Removing stakes and flagging from the construction area after completion of construction.	Yes	S
VR2-4	Project developer shall perform a pre-construction meeting with BLM or their designated visual/scenic resource specialists, such as a landscape architect, to coordinate the project construction VRM mitigation strategy. Final design and construction documents will be reviewed with regard to the visual mitigation elements, assuring that requirements and commitments are adequately addressed. The review of construction documents will include, but not be limited to, grading, drainage, revegetation, vegetation clearing and feathering.	Yes	S
VR3-1	Compliance with the terms and conditions for VRM mitigation shall be monitored by the project developer. Consultation with BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Maintaining the visual resource design elements during operations and maintenance shall include, but is not limited to, the following: • Maintaining revegetated surfaces until a self-sustaining stand of vegetation is reestablished and visually adapted to the undisturbed surrounding vegetation. No new disturbance shall be created during operations without completion of a VRM analysis and approval by the BLM-authorized officer. • Keeping painted and color-treated facilities in good repair and repainted when the color fades or flakes. • Using interim restoration during the operating life of the project as soon as possible after land disturbances. • Including dust abatement and noxious weed control in maintenance activities. • Deploying and operating mirrors/heliostats to avoid high-intensity light (glare) reflected off-site. Where off-site glare is unavoidable and project site/off-site spatial relationships favor effective results, fencing with privacy slats or similar screening materials should be considered.	Yes	C, O

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
VR4-1	Reclamation of the construction site shall begin immediately after construction to reduce the likelihood of visual contrasts associated with erosion and invasive weed infestation and to reduce the visibility of temporarily disturbed areas as quickly as possible. Developers shall coordinate with BLM in advance of interim/final reclamation to have BLM or other designated visual/scenic resource specialists, such as a landscape architect, on-site during reclamation to work on implementing visual resource requirements and BMPs. (a) Methods for minimizing visual contrast associated with reclamation and decommissioning of the project may include, but are not limited to, the following: • Including treatments, such as thinning and feathering vegetation along project edges, enhanced contour grading, salvaging landscape materials from within construction areas, special revegetation requirements (e.g., use of mix of native and non-native species). • Designing and implementing restoration of the project area to predevelopment visual conditions and the inventoried visual quality rating, or to that of the surrounding landscape setting conditions to the best extent possible or to conditions agreed upon by the BLM. • Removing above-ground and near-ground level structures. Some structures may need to be removed to a level below the ground surface to allow reclamation/restoration. • Considering contouring soil borrow areas, cut-and-fill slopes, berms, water bars, and other disturbed areas to approximate naturally occurring slopes. Contouring to a rough texture would trap seeds and discourage off-road travel, thereby reducing associated visual impacts. Cut slopes can be randomly scarified and roughened to reduce texture contrasts with existing landscapes and aid in revegetation. • Utilizing native vegetation to establish a composition consistent with the form, line, color, and texture of the surrounding undisturbed landscape. • Reapplying stockpiled topsoil to disturbed areas, where applicable, or using a mix of native and non-native species if necessary to ensure successful revegetation. • Removing or burying gravel and other surface treatments. • Restoring rocks, brush, and forest to approximate pre-existing visual conditions. • Integrating feathering edges of vegetation to reduce form and line contrasts with the existing landscapes.	Yes	C, D
N1-1	Project developers shall consult with the BLM in the early phases of project planning to assess and minimize the proposed project's noise impacts on sensitive noise receptors. (a) Assessing noise impacts shall include, but is not limited to, the following: • Taking measurements to assess the existing background ambient sound levels both within and outside the project site and comparing these with the anticipated noise levels proposed facility. The ambient measurement protocols of all affected land management agencies shall be considered and utilized. Nearby residences and likely sensitive human and wildlife receptor locations shall be identified. • Conducting assessments for noise impacts by qualified individuals using appropriate and commonly accepted software, procedures, and past project examples. • Evaluating impacts from noise as part of the environmental impact analysis for the project and considering options to avoid, minimize and/or mitigate adverse impacts in coordination with the BLM.	Yes	S
