

**TOWNSITE SOLAR 2 LLC
TOWNSITE SOLAR 2 DATA CENTER
PLAN OF DEVELOPMENT**

Prepared for

**Department of the Interior
Bureau of Land Management
Southern Nevada District**
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
(702) 515-5000

Applicant

Townsite Solar 2 LLC
5847 San Felipe Street, Suite 4450
Houston, Texas 77057
(713) 341-7944

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1 PROJECT DESCRIPTION

1.1 Introduction

The Townsite Solar 2 Project is currently entitled as 19 MW solar project plus a 35 MW Battery Storage System (BESS) pursuant to Bureau of Land Management (“BLM”) Right of Way (“ROW”) grant N-99875 issued to Townsite Solar 2 LLC (“Applicant”) on September 22, 2023. The Applicant proposes to modify the ROW as outlined in this updated plan of development and in the Amended SF 299 submitted on November 4, 2025, as further updated on January 8, 2026.

Townsite Solar 2 LLC, a wholly owned subsidiary of Townsite Solar 2 Parent, LLC, a joint venture between TS2 Investments, LLC and Arevon Energy Devco 1, LLC, proposes to construct, own, operate, maintain, and decommission a data center on a 76-acres of the requested 85 acre ROW, with an additional 4 acres to be used for an 80 × 2,000-foot linear facilities segment (“Linear Facilities”). The project will be referred to as the Townsite Solar 2 Data Center (the “Proposed Project”).

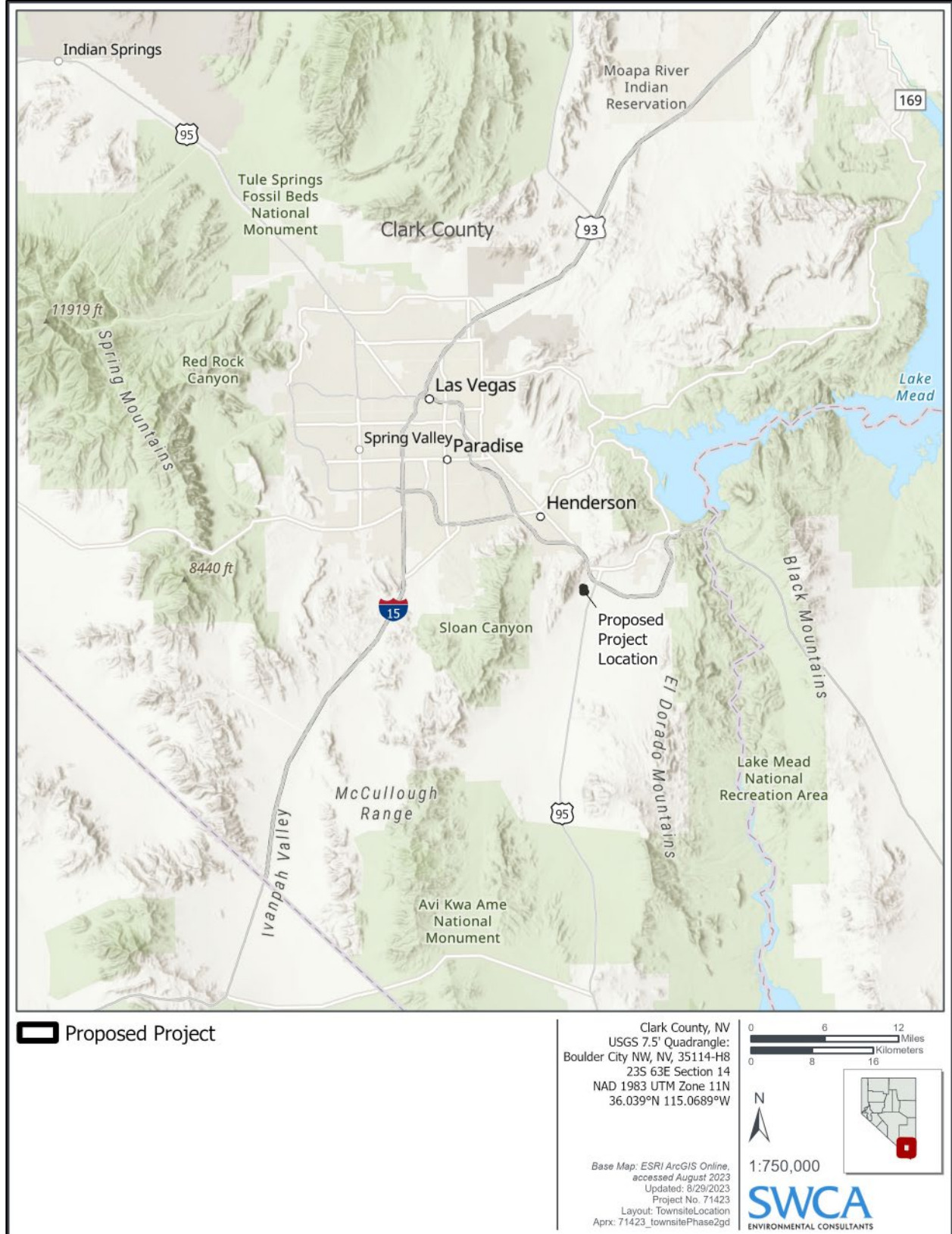
The Proposed Project consists of the data center building which is a building that houses infrastructure including computer servers, storage, and network equipment, to store, manage, process, and disseminate large amounts of data and digital information and administrative facilities. Contiguous to the data center building will be surface parking, a 70 MW BESS, a substation, and emergency backup generators fueled by biodiesel or natural gas.

In addition, the Linear Facilities portion of the Proposed Project will contain a road to access the data center site during construction (and temporary laydown area) and operation, installation of an electric permanent 12- to 13.8-kilovolt (kV) distribution power line (the “distribution line”), and for an underground 34.5-kV to 230 kV power collection system (“Power Collection Line”) used to interconnect the Proposed Project into a new substation proposed to support the expansion of the Southern Nevada Water Authority (SNWA) 230-kV transmission line (N-100382). The Linear Facilities segment will commence on the southeast corner of the data center and run due east for approximately 2,000 feet to the western border of the project being developed by the Applicant on municipal land owned by the City of Boulder City (“BCNV Property”).

Site access will use two separate locations for site access on U.S. Route 95. The first point of site access is located approximately 1.24 miles south of the Interstate 11 (I-11)/U.S. Route 93 and U.S. Route 95 interchange, then west onto non-BLM lands using an unnamed road (same road to access Customers Team Members Community Crushing Boulder Ranch Quarry (“CTC BRQ Pit”)) for 0.25 mile, then north on Old U.S. Highway 95 (Old Hwy 95) for 0.35 mile to the Proposed Project’s linear facilities segment on BLM land (see Figure 1-4). The second point of site access is a right in/right out only point of access located approximately 0.9 miles south of the Interstate 11 (I-11)/U.S. Route 93 and U.S. Route 95 interchange that was recently approved by the Nevada Department of Transportation. If needed, the applicant will obtain authorization from the governing jurisdictions for use of non-BLM roads for access.

To minimize any environmental impacts, the Project Area contains a slightly larger area than required to allow for adjustments in the facility layout. Any land not needed for the Proposed Project will be relinquished back to the BLM at the appropriate time.

Figure 1-1. Proposed Project location map.



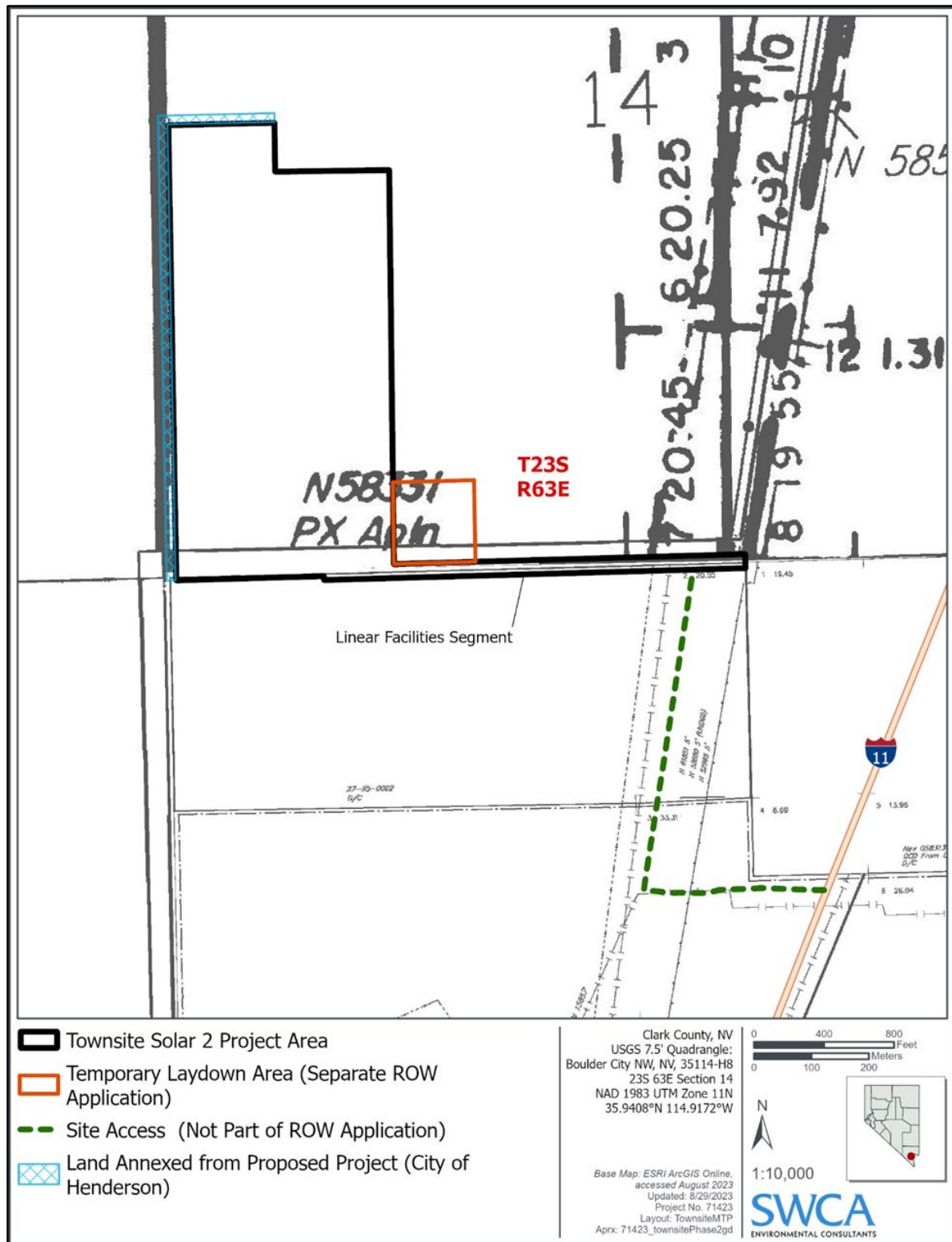


Figure 1-2. Project Area and Temporary Laydown Area.

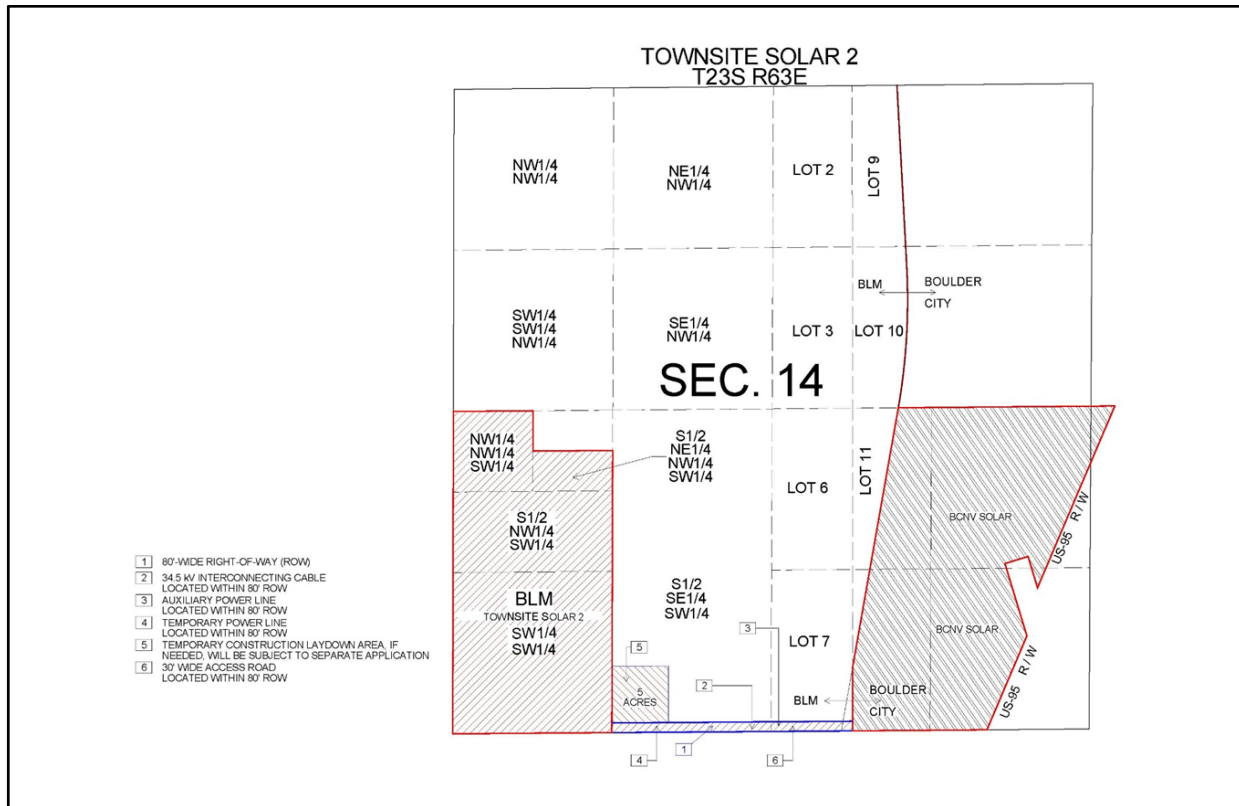


Figure 1-3. Legal description for Project Area

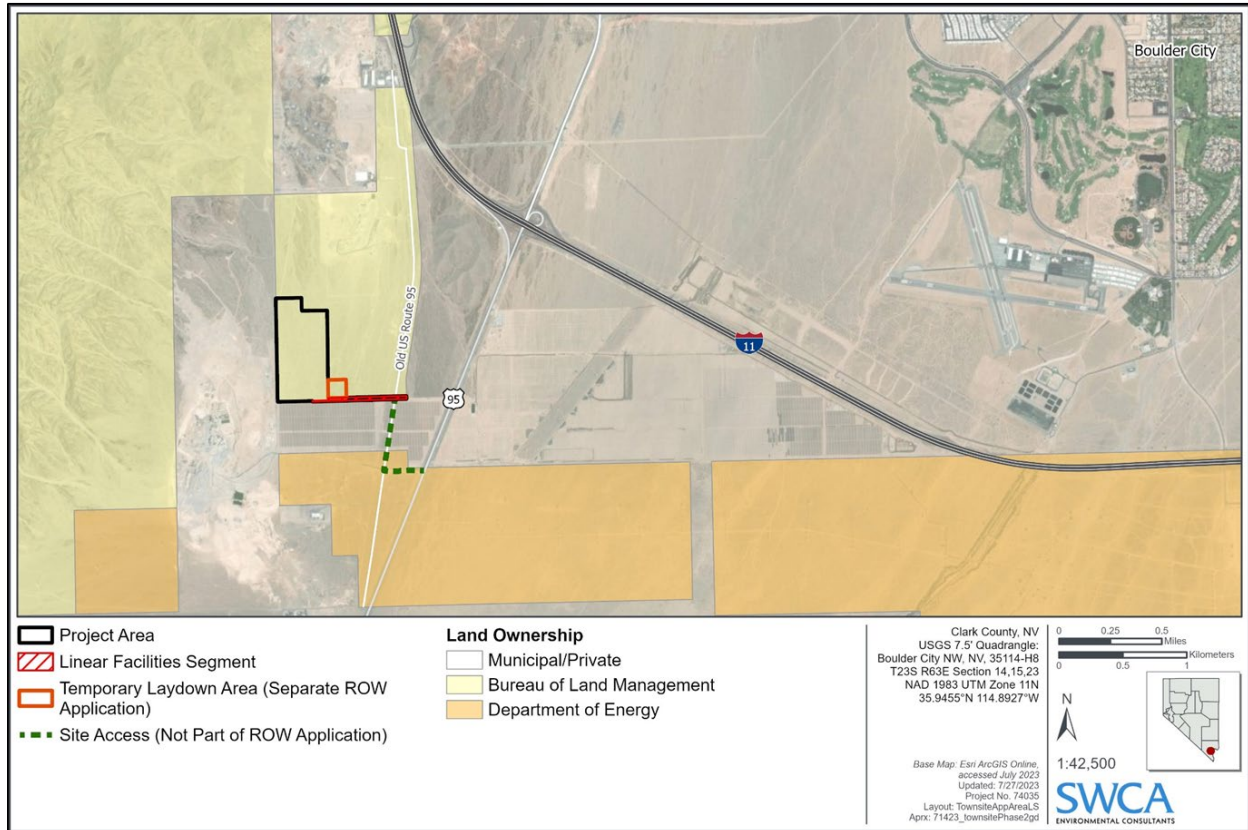


Figure 1-4. Proposed Project and land ownership

Construction of the Proposed Project will require approximately up to -12 months and will commence following completion of all necessary permits and authorizations are obtained.

1.1.1 Applicant's Schedule for the Proposed Project

After approval of the Proposed Project and prior to any activity on the site, design features including management plans (as listed in Section 6.3) will be developed and approved, and regulatory and permit conditions will be integrated into the final construction compliance documents. Construction will begin once all applicable approvals and permits have been obtained. Construction is expected to take up to 12 months and will include mobilization, construction grading and site preparation, installation of drainage and erosion controls, data center and BESS construction.

Table 1-1 outlines the Proposed Project's schedule with construction planned to commence in Q1-2027. Once construction is completed, the Proposed Project will be in operation for at least 50 years, with the possibility of a subsequent replacement of equipment for additional years of operation if grant renewal is requested and authorized at the end of the initial 50 years.

Table 1-1. Proposed Project Schedule

Activity	Date
BLM Permitting/NEPA Process Complete	Q2-2026
Construction Commencement	Q1-2027
Startup and Testing Phase	Q4-2027
Commercial Operation	Q2-2028

1.1.2 Need for the Proposed Project

Corporations such as Amazon Web Services (AWS), Advanced Micro Devices (AMD), Microsoft Azure, Google Cloud, Meta Platforms, Equinix, and Digital Realty are constructing data centers worldwide. These top data center companies are adding nearly 50 million square feet and over 1 gigawatt of capacity globally. The expansion of data centers is vital to support advancements in technologies like artificial intelligence (AI) and strengthen the U.S.'s resilient digital infrastructure. The United States has a greater need for artificial intelligence than any other industrialized nation. Development of data center and AI infrastructure is a top priority the United States Government. The importance of the development of data centers on federal land is demonstrated in America's AI Action Plan which was published by the Office of the President in July 2025. The AI Action Plan provides the following directives to promote the development of AI infrastructure in America:

- Establish new Categorical Exclusions under NEPA to cover data center-related actions.