N2-1	The siting and design of solar facilities, structures, roads, and other project elements shall seek to minimize impacts on sensitive noise receptors. (a) Methods to minimize project impacts on sensitive noise receptors may include, but are not limited to, the following: • Enclosing noisy equipment when located near sensitive receptors. • Posting warning signs at high-noise areas and implementing a hearing protection program for work areas with noise in excess of 85 dBA. • Implementing a noise complaint process and hotline, including documentation, investigation, evaluation, and resolution of legitimate project-related noise complaints. • Maintaining project equipment in accordance with manufacturers' specifications. For example, suitable mufflers and/or air-inlet silencers shall be installed on all internal combustion engines (ICEs) and certain compressor components. • Limiting low-altitude (under 1,500 ft [457 m]) helicopter flights for installation of transmission lines near noise-sensitive receptors to locations where only helicopter activities can perform the installation. • Scheduling construction activities to minimize disruption to nearby residents and existing operations surrounding the project areas. • Planning noisy construction activities near sensitive receptors to the least noise-sensitive times of day (i.e., daytime between 7 a.m. and 7 p.m.) and weekdays. • Coordinating individual noisy activities to occur at the same time to reduce the frequency of site boundary noise. • Implementing noise control measures (e.g., erection of temporary wooden noise barriers) where activities are expected near sensitive receptors. • Notifying nearby residents in advance of noisy activities, such as blasting or pile driving, before and during the construction period. • Considering siting immobile construction equipment (e.g., compressors and generators) away from nearby residences and other sensitive receptors. • Siting permanent sound-generating facilities (e.g., compressors, pumps) away from residences and other sensitive receptors. The use of acoustic screening may be required. • Incorporating low-noise systems (e.g., for ventilation systems, pumps, generators, compressors, and fans) and selecting equipment without prominent discrete tones. • Siting louvered side(s) of wet cooling tower(s) away from sensitive receptors. Noise impacts may be further reduced by selecting quieter fans and fans that operate at a lower speed, particularly if they operate at night. Silencers on fan stacks may also be used. • Including noise reduction measures such as siting noise sources to take advantage of existing topography and distances and constructing engineered sound barriers and/or berms or sound-insulated buildings to reduce potential noise impacts at the locations of nearby sensitive receptors. • Incorporating environmental inspection and monitoring measures into POD or other relevant plans to monitor and respond to impacts from noise during construction, operations, and decommissioning of a solar development, including adaptive management protocols.	Yes	S
N3-1	Compliance with the terms and conditions for noise shall be monitored by the project developer. Consultation with BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods for maintaining compliance with the noise design elements during operations and maintenance may include, but are not limited to, the following: • Managing noise levels from cooling systems equipped with TES and dish engine technology so that levels at the nearest residences and sensitive receptor areas near the facility boundary are kept within applicable guidelines • Operating vehicles traveling within and around the project area in accordance with posted speed limits to reduce vehicle noise levels. • Scheduling activities to minimize disruption to nearby residents and existing operations surrounding the project areas. • Notifying nearby residents in advance of noisy activities, such as blasting or pile driving, before and during the reclamation and decommissioning activities. • Monitoring and maintaining transformer noise levels. Considering installation of new transformers with reduced flux density, which generates noise levels as much as 10 to 20 dB lower than National Electrical Manufacturers Association (NEMA) standard values, or use of barrier walls, partial enclosures, or full enclosures to shield or contain the noise.	Yes	C, O

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
N4-1	Reclamation of the construction site shall minimize the project's noise impacts on sensitive noise receptors.	Yes	D
P1-1	Project developers shall coordinate with the BLM early in the project planning process to identify and minimize impacts on paleontological resources. (a) Identifying paleontological resources shall include, but is not limited to, the following: • Determining in coordination with the BLM whether paleontological resources exist in a project area. • Determining the potential presence of paleontological resources on the basis of the following: the sedimentary context of the area and its potential to contain paleontological resources (potential fossil yield classification [PFYC] class, if it is available); a records search of published and unpublished literature for past paleontological finds in the area; coordination with paleontological researchers working locally in potentially affected geographic areas and geologic strata; and/or depending on the extent of existing information, the completion of a paleontological survey. (b) Methods to minimize impacts on paleontological resources may include, but are not limited to, the following: • Instituting BMPs, such as training/education programs (see WEAP bullet below), to reduce the amount of inadvertent destruction to paleontological sites (see also P2-2 below). Project-specific management practices shall be established in coordination with the BLM, incorporating BLM IM 2009-011. • Planning for management and mitigation of paleontological resources of the project area for areas of known presence or high potential of presence. • Identifying measures to prevent potential looting/vandalism or erosion impacts and addressing the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land. • Incorporating key elements to mitigate the impacts on paleontological resources into a WEAP that is provided to all project personnel prior to entering the project work site. The WEAP shall be provided on a regular basis, covering multiple resources, to ensure the awareness of key mitigation efforts for paleontological resources of the project work site during all phases of the project's life. The base information the WEAP provides shall be reviewed and approved by the BLM prior to the issuance of a Notice to Proceed and incorporate adaptive management protocols for addressing changes over the life of the project, should they occur. • Incorporating environmental inspection and monitoring measures into POD and other relevant plans to monitor and respond to paleontological resource impacts during construction, operations, and decommissioning of a solar development, including adaptive management protocols.	Yes	S
P2-1	Project developers shall use a qualified paleontological monitor during excavation and earthmoving activities in areas with high potential for paleontological resources.	No There are no areas in the Project site with high potential for paleontological resources.	C
P2-2	Project developers shall notify the BLM immediately upon discovery of fossils. Work shall be halted at the fossil site and continued elsewhere until qualified personnel, such as a paleontologist, can visit the site, determine the significance of the find, and, if significant, make site-specific recommendations for collection or other resource protection. The area of the discovery shall be protected to ensure that the fossils are not removed, handled, altered, or damaged until the site is properly evaluated and further action determined.	Yes	C
CR1-1	Project developers shall coordinate with the BLM early in the planning process to identify and minimize cultural resource impacts; the BLM will consult with other federal, tribal, state, and local agencies as appropriate. (a) Determining cultural resource impacts shall include, but is not limited to, the following: • Initiating Section 106 consultations between the BLM, SHPOs, Indian tribes, and other consulting parties early in the project planning process. Thresholds for the involvement of and review by the Advisory Council on Historic Preservation (ACHP) include non-routine interstate and/or interagency projects or programs; undertakings adversely affecting National Historic Landmarks; undertakings that the BLM determines to be highly controversial; and undertakings that will have an adverse effect and with respect to which disputes cannot be resolved through formal agreement between the BLM and SHPO, such as a Memorandum of Agreement (MOA). • Conducting site-specific Section 106 review for individual projects. The BLM will require the completion of inventory, evaluation, determinations of effect, and treatment in accordance with the Solar Programmatic Agreement (PA). This Solar PA is titled "Programmatic Agreement among the United States Department of the Interior, Bureau of Land Management, the Arizona State Historic Preservation Officer, the California State Historic Preservation Officer, the Colorado State Historic Preservation Officer, the New Mexico State Historic Preservation Officer, the Nevada State Historic Preservation Officer, the Utah State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Solar Energy Development on Lands Administered by the Bureau of Land Management." (b) General methods to minimize cultural resource impacts may include, but are not limited to, the following: • If historic properties which could be adversely affected are present in the project location, developing an MOA tiered to the Solar PA to address the mitigation steps which will be followed to avoid, minimize, or mitigate adverse effects on historic properties. • Where the BLM determines that a specific proposed solar energy project has the potential to adversely affect historic properties but those effects cannot be determined prior to its approval, the BLM may elect to review a proposed solar energy project using an undertaking-specific PA executed pursuant to 36 CFR 800.6, instead of following the procedures outlined in the overarching Solar PA. • Using training/educational programs for solar company workers to reduce occurrences of disturbances, vandalism, and harm to nearby historic properties. The specifics of these sensitivity training programs shall be established in project-specific consultations between the applicant, BLM, SHPO, and affected Indian tribes and will be articulated in a WEAP. Such education and awareness plans will incorporate adaptive management protocols for addressing changes over the life of the project, should they occur. • Securing a performance and reclamation bond for all solar energy projects to ensure compliance with the terms and conditions of the ROW authorization. When establishing bond amounts and conditions, the BLM-authorized officer shall require coverage of all expenses tied to cultural resources identification, protection, and mitigation. These may include, but are not limited to, costs for ethnographic studies, inventory, testing, geomorphological studies, data recovery, curation, monitoring, treatment of damaged sites, and generation and submission of reports (see ROW authorization policies, Section 2.2.1.1).	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
CR2-1	Solar facilities shall be characterized, sited and designed, and constructed in coordination with the BLM to minimize cultural resource impacts. (a) Methods to minimize impacts on cultural resources shall include, but are not limited to, the following: • The BLM determining the APE for each proposed solar project, to include a review of existing information, and efforts to seek information from and views of tribes and other parties likely to have knowledge of or concerns with historic properties in the APE. This information will be supplemented by discussions at pre-application meetings with the solar project applicant, SHPO, and affected tribes regarding project designs, sacred sites, traditional cultural properties (TCPs), and proposed cultural resource inventory strategies. • The BLM consulting the SHPO, affected tribes (regarding the treatment of adverse effects for those property types on which the tribes indicate at pre-application or other meetings they wish to provide input), and any other consulting parties, if National Register of Historic Places (NRHP)-eligible properties are present at the site and would be adversely affected. The BLM will seek agreement to avoid, minimize, or mitigate adverse effects on historic properties. The BLM will execute an MOA with the SHPO to conclude the Section 106 process and will file a copy with the ACHP. Where the BLM and the SHPO are unable to execute an MOA, the BLM will invite the ACHP to participate in an undertaking-specific MOA. The MOA will specify the treatment for which the BLM will be responsible, and which will be