Where possible, adopt Categorical Exclusions already established by other agencies so that each relevant agency can proceed with maximum efficiency.

- Expand the use of the FAST-41 process to cover all data center and data center energy projects eligible under the Fixing America's Surface Transportation Act of 2015.²⁵
- Explore the need for a nationwide Clean Water Act Section 404 permit for data centers, and, if adopted, ensure that this permit does not require a Pre-Construction Notification and covers development sites consistent with the size of a modern AI data center.

- Expedite environmental permitting by streamlining or reducing regulations promulgated under the Clean Air Act, the Clean Water Act, the Comprehensive Environmental Response, Compensation, and Liability Act, and other relevant related laws.
- Make Federal lands available for data center construction and the construction of power generation infrastructure for those data centers by directing agencies with significant land portfolios to identify sites suited to large-scale development.
- Maintain security guardrails to prohibit adversaries from inserting sensitive inputs to this infrastructure. Ensure that the domestic AI computing stack is built on American products and the infrastructure that supports AI development such as energy and telecommunications are free from foreign adversary information and communications technology and services (ICTS) including software and relevant hardware.
- Expand efforts to apply AI to accelerate and improve environmental reviews, such as through expanding the number of agencies participating in DOE's Permit

Development of AI infrastructure in the United States reduces reliance on foreign sources of fuel, promotes national security and diversifies power demand.

1.1.3 *Applicant's Purpose and Need*

The fundamental purpose of the Proposed Project is to provide an efficient, economic, and reliable data center to support local, state and federal objectives paving the way for expansion of other similar projects in the area. Considering the entire process, from raw material sourcing through end-of-life-cycle collection and recycling, the additional generating capacity of the Proposed Project will produce a small fraction of the greenhouse emissions of a similar capacity fossil fuel plant.

1.1.4 *General Facility Description, Design and Operation*

The Proposed Project Facilities consist of power and cooling systems, security infrastructure, and the physical IT components including servers, storage, and networking equipment. The power systems include uninterruptible power supplies (UPS), backup generators and energy storage, while cooling systems maintain optimal temperatures through air conditioning and other methods. Security is both physical (e.g., access controls, surveillance) and digital (e.g., firewalls).

Power and cooling infrastructure

- Power delivery: High-capacity, redundant power infrastructure, including (UPS) for immediate backup, up to 70 MW BESS and 170 MW of biodiesel generators for long outages and system emergencies.
- Cooling systems: Advanced systems like precision air conditioning, fans, and a state of the art air-cooled closed loop cooling to manage the heat generated by equipment and maintain optimal temperature and humidity. This system eliminates the need for evaporative or water-based cooling, and it does not release water or vapor onto the ground or through evaporation.
- Electrical distribution: Infrastructure like switchgears, transformers, and Power Distribution Units ("PDUs") to distribute power efficiently and reliably.

Physical IT components

- Servers: High-performance computers that run applications and process data.

- Storage systems: Hardware like hard drives, SSDs, and storage area networks (“SANs”) to store and manage vast amounts of data.
- Networking equipment: Routers, switches, and firewalls that route data traffic and enable communication between servers, storage, and the outside world.

Security systems

- Physical security: Measures to prevent unauthorized access to the facility, including biometric scanners, security guards, surveillance cameras, and secured entry points.
- Fire suppression: Advanced systems like fire alarms with specific extinguishing agents (such as inert gas or microdroplets) to quickly put out fires without damaging equipment.
- Cybersecurity: Digital defenses like firewalls and intrusion detection systems to protect against cyber threats.

Other key facilities

- BESS: The Proposed Project design will include a BESS with capacity of up to 70 MW for 4 to 8 hours. The BESS will be used by the data center to provide backup power and help regulate seasonal and hourly variances in energy demand of the data Center, voltage and frequency.
- Biodiesel/Gas Fired Back up Generators: The Proposed Project design will include 100% back-up diesel generators fired with biodiesel or natural gas. Such generators will be permitted and operated in accordance with local, state and federal guidelines and standards.
- Maintenance and staging areas: Space for unpacking and preparing new equipment.

The Proposed Project site located on approximately 85 acres of public land managed by BLM. The Project will interconnect into the newly expanded SNWA 230-kV transmission line or into the existing Western Area Power Administration (WAPA) Mead 230-kV Substation from the existing Townsite Solar 1 facilities, both located on municipal land. The Proposed Project may share its BESS with the proposed BCNV Facility.

Prior to Project construction, geotechnical exploration including soil borings, soil resistivity testing, and pile load tests will be conducted to provide information for preliminary design necessary for the construction of the facilities. Authorization to conduct geotechnical investigation is requested in SF299 filed with the BLM for the Project. No reclamation is proposed for geotechnical investigation as the testing will occur within areas proposed as part of the permanent disturbance associated with the Project. The Applicant is planning to begin geotechnical exploration in Q1-2026 to minimize potential impacts to federally managed lands and environmental resources.

The Applicant reduced potential impacts of the Proposed Project this effort by selecting a site in proximity to the City of Boulder City's Eldorado Valley Energy Zone.

The Proposed Project is in the south half of Section 14, Township 23 South (T23S), Range 63 East (R63E), Mount Diablo Base and Meridian. Table 1-2 shows the complete legal land description for the Proposed Project.

Table 1-2. Legal Land Description of the Data Center Facility Footprint

Mount Diablo Meridian, Clark County, Nevada	
Township 23 South, Range 63 East	
Section 14	S½NE¼NW¼SW¼, NW¼NW¼SW¼, S½NW¼SW¼, SW¼SW¼, S½SE¼SW¼, and Lot 7

1.1.5 Total Acreage and Dimensions of Facilities

Table 1-3 lists the Proposed Project elements and the estimated permanent and temporary disturbance acreages. Once the buildings, roads, BESS, switching stations and parking lots are installed, at least 80% of the acreage will be covered with impervious surfaces.

Table 1-3. Estimated Permanent and Temporary Disturbance Acreages Associated with the Project Facilities

Facility Type	Acres of Disturbance	Notes
Permanent Disturbance		
Data Center facility	76*	The Proposed Project consisting of power and cooling systems, security infrastructure, and the physical IT components including servers, storage, and networking equipment. The power systems include uninterruptible power supplies (UPS) and backup generators, while cooling systems maintain optimal temperatures through air conditioning and other methods. Security is both physical (e.g., access controls, surveillance) and digital (e.g., firewalls).
BESS	(5)	Battery Storage, inverters and appurtenant systems.
Switching Station	5	Switching station including transformer and HV Breakers) within the construction laydown area that will become part of the permanent ROW following construction.
Drainage features	(TBD)	The drainage features are included within the data center footprint.
Berms	(TBD)	The berms are within the data center footprint.
Fencing (permanent)	(0.5)	Security perimeter fencing (hereinafter, perimeter fence) and entrance gates will be installed. Permanent Mojave desert tortoise (<i>Gopherus agassizii</i> ; hereinafter "desert tortoise") fencing, up to 7,917 feet long × 3 feet wide (surface clearance area for installation) will be attached to the bottom of the perimeter fence and data center facility entrance gates.
Interior access way	(2)	The access way will be graded and compacted with site materials, will measure up to 20 feet wide × 6,000 feet long, and is anticipated to be placed around the center of the data center
Project interconnection	N/A	The Project will interconnect through either the new Boulder Flats substation through the newly expanded SNWA 230-kV transmission line; or the proposed BCNV Facility into the WAPA Mead 230-kV Substation via the Townsite Solar 1 Facility (on municipal No new surface disturbance associated with the interconnection is expected.

Facility Type	Acres of Disturbance	Notes
Linear facilities segment (site road, distribution line, and underground Power Collection System)	4	The Proposed Project intends to utilize the Linear Facilities approved in Right of Way Grant N-99875 issued to TS2 on September 29, 2023 (TS2 ROW). The TS2 ROW includes a segment that is approximately 4 acres in size, measures 80 feet wide × 2,000 feet long, and will commence from the southeast corner of the site and extend eastward along the southern border of S½SE¼NW¼ Section 14, T23S, R63E of BLM land to end at the BCNV Property. The Proposed Project will use the newly constructed site road, measuring 30 feet wide × 2,000 feet long, co-located within the Linear Facilities segment) and will be used to access the Project during construction and operations. The site road will be graded and covered with gravel base and sited at least 25 feet from the distribution power line's centerline. The remaining 50-foot-wide × 2,000-foot-long portion of the Linear Facilities segment will be used for an overhead 12 to 13.8-kV auxiliary distribution line to provide power to the Proposed Project during construction and operations. The Applicant intends to assign the 50 × 2,000-foot portion of the linear facilities segment to the owner of the distribution line at a later date. The construction and operation of the interconnecting underground Power Collection line and a fiber optic cable (installed either underground with Power Collection Line as a separate conduit or on overhead lines along the distribution line) would be co-located in the Linear Facilities segment between the site road and the centerline of the distribution line (25-foot offset). Installation of the underground power collector line will require at least two pulling sites, up to 80 feet wide × 300 feet long to be located within a portion of the linear facilities segment (80 × 2,000-foot area) for a 2-month construction time frame.
Total Project Area	85	
Temporary Disturbance for Geotechnical Exploration (within data center facility footprint)		
Borehole/soil resistivity	(1.5)	Up to six boreholes at depths of approximately 30 and 50 feet. Geotechnical boring sites will be approximately 100 × 100 feet wide (to account for space for drilling and support vehicles), for a total disturbance of 0.23 acre per site. At each borehole, two soil resistivity surveys will be conducted along two perpendicular traverses. Resistivity testing will occur entirely within the disturbance area for boring geotechnical sites.
Pile Load Testing	(0.06)	At ten locations, a group of six piles (6 × 9 feet or 54 square feet) will be installed using a pile installation rig for a total disturbance of 0.06 acre. Target depth will be 7 and 13 feet. Pile load testing will occur at the boring geotechnical sites.
Site access	(0)	Access will be by existing trails/overland travel. All disturbance will be restricted to the Project Area.
Total	(1.56)	

Notes:

() Parentheses indicate the acreage is within the data center facility footprint and is part of the 76-acre total, or within the Linear Facilities segment and is part of the 4-acre total, or within the laydown/BESS area and is part of the 5-acre total.