implemented by the solar applicant. • Undertaking a Class III inventory of the APE. If the BLM decides to require less than a Class III inventory for the entire APE, the BLM will seek additional views of the SHPO, affected tribes, and other parties and determine the final inventory strategy that best represents a reasonable and good-faith effort to carry out appropriate identification efforts. • Conducting inventories according to the standards set forth in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716); BLM Handbook H-8110 (Handbook for Identifying Cultural Resources); revised BLM Manual 8110; and applicable BLM or SHPO survey, site record, or reporting standards. All inventory data must be provided to the BLM in digitized or paper format that meets BLM accuracy standards, including shape files for surveyed areas. • Bringing any unexpected discovery of cultural resources during any phase of development (construction, operations and maintenance, or decommissioning) to the attention of the responsible BLM-authorized officer immediately, as specified in the PA. Work shall be halted in the vicinity of the find. The area of the find shall be protected to ensure that the resources are not removed, handled, altered, or damaged while they are being evaluated and to ensure that appropriate mitigative or protective measures can be developed and implemented. (b) Methods to minimize cultural resource impacts may include, but are not limited to, the following: • Including in the MOAs measures for management of historic properties, in situations where historic properties require management or monitoring for avoidance and protection within or near a project's boundaries. Such measures will specify the preparation and implementation of steps to lessen the adverse effects of the undertaking upon those aspects of NRHP eligibility criteria that make the historic properties eligible for nomination to the NRHP. • Requiring that surface disturbance be restricted or prohibited within the viewshed of such property types when their eligibility is tied to their visual setting to protect NRHP-eligible traditional cultural properties, sacred sites, or historic trails from visual intrusion and to maintain the integrity of their historic setting. • Employing cultural field monitors (appropriate for the resource anticipated) to monitor ground-disturbing activities (for example in geomorphic settings, such as in shifting sands, where buried deposits may be present) in cases where there is a probability of encountering cultural resources during construction that could not be detected during prior Class III inventories. Monitoring plans shall be specified within MOAs. • Encouraging the use of previously disturbed lands and lands determined by archeological inventories to be devoid of historic properties.	Yes	S, C
CR3-1	Prior to reclamation activities, the BLM may require further planning for treatment of historic properties or planning for mitigation addressing reclamation activities.	Yes	C, D
CR3-2	The BLM shall be notified prior to the demolition or substantial alteration of any building or structure. If judged necessary by the BLM, the developer will be required to evaluate the structures for their significance employing professionally qualified architects or historic architects. If structures slated for demolition are found to be eligible for listing on the NRHP, they will be recorded to Historic American Building Survey and/or Historic American Engineering Record standards before alteration or removal.	No There are no existing structures within the Project site eligible for NRHP designation.	C
CR3-3	Project developers shall confine soil-disturbing reclamation and decommissioning activities to previously disturbed areas. Known historic properties will be avoided during these activities.	Yes	C, D
NA1-1	The BLM shall consult with federally recognized Indian tribes early in the planning process to identify issues and areas of concern regarding any proposed solar energy project as required by the National Historic Preservation Act (NHPA) and other authorities to determine whether construction and operation of a project is likely to disturb traditional cultural properties or sacred sites, impede access to culturally important locations, disrupt traditional cultural practices, affect movements of animals important to tribes, or visually affect culturally important landscapes. (a) Identifying issues and areas of concern to federally recognized Indian tribes shall include, but is not limited to, the following: • Covering planning, construction, operation, and reclamation activities during consultation. Agreements or understandings reached with affected tribes shall be carried out in accordance with the terms of MOAs or State Specific Procedures as defined within the Solar PA. • The BLM consulting with affected Indian tribes during the Section 106 process at the points specified in the Solar PA. • The BLM consulting with Indian tribes under the terms of the Native American Graves Protection and Repatriation Act (NAGRA). Any planning for treatment of historic properties or mitigation will take such consultations into account. • The BLM seeking, during consultation, to develop agreements with affected tribes on how to appropriately respond to input and concerns in advance to save time and avoid confusion. (b) Methods to minimize issues and areas of concern to federally recognized Indian tribes may include, but are not limited to, the following: • Employing standard noise design features for solar facilities located near sacred sites to minimize the impacts of noise on culturally significant areas. • Employing health and safety design features for the general public for solar facilities located near Native American traditional use areas in order to minimize potential health and safety impacts on Native Americans. • Avoiding known human burial sites. Where there is a reasonable probability of encountering undetected human remains and associated funerary objects by a solar project, the BLM will carry out discussions with Indian tribes before the project is authorized to provide general guidance on the treatment of any cultural items (as defined by NAGPRA) that might be exposed. • Avoiding visual intrusion on sacred sites through the selection of the solar facility location and solar technology. When complete avoidance is not possible, the BLM shall engage in timely and meaningful consultation with the affected tribe(s) and shall attempt to formulate a mutually acceptable plan to mitigate or reduce the adverse effects. • Avoiding rock art (panels of petroglyphs and/or pictographs). These panels may be just one component of a larger sacred landscape, in which avoidance of all impacts may not be possible. Mitigation plans for eliminating or reducing potential impacts on rock art shall be formulated in consultation with the appropriate tribal cultural authorities. • Avoiding springs and other water sources that are or may be sacred or culturally important. If it is necessary for construction, maintenance, or operational activities to take place in proximity to springs or other water sources, appropriate measures, such as the use of geotextiles or silt fencing, shall be taken to prevent silt from degrading water sources. The effectiveness of these mitigating barriers shall be monitored. Measures for preventing water depletion impacts on springs shall also be employed. Particular mitigations shall be determined in consultation with the appropriate Indian tribe(s).	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
	• Avoiding culturally important plant species. When it is not possible to avoid impacting these plant resources, consultations shall be undertaken with the affected Indian tribe(s). If the species is available elsewhere on agency-managed lands, guaranteed access may suffice. For rare or less-common species, establishing (transplanting) or propagating an equal amount of the plant resource elsewhere on agency-managed land accessible to the affected tribe may be acceptable (e.g., for mesquite groves and rice grass fields, identified as tribally important plant species in the ethnographic studies). • Avoiding culturally important wildlife species and their habitats. When it is not possible to avoid these habitats, solar facilities shall be designed to minimize impacts on game trails, migration routes, and nesting and breeding areas of tribally important species. Mitigation and monitoring procedures shall be developed in consultation with the affected tribe(s). • Securing a performance and reclamation bond for all solar energy projects to ensure compliance with the terms and conditions of the ROW authorization. When establishing bond amounts and conditions, the BLM-authorized officer shall require coverage of all expenses tied to identification, protection, and mitigation of cultural resources of concern to Indian tribes. These may include, but are not limited to, costs for ethnographic studies, inventory, testing, geomorphological studies, data recovery, curation, monitoring, treatment of damaged sites, and generation and submission of reports (see ROW authorization policies, Section 2.2.1.1).		
NA2-1	Prior to construction, the project developer shall provide training to contractor personnel whose activities or responsibilities could affect issues and areas of concern to federally recognized Indian tribes.	Yes	C
NA3-1	Consultation with affected federally recognized Indian tribes shall be ongoing during the life of the project.	Yes	S, C, O, D
NA3-2	The project developer shall train facility personnel regarding their responsibilities to protect any known resources of importance to federally recognized Indian tribes.	Yes	C, O, D
NA4-1	The project developer shall confine reclamation and decommissioning activities to previously disturbed areas and existing access roads to the extent practicable.	Yes	D
NA4-2	The project developer shall return the site to its pre-construction condition, to the extent practicable and approved by the BLM.	Yes	D
S1-1	Project developers shall coordinate with the BLM and other federal, state, and local agencies to identify and minimize potential socioeconomic impacts. (a) Identifying socioeconomic impacts shall include, but is not limited to, the following: • Assessing the potential for socioeconomic impacts associated with the proposed project in coordination with the BLM and other qualified experts. Project developers shall collect and evaluate available information describing the socioeconomic conditions in the vicinity of the proposed project, as needed, to predict potential impacts of the project. • Evaluating socioeconomic impacts as part of the environmental impact analysis for the project and considering options to minimize and/or mitigate impacts in coordination with the BLM. (b) Methods to minimize socioeconomic impacts may include, but are not limited to, the following: • Developing a community monitoring program that would be sufficient to identify and evaluate socioeconomic impacts resulting from solar energy development. Measures developed for monitoring may include the collection of data reflecting the economic, fiscal, and social impacts of development at the state, local, and tribal level. • Developing community outreach programs that would help communities adjust to changes triggered by solar energy development. • Establishing vocational training programs for the local workforce to promote development of skills required by the solar energy industry. • Developing instructional materials for use in area schools to educate the local communities on the solar energy industry. • Supporting community health screenings. • Providing financial support to local libraries for the development of information repositories on solar energy, including materials on the hazards and benefits of commercial development. Electronic repositories established by the project developer could also be of great value.	Yes	S