N/A = not applicable

TBD = to be determined

† All acreages listed under permanent disturbance are included within the requested 76-acre data center facility and the acres listed under temporary disturbance (1.5 acres) will be included within the requested long term ROW.

1.2 Project Elements

Project elements are included in Figure 1-5 and Figure 1-6, and the proposed interconnection pathways are included in Figure 1-7. Below is a brief description of the Proposed Project elements:

- Geotechnical investigation work includes soil borings, soil resistivity testing, pile load testing, and access. Up to six exploratory test borings to depths of approximately 30 and 50 feet, two field soil resistivity tests (Wenner four-pin method) along two perpendicular traverses at each borehole, and pile load testing at four locations with a group of three piles installed at target

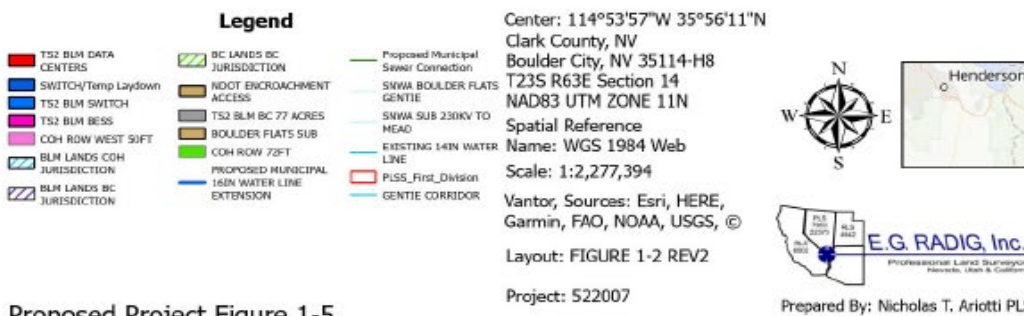
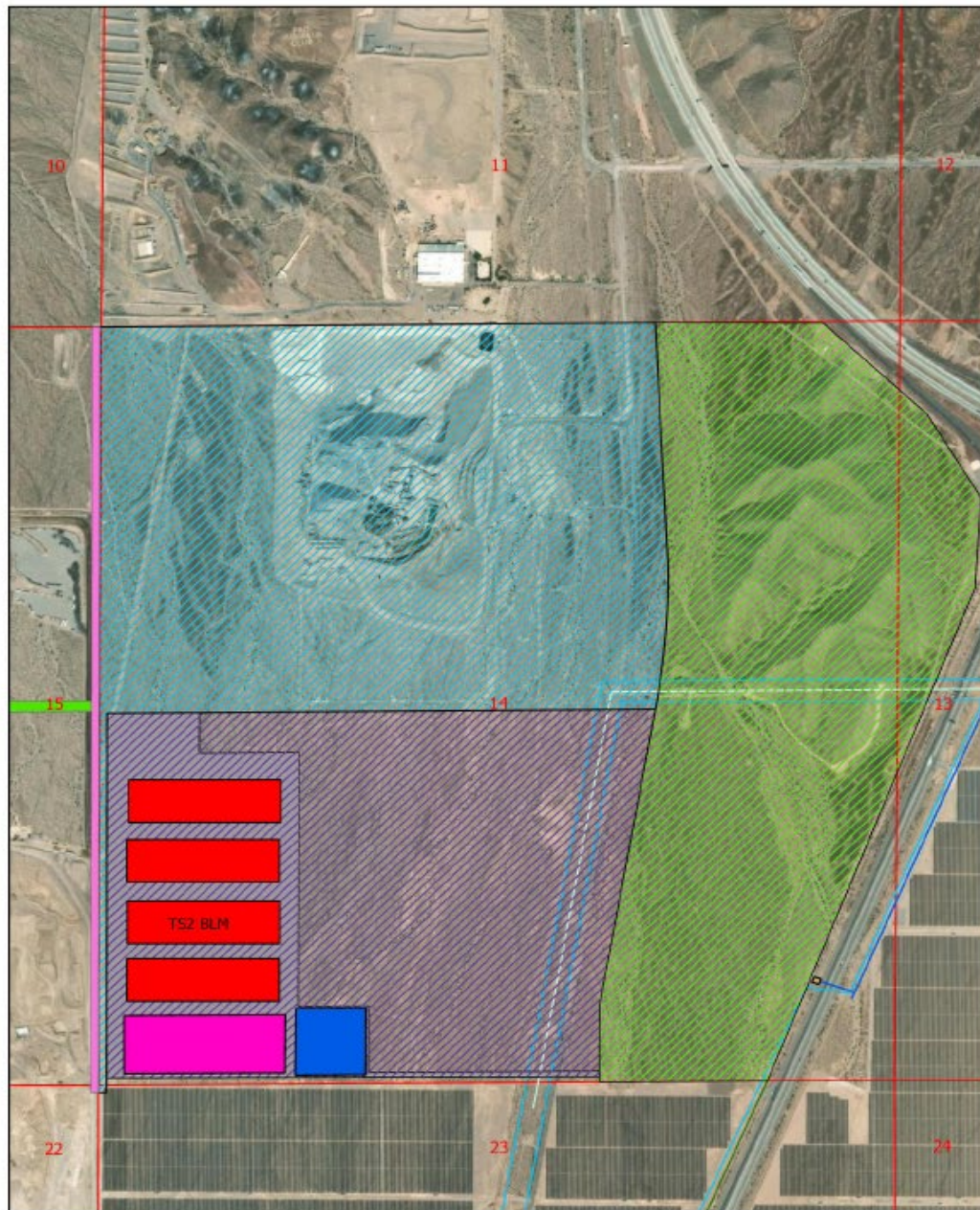
depths of 7 and 13 feet. Underground Service Alert will locate and mark the horizontal and vertical locations of exiting utilities prior to boring. Access will be by existing trails and overland travel using a truck-mounted drill rig and conventional pickup truck(s) or four-wheel drive truck(s). All disturbance will be restricted to the Project Area.

- Construction Laydown area : Located adjacent to and outside of the southeast corner of the Project Area, measuring approximately 467×464 and totaling 5-acres. This acreage will initially be used as the laydown area and will subsequently be the location of a 70 MW BESS and switching station.
- Data center facility footprint:
 - A data center building would likely cover several million square feet. For reference, a 100 MW facility is often cited as being at least 100,000 square feet and can be much larger. See Figure 5-1 for current planned area for the data center.
 - The exact dimensions are not fixed, as they depend on factors like server density, cooling systems, and overall building design. Some large-scale campuses could have multiple buildings to achieve the total power requirement. The data center building will not exceed 25 feet in height.
 - Permanent fencing will be installed around the perimeter of the data center. The perimeter fencing will include a 6- or 7-foot-tall chain-link fence with 1-foot-high barbed-wire security strands along the top. Mojave desert tortoise (*Gopherus agassizii*; hereinafter “desert tortoise”) fencing (permanent) and installation will follow U.S. Fish and Wildlife Service (USFWS) guidelines and will be attached to the bottom of the perimeter fencing (USFWS 2009). Both will be installed concurrently.
 - One auxiliary voltage transformer, measuring $61 \times 62 \times 71$ inches mounted on a concrete pad adjacent to and connected to the distribution line.
 - Installation of a BESS and appurtenant systems will provide up to 70MW, 4- to 8-hour capacity system for the electric grid
 - Installation of a electric switching station within the five acres initially used as construction laydown area during construction.
 - Installation of 167 MW of back-up biodiesel or gas fired generators
 - Underground Power Collection Line alternating current (AC) collection system will transfer power from the DC collection system and PCSs and transfer the power through the underground Power Collection Line to the Linear Facilities segment where the electricity will interconnect into the grid.
- The Linear Facilities segment extending along the southern border of the project footprint to the east, measuring 80 feet wide $\times$ 2,000 feet long, ending at the western border of the proposed BCNV Property y, on municipal land owned by the City of Boulder City, and will be used for the site road, auxiliary distribution line, underground Power Collection Line, and fiber optic cable:
 - Site road: The Proposed Project will use the 30-foot-wide $\times$ 2,000-foot-long portion of the Linear Facilities segment for the main access to the data center facility, which will provide site access during construction and operation of the Proposed Project. The site road will be graded.
 - Auxiliary overhead distribution line: The remaining 50-foot-wide $\times$ 2,000-foot-long portion of the Linear Facilities segment will be used for an overhead 12- to 13.8-kV auxiliary distribution line to provide power during construction and operations. The Applicant intends to assign the $50 \times 2,000$ -foot portion of the Linear Facilities segment to the owner of the distribution line, at a later date.

- Interconnection and communications: The 50-foot-wide × 2,000-foot-long portion of the Linear Facilities segment will also be shared for the construction and operation of the underground Power Collection Line and fiber optic cabling. The underground 34.5-230 kV collection line will deliver electricity into the on-site BESS or to the new SNWA substation in support of the newly expanded SNWA 230-kV transmission line. The Power Collection Line will require two pulling sites, up to 80 × 300 feet each, to be within a portion of the linear facilities segment (80 × 2,000-foot area) for an approximate 2-month construction time frame. Fiber optic cabling will be installed either underground with the Power Connection Line as a separate conduit or on overhead lines along the distribution line.
- Project security using a combination of perimeter fencing around the data center buildings, BESS and switching station, controlled access gates, on-site security patrols, lighting, electronic security systems and/or remote monitoring.
- Temporary fencing: Desert tortoise exclusion fencing (temporary) will be installed around the Linear Facilities segment (4 acres) to reduce the number of biological monitors required on-site. At least two desert tortoise gates will be installed within the Linear Facilities segment and one entrance gate to the data center facility (with permanent desert tortoise fencing attached). The desert tortoise fencing will be installed concurrently with the perimeter fencing.