EJ1-1	Project developers shall coordinate with the BLM and other federal, state, and local agencies to identify and minimize the potential for environmental justice impacts. (a) Identifying environmental justice impacts shall include, but is not limited to, the following: • Assessing the potential for environmental justice impacts associated with the proposed project in coordination with the BLM and other qualified experts. Project developers shall collect and evaluate available information describing the socioeconomic conditions in the vicinity of the proposed project, as needed, to predict potential environmental justice impacts of the project (i.e., environmental, economic, cultural, and health impacts on low-income and minority populations). • Evaluating environmental justice impacts as part of the environmental impact analysis for the project and consider options to avoid, minimize, and/or mitigate such risk in coordination with the BLM. (b) Methods to minimize environmental justice impacts may include, but are not limited to, the following: • Developing and implementing focused public information campaigns to provide technical and environmental health information directly to low-income and minority groups or to local agencies and representative groups. Including key information such as any likely impact on air quality, drinking water supplies, subsistence resources, public services, and the relevant preventative/minimization measures that may be taken. • Providing community health screenings for low-income and minority groups. • Providing financial support to local libraries in low-income and minority communities for the development of information repositories on solar energy, including materials on the hazards and benefits of commercial development. • Establishing vocational training programs for the local low-income and minority workforce to promote development of skills for the solar energy industry. • Developing instructional materials for use in area schools to educate the local communities on the solar energy industry. • Providing key information to local governments and directly to low-income and minority populations on the scale and timeline of expected solar projects and on the experience of other low-income and minority communities that have followed the same energy development path. • Considering making information available about planning activities that may be initiated to provide local infrastructure, public services, education, and housing.	Yes	S

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
T2-1 (T1-1 skipped in source document)	Project developers shall coordinate with the BLM, and other federal, state, and local agencies to identify and minimize impacts on transportation. (a) Identifying impacts on transportation shall include, but is not limited to, the following: • Assessing the potential for transportation impacts associated with the proposed project in coordination with the BLM and other appropriate state and local agencies. Consulting land use plans, transportation plans, and local plans as necessary. Developer may be required to perform traffic studies, analyses, or other studies of existing and proposed new roads capacity to physically handle the added wear and tear from increased construction commuter and truck traffic. • Evaluating transportation impacts as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate such risk in coordination with the BLM. (b) Methods to minimize impacts on transportation may include, but are not limited to, the following: • Incorporating site access into the local and regional road network. Incorporation must be done under the supervision of the pertinent local, county, state, and federal agencies. • Considering public roadway corridors through a site to maintain proper traffic flows and retain more direct routing for the local population. • Considering implementing local road improvements, providing multiple site access locations and routes, staggering work schedules, and implementing a ride-sharing or shuttle program to minimize daily commutes of construction workers. • Implementing traffic control measures to reduce hazards for incoming and outgoing traffic and streamline traffic flow, such as intersection realignment and speed limit reductions; installing traffic lights and/or other signage; and adding acceleration, deceleration, and turn lanes on routes with site entrances. • Incorporating environmental inspection and monitoring measures into the POD and other relevant plans to monitor and respond to transportation impacts during construction, operations, and decommissioning of a solar development, including adaptive management protocols.	Yes	S, C, O, D
HMW1-1	Project developers shall coordinate with the BLM and other federal, state and local agencies early in the planning process to assess hazardous material and waste concerns and to minimize potential impacts. (a) Assessing hazardous material and waste concerns shall include, but is not limited to, the following: • Identifying expected waste generation streams at the solar energy site and hazardous waste storage locations for consideration in the environmental analysis evaluating the proposed project. • Conducting site characterization, construction, operation, and decommissioning activities in compliance with applicable federal and state laws and regulations, including the Toxic Substances Control Act of 1976, as amended (15 USC 2601,39 et seq.). An example of complying with applicable law is reporting any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 as required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Section 102b. • Evaluating potential hazardous material and waste related impacts as part of the environmental impact analysis for the project and considering options to minimize and/or mitigate impacts in coordination with the BLM. (b) Methods to minimize hazardous material and waste related impacts shall include, but are not limited to, the following: • Developing a Hazardous Materials and Waste Management Plan that addresses the selection, transport, storage, and use of all hazardous materials needed for construction, operation, and decommissioning of the facility for local emergency response and public safety authorities and for the designated BLM land manager. Furthermore the plan shall address the characterization, on-site storage, recycling, and disposal of all resulting wastes. At minimum, the plan will discuss facility identification; comprehensive hazardous materials inventory; Material