Non-potable reclaimed water will be obtained from the City of Boulder City Wastewater Treatment Plant through an existing pipeline for dust suppression activities and stored on-site in aboveground water tanks at the temporary laydown area. Water would be obtained from commercial sources with existing water rights or availability within a 50-mile radius of the Project Area if water from the City of Boulder City Wastewater Treatment Plant is not available. This water, if needed, would be trucked to the Project area.

The Proposed Project will be designed in accordance with federal and industrial standards, including American Society of Mechanical Engineers standards, the National Electrical Code (National Fire Protection Association [NFPA] 2008), the International Building Code (International Code Council 2006a), the International Energy Conservation Code (International Code Council 2006b), the Uniform Plumbing Code (International Association of Plumbing and Mechanical Officials 2006a), the Uniform Mechanical Code (International Association of Plumbing and Mechanical Officials 2006b), NFPA standards, and Occupational Safety and Health Administration (OSHA) standards.



Proposed Project Figure 1-5

Figure 1-5. Proposed Project elements

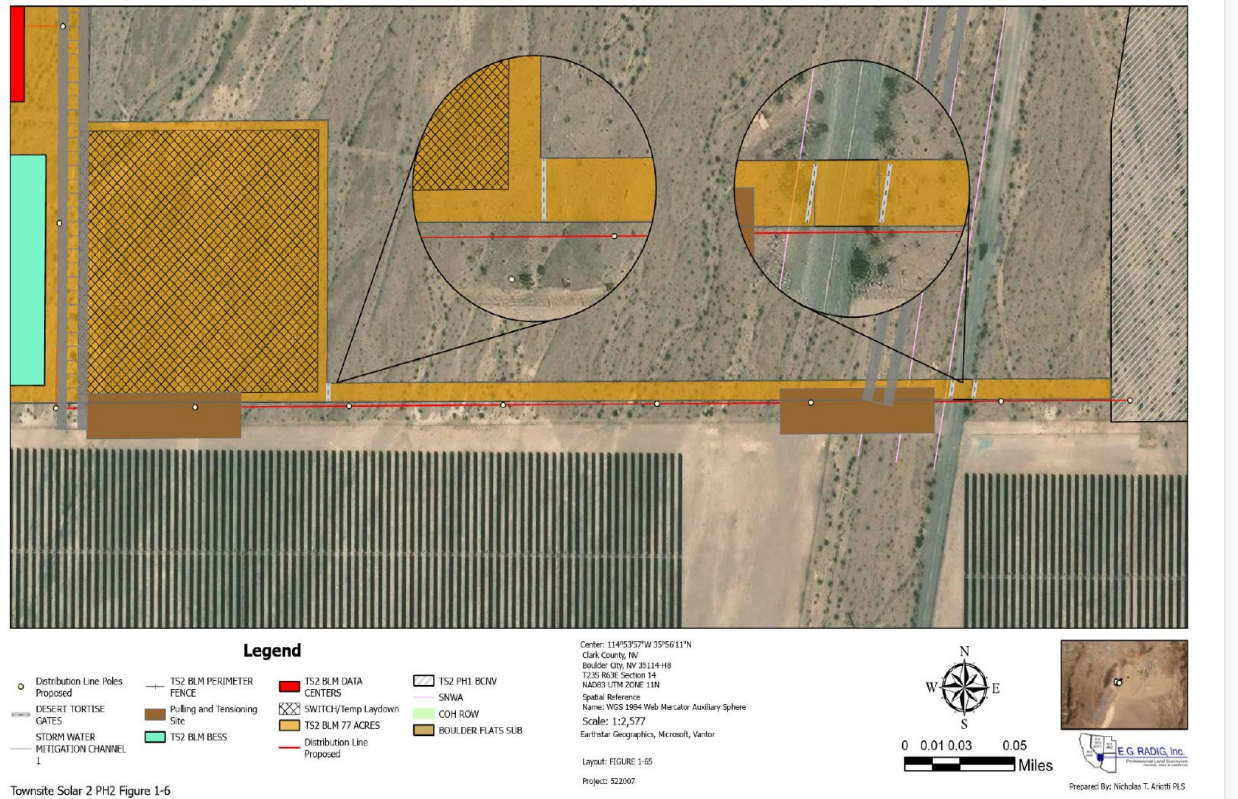


Figure 1-6. Detailed view of the linear facilities segment.

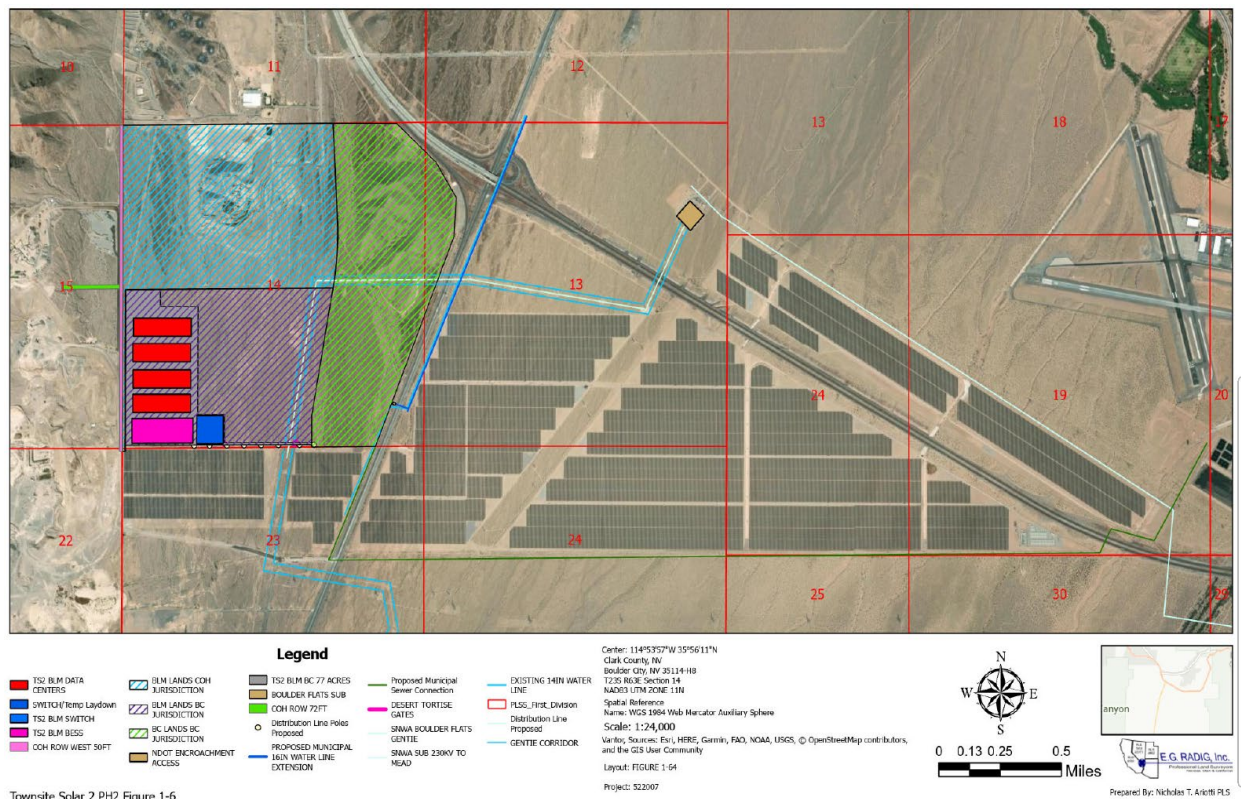


Figure 1-7. Interconnection pathways

Note: For illustration purposes only, not part of the Proposed Action.

1.2.1 Laydown Area

The 5-acre laydown area will be situated above the Linear Facilities segment. This area will initially be used as a laydown area for temporary installation of construction trailers, construction workforce parking, aboveground water tanks, receiving materials, and materials storage that will be graded/compacted earth. The area is subject of a Short Term ROW grant N-099875-01 (NVNV105860618) issued to the Applicant and will be used initially for the same purpose but will subsequently become the location of the switching station .

The laydown area will be enclosed to exclude desert tortoises prior to ground-disturbing work activity. The site road within the Linear Facilities segment will provide access to the laydown area. Aboveground vegetation will be cleared and graded, if necessary.

1.2.2 Site Security and Fencing

Security at the Proposed Project site will involve fencing around the data center, lighting, security patrols, and electronic security systems. The Proposed Project site will be monitored 24 hours per day, 7 days per week during all phases. Lighting will be provided at the Proposed Project entrance gate.

The data center perimeter will be secured with chain-link metal fabric security fencing. Controlled access gates will be at the site entrance. The perimeter fence will be a 6- to 7-foot-high chain-link fence with 1-foot-high barbed-wire security strands at the top (the fence in proximity to the distribution line will be properly grounded). Approved desert tortoise exclusion fencing will also be attached to the outside of the perimeter fence, up to 7,916 × 3 feet (surface clearance area for installation) and installed per USFWS guidelines (USFWS 2009).

Temporary desert tortoise exclusion fencing, up to 6,068 feet will be installed Linear Facilities segment (4 acres) to reduce the number of biological monitors required on-site. The temporary desert tortoise fencing will attach to the perimeter fence at the western boundary and the northwestern boundary of the linear facilities segment. If there are any delays installing the perimeter fencing, the temporary desert tortoise fencing will be extended in these locations to ensure exclusion as shown in Figure 1-6. At least two desert tortoise temporary gates will be installed within the linear facilities segment.

1.2.3 Lighting

Lighting will be provided at the Proposed Project entrance gate. Lighting for facilities and associated infrastructure will be down shielded to keep light within the boundaries of the Proposed Project site and the minimum amount and intensity necessary for the intended use. Nighttime activities will be performed with temporary lighting. Night lighting used during construction, operation, and maintenance of the Proposed Project will be controlled or reduced using directed lighting, shielding, and/or reduced lumen intensity.

The Applicant will prepare a Lighting Management Plan for construction and operation of the Proposed Project.

1.2.4 BESS Inverters, Transformers, and Medium Voltage Switchgear

The BESS includes a power conversion system containing inverters and medium voltage transformers, as well as other electrical equipment. Each PCS will contain communication equipment to wirelessly

communicate with the tracker units to control operation and detect anomalous conditions. Combining switchgear) will be along the underground Power Collection Line. All electrical equipment will be housed in protective enclosures on concrete pads.

1.2.5 34.5-kV-230 kV Power Collection Line and Switching Station

The underground Power Collection Line will be composed of underground cabling installed underground using 35-kV-230 kV rated voltage cables listed for direct buried applications. Underground electric cables will be installed to comply with the minimum burial depth in accordance with the National Electrical Code.

The Applicant will purchase the 167 MW maximum hourly electric power needed for data center operations. It will be sourced from the wholesale markets for delivery to the Mead Substation, generated on site, or from discharging the BESS that will be charged with power from the grid or power generated on site. The electric power will be transmitted from the Mead substation via the Applicant's firm transmission rights on SNWA's 230 kV line to the point of delivery on the project site where it will be transmitted through the underground Power Collection Line to the Project's Switching Station for use by the data center or to charge the on-site BESS.

The project site is within the electric service territory but does not use the Boulder City distribution network to deliver energy to the project power consumed by the Project. This arrangement will satisfy the state law requirement that Boulder City serves the project, while at the same time not utilizing power from the Boulder City electrical system. The Mead substation capacity exceeds 10,000 MW and is one of the most liquid trading hubs in the western United States. On average, 30-50% of the power delivered to the Mead Substation is from non-carbon renewable resources(hydropower, solar, wind, geothermal, etc.), The Applicant will seek to procure power from renewable resources when it is economically feasible. The Project load of 167 MW represents less than 2 % of the total capacity of the Mead Substation.

The Switching Station will consist of the main 34.5kV to 230kV transformer, a high voltage breaker and the appurtenant facilities. No structure within the BESS area will exceed twenty-five feet in height.

Interior Data Center Access Way

Within the data center, a new access way will be built to provide vehicle access to the buildings for operations and maintenance (O&M) activities. This access way will be approximately 20 feet wide × 6,000 feet long and is anticipated to be placed around the center of the data center (see Figure 1-5) to minimize disturbance. The access way will be graded and compacted using on-site materials to facilitate use of two-wheel-drive vehicles.

Similar to the disturbance from other project components (based on the assumption that all acreage within the fenced perimeter will be disturbed), the acreage identified for roads is also considered to be permanent disturbance.

1.2.6 Electric Distribution Line

A new 12- to 13.8-kV distribution line (up to approximately 2,000 feet in length) will be installed within the Linear Facilities segment. The distribution line will interconnect to NV Energy or some other electric utility or municipality to provide electric distribution service for auxiliary power to the Proposed Project during construction and operations. The centerline will be at least 25 feet from the site access

road. A portion of the Linear Facilities segment will be assigned to the owner of the distribution line once the electricity provider has been selected. In addition, a portion of the distribution line will be constructed on municipal-owned land by the City of Boulder City (BLM does not have authority to approve project components on municipal land; therefore, the portion of the distribution line planned for municipal land would require separate authorization from the City of Boulder City). Distribution line poles will be approximately 40 feet high from ground surface and spaced an average of 300 feet from one another. To the extent applicable, all overhead electrical lines will be designed and installed in accordance with the Avian Power Line Interaction Committee's (APLIC's) *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006). Alternatively, generators may be used to provide temporary construction power. During operational daylight hours, the Proposed Project will generate its own power for equipment operation. During non-daylight hours, the Proposed Project will require auxiliary power to keep transformers energized, maintain communications to project equipment, and provide power for heating, ventilation, air conditioning, and lighting.

1.2.7 Water

Up to 500,000 gallons/day of water will be required during the Proposed Project's construction period for construction-related activities, including dust control. The Proposed Project expects to obtain the water for dust control from Boulder City from the waste effluent that is currently being discharged by the City in the desert. This same waste effluent was used for dust control during construction of the solar facilities in the area.

Water for the Proposed Project will be obtained from the City of Boulder City Wastewater Treatment Plant through an existing pipeline for dust suppression activities and stored on-site in aboveground water tanks at the temporary laydown area. Water would be obtained from commercial sources with existing water rights or availability within a reasonable distance of the Project Area if water from the City of Boulder City Wastewater Treatment Plant is not available. Water transport on public roads would adhere to all federal and state transportation rules and regulations. The applicant does not intend to develop or purchase water rights.

1.2.8 Wastewater

Wastewater generated during construction and O&M will include stormwater runoff, equipment washdown water, sewer for bathrooms and water from excavation dewatering during construction (if dewatering is required). Sewer service will be provided from the Boulder City. These wastewaters may be classified as hazardous or nonhazardous depending on their chemical quality and handled and disposed of in accordance with applicable law.

1.2.9 Waste and Hazardous Materials Management

The primary wastes generated at the Proposed Project during construction and O&M will be solid and liquid wastes, including sewage, scrap wood, steel, glass, plastic, paper and metals, empty hazardous waste containers, waste oil filters, oily rags and oil sorbent, spent lead acid batteries, waste oil and sanitary waste.

1.2.10 Nonhazardous Wastes

The Proposed Project will produce waste typically associated with construction and O&M activities. Such waste will include defective or broken electrical materials, computer materials, empty containers,

the typical refuse generated by workers, and other miscellaneous solid waste. All nonhazardous waste materials will be disposed of in accordance with applicable laws and regulations.

1.2.11 Hazardous Materials and Hazardous Waste

Limited quantities of hazardous materials will be used on-site for construction and O&M activities. Table 1-4 lists the hazardous materials anticipated to be used on-site. Refueling of equipment and vehicles during construction phase will take place in one centralized location in the construction laydown area. The Applicant will prepare a Spill Prevention and Emergency Response Plan, which will address waste and hazardous materials management, including best management practices (BMPs) related to spill response, transportation, and handling of materials and wastes. No hazardous materials will be stored on-site. Safety Data Sheets for each of these materials will be provided in the Spill Prevention and Emergency Response Plan.

Table 1-4. Hazardous Materials That May be Used During Construction and O&M Activities

Hazardous Material	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Mineral insulating oil (or biodegradable oil)	Carbon steel transformers; total on-site inventory of 80,000 gallons.	Used only in transformers within PCSs; secondary containment for each transformer will be managed in accordance with the Spill Response and Emergency Response Plan.
Batteries, lead acid based and/or lithium ion	Battery-based emergency backup power at each of the PCS (which include both inverter and transformer equipment) plus BESS.	Enough cooling capacity to maintain ambient temperatures appropriate for the selected battery will be provided.
Propane	Generator-based emergency backup power at each of the PCS shelters (or one centralized generator); tanks at each PCS will be sized between 20 and 100 gallons (or 1,000 gallons if one centralized tank).	Will be managed in accordance with the Spill Response and Emergency Response Plan.
Herbicide Roundup® (glyphosate) or equivalent; pesticide	Brought on-site by licensed contractor, used immediately.	No mixing will occur on-site, and no herbicides will be stored on-site.

1.2.12 Fire Protection

The fire suppression system of the data center is a combination of advanced detection and waterless extinguishing methods designed to protect sensitive IT equipment and ensure business continuity. Unlike standard office spaces, data centers cannot use traditional water sprinkler systems due to the risk of irreparable damage to electronics.

A comprehensive data center fire suppression system includes these integrated components:

- Early warning detection: Uses aspirating smoke detection (ASD) systems like VESDA to actively pull air samples for analysis. This allows detection of combustion particles at their earliest, invisible stage, well before a fire starts.
- A pre-alarm and notification system: Alerts on-site personnel and facility monitoring teams, giving them a chance to investigate and abort the suppression release if it is a false alarm.
- Clean agent or inert gas suppression: Floods the protected area with a fire-extinguishing agent that leaves no residue and is safe for electronics.
- A backup sprinkler system (optional): A double-interlock pre-action sprinkler system may be installed in some data centers as a last resort. This system requires both a detection signal and a sprinkler head activation before releasing water, minimizing the risk of accidental discharge.

Common suppression system types include the following:

Inert gas systems

Inert gas systems use a blend of naturally occurring atmospheric gases, such as nitrogen and argon, to extinguish fires by reducing oxygen concentration to a level that can no longer support combustion, while remaining safe for occupants to breathe for a brief period.

- Agents: The most common inert gas agents include Proinert and Inergen.
- Pros: Environmentally friendly, zero ozone depletion or global warming potential, and safe for occupants.
- Cons: Require a large footprint for gas cylinder storage and create loud noise during discharge, which can potentially harm hard disk drives (HDDs) without proper acoustic nozzles.

Water mist systems

Water mist systems use highly pressurized, atomized water droplets to suppress fires by using a fine mist to increase the water's surface area, allowing it to absorb heat rapidly and turn into steam. This cools the fire and displaces oxygen.

- Pros: Uses significantly less water than conventional sprinklers, minimizing water damage.
- Cons: Less common as a primary system in data halls compared to gaseous agents.

In-rack and cabinet-level systems

These are supplementary systems designed to suppress fires at the source, preventing them from spreading by using either a clean agent or inert gas. The system is installed directly inside a server cabinet. Early-warning detection triggers a localized release of the suppression agent with extremely fast response time and effective in preventing a small fire from causing widespread damage, saving crucial equipment.