Safety Data Sheets (MSDSs) for each type of hazardous material; emergency contacts and mutual aid agreements, if any; site map showing all hazardous materials and waste storage and use locations; copies of spill and emergency response plans, and hazardous materials-related elements of a Decommissioning and Site Reclamation Plan. • Planning for waste management will address all solid and liquid wastes that may be generated at the site in compliance with the CWA requirements to obtain the project's NPDES or similar permit. • Considering fire management in developing hazardous materials and waste management measures. • Identifying and implementing prevention measures, including material substitution of less hazardous alternatives, recycling, and waste minimization. • Establishing procedures for fuel storage and dispensing that consider health and safety of personnel and methods for safe use (i.e., fire safety, authorized equipment use). • Ensuring vehicles and equipment are in proper working condition to reduce potential for leaks of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. • Considering establishing schedules regular removal of wastes (including sanitary wastewater generated in temporary, portable sanitary facilities) for delivery and removal by licensed haulers to appropriate off-site treatment or disposal facilities.	Yes	S
HMW2-1	Solar facilities shall be characterized, sited and designed, and constructed to minimize hazardous materials and waste management design elements. (a) Methods to minimize hazardous material and waste management impacts may include, but are not limited to, the following: • Indemnifying the United States against any liability arising from the release of any hazardous substance or hazardous waste on the facility or associated with facility activities • Providing a copy of any report required or requested by any federal agency or state government as a result of a reportable release or spill of any toxic substances shall be furnished to the BLM-authorized officer concurrent with the filing of the reports to the involved federal agency or state government. • Designing and operating systems containing hazardous materials in a manner that limits the potential for their release. • Establishing measures for construction with compatible materials in safe conditions. • Establishing dedicated areas with secondary containment for off-loading hazardous materials transport vehicles. • Implementing a "just-in-time" ordering procedures that are designed to limit the amounts of hazardous materials present on the site to quantities minimally necessary to support continued operations. Excess hazardous materials shall receive prompt disposition. • Surveying project sites for unexploded ordnance, especially if projects are within 20 mi (32 km) of a current DoD installation or formerly utilized defense site. • Siting refueling areas away from surface water locations and drainages and on paved surfaces; features shall be added to direct any spilled materials to sumps or safe storage areas where they can be subsequently recovered. • Designating hazardous materials and waste storage areas and facilities. Limiting access to designated areas to authorized personnel only.	Yes	S, C
HMW3-1	Compliance with the terms and conditions for hazardous materials and waste management shall be monitored by the project developer. Consultation with the BLM shall be maintained through the operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM. (a) Methods for maintaining compliance with the terms and conditions for hazardous materials and waste management during operations and maintenance of the project may include, but are not limited to, the following: • Installing sensors or other devices to monitor system integrity. • Implementing robust site inspection and repair procedures.	Yes	C, O
HMW4-1	Project developers shall maintain emergency response capabilities throughout the reclamation and decommissioning period as long as hazardous materials and wastes remain on-site.	Yes	D
HMW4-2	All design features developed for the construction phase shall be applied to similar activities during the reclamation and decommissioning phases.	Yes	D

Stipulation Label	Requirements	Applicable to Project?	Project Stage*
HS1-1	Project developers shall coordinate with the BLM and other federal, state, and local agencies early in the planning process to identify project health and safety risks and methods to minimize those risks. (a) Assessing project health and safety risks shall include, but is not limited to, the following: • Identifying and establishing federal and state occupational health and safety standards, such as the Occupational Health and Safety Administration's (OSHA's) Occupational Health and Safety Standards, 29 CFR Parts 1910 and 1926, respectively, for all phases of the project. • Identifying safety zones or setbacks for solar facilities and associated transmission lines from residences and occupied buildings, roads, ROWs, and other public access areas that is sufficient to prevent accidents resulting from various hazards during all phases of development. (b) Methods to minimize project health and safety risks may include, but are not limited to, the following: • Identifying and accounting for general project injury prevention within the POD and the Health and Safety Plan, such as established PPE requirements, respiratory protection, hearing conservation measures, electrical safety considerations, hazardous materials safety and communication, housekeeping and waste handling, confined space identification, and rescue response and emergency medical support, including on-site first aid capability. • Implementing training and awareness measures for workers and the general public to minimize and address standard practices (such as OSHA's) for the safe use of explosives and blasting agents; occupational electric and magnetic field (EMF) exposures; fire safety and evacuation procedures; and safety performance standards (e.g., electrical system standards and lighting protection standards). Consider further training for additional health and safety risks from the solar energy project and its ancillary facilities. • Establishing measures to document training activities and reporting of serious accidents to appropriate agencies. • Assessing cancer and noncancer risks to workers and the general public from exposure to facility emission sources that exceed threshold levels. • Considering implementation of measures to reduce site emissions and the cancer and noncancer from exposure to facility emissions. • Implementing a reporting structure for accidental release of hazardous substances to the environment where project developers shall document the event, including a root cause analysis, a description of appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the permitting agencies and other federal and state agencies within 30 days. • Considering manufacturer requirements, and federal and state standards when establishing safety zones or setbacks for solar facilities and associated transmission lines. • Project developers coordinating with the BLM and appropriate agencies (e.g., the U.S. Department of Energy [DOE] and Transportation Security Administration [TSA]) to address critical infrastructure and key resource vulnerabilities at solar facilities in order to minimize and plan for potential risks from natural events, sabotage, and terrorism.	Yes	S
HS1-1 (misnumbered source document, should be HS2-1)	Solar facilities shall be characterized, sited and designed, and constructed to minimize risk to health and safety. (a) Methods to minimize risk to health and safety may include, but are not limited to, the following: • Designing electrical systems to meet all applicable safety standards (e.g., National Electrical Code [NEC]) and to comply with the interconnection requirements of the transmission system operator. • Complying with applicable FAA regulations, including lighting requirements, to avoid or minimize potential safety issues associated with proximity to airports, military bases or training areas, or landing strips. • Considering temporary fencing and other measures for staging areas, storage yards, and excavations during construction or decommissioning activities to limit public access to health and safety risks. • Planning for traffic management of site access to ensure that traffic flow would not be unnecessarily affected and that specific issues of concern (e.g., the locations of school bus routes and stops) are identified and addressed. Planning may include measures, such as informational signs and temporary lane configurations. Planning shall be coordinated with local planning authorities. • Considering use of alternative dielectric fluids that do not contain sulfur hexafluoride (SF_6) to reduce the global warming potential. • Considering measures to reduce occupational EMF exposures, such as backing electrical generators with iron to block the EMF, shutting down generators when work is being done near them, and otherwise limiting exposure time and proximity while generators are running.	Yes	S, C
HS3-1	Compliance with the terms and conditions for health and safety shall be monitored by the project developer. Consultation with the BLM shall be maintained through operations and maintenance of the project, employing an adaptive management strategy and modifications, as necessary and approved by the BLM.	Yes	C, O
NSHT1-1	Project developers shall consult with the BLM and the trail administering agency early in the project planning to help determine the proposed project's conformance with trail management prescriptions and other potential trail related constraints. (a) Assessing conformance to trail management prescriptions and other potential trail related constraints shall include, but is not limited to, the following: • Considering National Trail management corridors established through the land use planning process as exclusion areas (see Section 2.2.2.1 of this Final Solar PEIS) in order to prevent substantial interference with the nature and purposes of designated National Scenic and Historic Trails, and to make efforts to avoid activities incompatible with trail purposes (NTSA Sec. 7(c)). Where no National Trail management corridor is established in a land use plan, or adequate protections for suitable trails or trails under study, an accepted National Trail inventory process must be conducted by the applicant, and in consultation with the trail administering agency. The inventory process will identify the potential area of adverse impact on the resources, qualities, values, and associated settings, and primary use or uses of the trails within the viewshed; prevent substantial interference; and determine any areas unsuitable for development. Residual impacts on trails will be avoided, minimized, and/or mitigated to the extent practicable according to program policy standards. • Determining the size of the area of possible adverse impact through the results of the required inventory, in consultation with the trail administering agency. There is no current established minimum or maximum limit on the size of the area of possible adverse impact. Other design feature requirements and coordination requirements, such as for Cultural Resources, Recreation and Visitor Services, Visual Resources, or NLCS must also be met. • Review of adequacy of information from National Scenic or Historic Trail inventory projects underway during the development of the Solar PEIS by the BLM at the field office level in coordination with the trail administering agency, and application of the data to determine the area of possible adverse impact for any anticipated development. Such inventory projects may reveal unanticipated or undocumented remnants, artifacts, trail tread or trace, the location of high potential historic sites and high-potential route segments, trail features, and/or the associated settings for National Scenic or Historic Trails adjacent to or within SEZ. • Applying on-site or off-site mitigation for any residual adverse impact according to program policy standards, and mitigation or impact reduction measures identified for related program areas in this document.	Yes	S

Source: BLM (2012).

* Project Stages: S = siting and design; O = operations and maintenance; D = decommissioning