The specific design of a data center fire suppression system is determined by numerous factors and guided by industry standards:

- NFPA standards: The National Fire Protection Association (NFPA) sets the standards for data center fire protection. Relevant codes include NFPA 75 (Fire Protection of Information Technology Equipment) and NFPA 2001 (Clean Agent Fire Extinguishing Systems).
- Risk assessment: An expert risk assessment identifies potential fire hazards, the value of the equipment, and acceptable downtime.
- Space and layout: Factors like high airflow, raised floors, and hot/cold aisle containment influence the type of detection and suppression system used.
- Acoustic hazards: Gaseous systems can create significant noise upon discharge. Special acoustic nozzles can be used to protect sensitive equipment, especially hard disk drives from damage.

The Proposed Project also includes the possible installation of an up to 70MW BESS and appurtenances within the southern portion of the data center facility footprint. The Eldorado Valley has highlighted the potential for fire and explosion hazards associated with lithium-ion batteries, which are used in BESSs. The main factors that contribute to BESS fire incidents include thermal runaway, which is caused by lithium-ion battery defects or damage that generates excessive heat; failure of the BESS control system by one or more control components, which can cause overheating and fire; and the release of flammable gases from the heated battery cells (Cummings 2019; Spector 2019). To minimize potential fire risks

associated with thermal runaway and control system component failure, multiple levels of safety design are incorporated at the software and hardware levels of the battery management system. To address the risk of flammable gas release, the inclusion of a fire system suppression can include combustible gas sensor systems, auto ventilation systems, smoke detectors, and dry pipe sprinkler systems running to each battery container. Additionally, the proposed BESS will meet NFPA Standard 69: Standard on Explosion Prevention Systems (NFPA 2019) for the ventilation system and NFPA Standard 855: Standard for the Installation of Stationary Energy Storage Systems (NFPA 2022) for each BESS container, as well as UL 9540: the Standard for Energy Storage Systems and Equipment. These BESS design measures not only minimize the potential risk associated with fire but also provide containment so in case of a fire, the risk of spreading outside of the container is unlikely.

Fire services are provided by the BLM SND Office for wildland fire protection to public lands in southern Nevada, and the Clark County Fire Department maintains first responder responsibility within areas of unincorporated Clark County. Fire protection on municipal land within the Eldorado Valley is provided by the City of Boulder City Fire Department.

During construction, one electric and one diesel-fueled backup firewater pump will deliver water to the fire protection water-piping network. The electrical equipment enclosures that house the PCSs will be either metal or concrete structures. Any fire that could occur will be contained within the structures, which will be designed to meet National Electric Manufacturers Association (NEMA) 1 or NEMA 3R IP44 standards for electrical enclosures (heavy-duty sealed design to withstand harsh outdoor environmental conditions). The Applicant will prepare and implement a Fire Management Plan.

1.2.13 Health and Safety Program

The Applicant will require that all employees and contractors adhere to appropriate health and safety and emergency response plans. All construction and operations contractors will be required to operate under a Health and Safety Program that meets industry standards. All site personnel will be required to go through a new hire orientation and follow a Worker Education and Awareness Plan (WEAP), which will address Project-specific safety, health, and environmental concerns.

1.2.14 Stormwater Management

The existing landscape surrounding the Proposed Project has been modified over time by mining operations, major highways, transmission lines, and solar energy development. As a result, off-site flows to the Proposed Project come from the southern side of U.S. Route 11/U.S. Route 93. In most cases, the runoff generated from these off-site areas flows onto the site through culverts crossing under U.S. Route 11/U.S. Route 93 or by overtopping it. A lesser source of storm flows comes from the northwest. These lesser flows also cross U.S. Route 95 and some are directed south toward the Proposed Project site.

Potential stormwater management measures may include a series of channels constructed to convey water flows to existing washes or spreading the flows to allow them to leave the site as sheet flow. The channels will be reinforced with rip-rap and grouted as required to reduce erosion. One or more detention basins may be required above the channels or placed to intercept flows at the top of the site to manage stormwater entering the site. Spreader basins and/or rip-rapping may be required below each channel to reduce flow velocity before stormwater enters existing downstream washes. The goal is for runoff generated on-site to be conveyed as sheet flow leaving the site. These proposed drainage measures are examples that may be used to help minimize off-site runoff. A Site Drainage Plan and Stormwater Pollution Prevention Plan will be prepared.

1.2.15 Vegetation Management

The site will be allowed to revegetate following construction. Vegetation will typically be maintained no higher than commercially reasonable for site maintenance and fire-risk management; mechanical and chemical controls will be used, as needed. Proposed Project roads will remain free of vegetation. The Applicant will address post-construction vegetation management, including invasive and noxious weed control, as part of a BLM-approved Integrated Weed Management Plan for the Proposed Project.

1.2.16 Weed and Pest Control

The Applicant will prepare an Integrated Weed Management Plan for the Proposed Project that will follow the Las Vegas Resource Management Plan issued by the BLM LVFO (BLM 1998), Noxious Weed Plan (BLM 2006), and the interagency guidance Partners Against Weeds (BLM 2007) for an active integrated weed management program. BLM-approved herbicides such as Roundup (glyphosate) will be used to control noxious weeds, if required. Nonnative invasive species will also be reduced to pre-project levels or less. Pest control may also be required, including control of rodents and insects inside of the buildings and electrical equipment enclosures.

1.3 Alternatives

1.3.1 No Action Alternative

Under the No Action Alternative, the BLM would not approve the ROW for the Project. The data center facility would not be constructed, operated, maintained, or decommissioned. Therefore, there would be no ground disturbance or loss of habitat.

1.3.2 Alternatives Considered but Eliminated from Further Analysis

The original application requested 250 acres for development of the Proposed Project, but 135 acres were removed from the Proposed Project due to overlap with a community aggregate pit. Accordingly, the 250-acre alternative was considered but eliminated from further analysis.

The Applicant evaluated several locations in Southern Nevada in proximity to existing supporting infrastructure.

Alternative locations were eliminated for one or more of the following reasons:

- Existing land use applications
- Excessive slopes
- Wetland/flood zones
- Distance to interconnection facility

1.3.3 Resource conflicts

Federal lands constitute a significant percentage of lands available in Nevada for energy facilities. Development of energy facilities on federal lands is an objective of the federal government, with a particular emphasis on facilities with low energy density capacities. There are no other non-federal lands within practical connection distance to SNWA's Boulder Flats substation. Other Permits and Authorizations

Federal, state, and local permits, authorizations, or interagency consultations that may be required for the Proposed Project are listed in Table 1-5. The City Council of the City of Boulder City has voted to annex the Project Area; therefore, approvals through the City of Boulder City will be required and the approvals through Clark County will be limited.

Table 1-5. Potential Permits and Authorizations

I. Federal Permits, Authorizations, or Interagency Consultations
<i>U.S. Department of the Interior, BLM</i>
• ROW grant under Title V of Federal Land Policy and Management Act • NEPA compliance • National Trails System Act
<i>U.S. Department of the Interior, BLM and State Historic Preservation Office (SHPO)</i>
• BLM/SHPO, National Historic Preservation Act Section 106 Consultation (If required)
<i>U.S. Department of the Interior, USFWS</i>
• Endangered Species Act Section 7 Consultation and Biological Opinion/Incidental Take Statement
II. State of Nevada Permits or Authorizations
<i>Nevada Department of Wildlife</i>
• Special Purpose Permit
<i>Nevada Division of Forestry</i>
• Native Cacti and Yucca Commercial Salvaging and Transportation Permit
<i>Nevada Department of Transportation (NDOT)</i>
• Over Legal Size/Load Permit
Nevada Division of Environmental Protection
• Groundwater Discharge Permit
Nevada Division of Water Resources
• Water Reuse Permit
III. Local Permits*
<i>Clark County Division of Air Quality</i>
• Dust Control Construction Permit

* Various permits may also be required from local government(s) with jurisdiction over the Project Area and authority over certain components/actions of the Project.

1.4 Financial and Technical Capability of the Applicant

The Applicant has successfully completed the development, financing and construction of over 2,000 MW of energy projects throughout the world. In 2019, Skylar Opportunities LLC (Skylar), an affiliate of the Applicant, successfully completed the development of the \$350 million Townsite Solar 180 MW energy project located in Boulder City, NV. Skylar currently has over 1,200 MW of energy projects under development. Skylar will continue to use its own resources to fund its development efforts and has many years of experience with first tier banks and investment banks in raising investment capital, tax equity and debt capital for similar energy projects.

The Applicant has sufficient financial resources to complete the development and construction of the Proposed Project. Prior to the start of construction of the Proposed Project the Applicant may supplement its own financial resources with tax equity, private equity, and/or bank financing. Personnel for the Applicant have successfully developed and raised financing for 3000 MW of energy projects.

2 CONSTRUCTION OF THE FACILITIES

2.1 Geotechnical Investigation

Prior to construction, geotechnical exploration investigations including soil borings, soil resistivity testing, and pile load tests will be conducted in the Project Area. The geotechnical activities are the subject of a separate application for a short term right of way.

Approximately 5 acres of the Proposed Project area will be used as the temporary location of construction trailers with administrative offices, construction worker parking, temporary water service and fire water supply holding tanks, temporary construction power services, and tool sheds and containers, as well as an area for construction equipment and material delivery and storage. The area will be utilized for the Switching station during operations(See Figure 5-1 for details

Desert tortoise fencing (temporary) will be constructed and installed around the laydown area and Linear Facilities segment (see Section 2.4.2 for description).

Also, temporary construction areas in the Linear facilities segment will be required for each pole location for the overhead distribution line as well as temporary locations for conductor tension (stringing) and pulling operations to accommodate the construction of the underground Power Collection Line. The tension and pulling sites each measure approximately 80 feet wide × 300 feet long and will be required for a 2-month time frame.

2.2 Site Preparation for Data Center and Related Facilities

A geotechnical investigation and environmental clearance surveys will be performed prior to commencement of construction activities. During the environmental clearance phase, the boundaries of the construction area will be delineated and marked. The perimeter fence installation will be sequenced at the beginning of construction. Permanent desert tortoise fencing will be attached to the bottom of the perimeter fence and will be in place prior to commencement of grading activities. The site will then be prepared for use; existing vegetation removal and grading will be minimized to the extent reasonably practicable. Site preparation techniques are described below.

2.2.1 Surveying and Staking

Prior to construction, the limits of construction disturbance areas will be determined by surveying and staking. Where necessary, the limits of the ROW will also be flagged. All construction activities will be confined to these areas to prevent unnecessary impacts affecting sensitive areas. These areas, which will include buffers established to protect biological resources, will also be staked and flagged. The locations of underground utilities will be located, staked, and flagged to guide construction activities.

2.2.2 Fencing

Permanent fencing will be installed around the perimeter of the site and will include a 6- or 7-foot-tall chain-link fence with 1-foot-high barbed-wire security strands along the top. Approved permanent desert tortoise fencing, up to 7,917 feet long × 3 feet wide (surface clearance area for installation) will be attached to the bottom of the perimeter fencing to prevent desert tortoises from moving onto the site from adjacent areas during construction and O&M. Both will be installed concurrently.

Prior to construction, up to 6,068 × 3 feet (surface clearance area for installation) of temporary desert tortoise fencing will be installed around the laydown area and linear facilities segment. The perimeter fence will be installed concurrently with the temporary desert tortoise fencing installation via overland travel. The temporary desert tortoise fencing may be attached to the perimeter fence along the western boundary of the laydown area and the northwestern boundary of the linear facilities segment, reducing the length of temporary desert tortoise fencing required, as shown in Figure 1-6. However, if the perimeter fence installation is delayed, temporary desert tortoise fencing can be extended in these areas to provide closure. All desert tortoise fencing will be installed per USFWS guidelines (USFWS 2009).

2.2.3 *Vegetation Removal and Treatment*

Within the data center areas that will be graded, existing vegetation will be worked into the underlying surface soils. Vegetation will be permanently cleared from the site road, access way, and where concrete foundations are used for the inverter/medium-voltage transformer equipment (PCSSs), combiner boxes, optional BESS, and other ancillary equipment.

2.2.4 *Site Clearing, Grading, and Excavation*

All earthwork required to install drainage detention control basins and foundations will be coordinated as part of civil works or the Proposed Project. Trenching will be required for placement of collector lines. The data center will require a positive natural terrain slope of less than 5%. Where possible, the disk and roll technique will be used to prepare the surface of the data center buildings, BESS and switching station areas. The disk and roll technique will use conventional farming equipment to prepare the site for construction. Typical farming equipment will have rubber-tired tractors with disking equipment and drum rollers with limited use of scrapers to perform micro grading. In areas where the terrain is not suitable for disk and roll, conventional cut and fill grading will be used to prepare the area.

Within the data center, grading will be required for an interior access way and for electrical equipment pads. In general, the design standard for the interior access way within the data center will be consistent with the amount and type of use they will receive.

2.2.5 *Gravel, Aggregate, and Concrete Needs and Sources*

Concrete will be poured in place for equipment footings, building foundations, fence footings, and miscellaneous small pads. Aggregate material will be used for the trench backfill, temporary construction area, site road, and access way within the Proposed Project. Rip-rap material may be required for erosion control. Gravel will be sourced from a nearby gravel pit and it is not anticipated that any cut materials will be disposed of offsite. The Applicant will determine if alternate sources for these materials are needed and will be presented to BLM for review and approval, as necessary.

2.3 *Data Center Assembly and Construction*

Building a data center is the process of constructing a facility to house computer systems, storage, and IT equipment for data handling. It involves building the physical infrastructure, including building space, power, and cooling, to support the critical technology inside this specialized facility. Prior to any construction of the buildings the clearance and site preparation steps for those areas will be completed. Within each area designated data center buildings, the construction sequence will follow a consecutive order.

- Clear land.

- The initial focus is on constructing the building's core, shell, and substations. Each building will contain power and cooling systems, security infrastructure, and the physical IT components including servers, storage, and networking equipment. The data center's exterior walls are typically made of reinforced concrete or precast concrete panels to provide structural strength and security.
- Trenches for underground cable will be prepared.
- Install underground Power Collection Line.
- Backfill trenches.
- Install auxiliary transformer equipment.
- Introduction of BESS equipment
- Install Switching Station, if included as part of Proposed Project.
- Perform electrical terminations.
- Inspect, test, and commission equipment.

Cable trenches will be used to provide underground connection for Project equipment. Trenches will contain electrical conductors for power generation and fiber-optic cables for equipment communication. Trenches will vary between 2 to 3 feet wide and 2 to 3 feet deep depending on the number of conductors and voltage of equipment to comply with applicable electrical codes.

Trucks will be used to transport the equipment to the data center. A small mobile crane may be used to assist construction workers in setting up the cooling system and racking the computers. Final data center assembly will require small cranes, tractors, and forklifts.

2.4 Electrical Collection and Transmission System Construction

Electrical construction will consist primarily of the following elements:

- **Equipment**—Installation of all electrical equipment, including inverters and transformers), auxiliary transformers, circuit breakers, disconnect switches, switchgear and distribution panels, lighting, communication, control, and supervisory control and data acquisition (SCADA) equipment.
- **Cables**—Installation of all cables necessary to energize the Proposed Project equipment, including instrument control wiring. High-, medium-, and low-voltage cables will be routed via cable trays, above-grade conduits, below-grade conduit in duct bank, and overhead structures.
- **Grounding**—All equipment and structures will be grounded as necessary. Within the data center, an appropriate grounding system will be engineered and constructed to maintain personnel safety and equipment protection.
- **Telecommunications**—Multiple communication systems will be required for the Proposed Project to properly operate, including T-1 internet cables, fiber optic, and telephone. All communications will be installed during electrical construction.

Electrical Collection System. The Proposed Project will include an underground Power Collection Line. Standard transmission line construction techniques will be used to construct the Power Collection Line. The primary stages in underground collection line construction include trenching and cable placement.

Typical equipment expected to be used for construction includes backhoe, various pickup and flatbed trucks, conductor reel, bucket trucks, and truck-mounted tensioner and puller.

2.5 Road System Construction

Preconstruction activities for the Project-related roadways will include surveying desert tortoises, relocating desert tortoises if found during the surveys, and meeting any necessary cactus and yucca salvage requirements. The Proposed Project's site road will be graded sufficiently to facilitate travel to the Proposed Project site and will connect to the existing Old Hwy 95 road. Within the data center, grading will be required for the interior access way. All Project-related roadways are proposed to be native graded/compacted dirt; however, roads may alternatively use an aggregate base in some or all areas to meet Proposed Project dust and flood control requirements.

Any temporary or permanent crossings under existing transmission lines will be coordinated and approved with the respective owners of the transmission lines.

Site access will use two separate locations for site access on U.S. Route 95. The first point of site point of site access is located approximately 1.24 miles south of the Interstate 11 (I-11)/U.S. Route 93 and U.S. Route 95 interchange, then west onto non-BLM lands using an unnamed road (same road to access Customers Team Members Community Crushing Boulder Ranch Quarry [CTC BRQ Pit]) for 0.25 mile, then north on Old U.S. Highway 95 (Old Hwy 95) for 0.35 mile to the Proposed Project's linear facilities segment on BLM land (see Figure 1-4). The second point of site access is a right in/right out only point of access located approximately 0.9 miles south of the Interstate 11 (I-11)/U.S. Route 93 and U.S. Route 95 interchange that was recently approved by the Nevada Department of Transportation. The use of all existing roads on non-BLM land will be coordinated with the appropriate landowners and authorities.

2.6 Workforce, Schedule, Equipment, and Materials

The on-site construction workforce will consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The Proposed Project on-site construction workforce is anticipated to be an average of 250-350 construction workers, with a peak not expected to exceed 750 workers at any given time. Most construction staff and workers commute daily to the jobsite from within Clark County, primarily from the Las Vegas area. The Proposed Project is expected to take up to 18 months to complete.

Construction will take place between 5:00 a.m. and 5:00 p.m. and may occur 7 days per week. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For instance, during hot weather, it may be necessary to start work earlier (e.g., at 3:00 a.m.) to avoid work during high ambient temperatures. Further, construction requirements will require some nighttime activity for installation, service or electrical connection, inspection, and testing activities.

Construction activities will follow a generally consecutive order; however, most construction activities associated with each construction component will overlap to some degree and will include:

- Preparing the site, including surveying and staking and geotechnical activities
- Performing site clearance surveys and installing desert tortoise exclusion (temporary and permanent) and perimeter fencing
- Performing site grading activities and constructing stormwater management measures
- Constructing the site road and interior access way within the Project Area

- Trenching and installing the underground electrical system in the data center
- Assembling building foundation/installing building shell and ancillary facilities
- Constructing the electrical collection and transmission system
- Installing BESS, Switching Station and pertinent facilities
- Testing and commissioning
- Restoring temporary laydown area

Table 2-1 provides a description of the on-site equipment expected to be used for data center and BESS. Actual construction equipment details and durations of use may vary.

2.7 Construction Traffic

Typical construction traffic will consist of trucks transporting construction equipment and materials to and from the site and vehicles of management and construction employees during the construction period. Most construction staff will commute daily to the jobsite from within Clark County, primarily from the Las Vegas area. All Project-related traffic will use U.S. Route 95 to access the site from Old Hwy 95. The Applicant will prepare a traffic management plan to address Project-related traffic.

Table 2-1. Estimated On-Site Equipment for Data Center, Collection System and BESS Construction

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hours/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Install BMP Measures (Part of Site Preparation)					
Rough Terrain Forklift	8	75	Diesel	1.7	10
Delivery/Work Trucks	12	200	Diesel	2.0	5
Site Preparation					
Truck, Pick-up (Survey Crew)	5	180	Gas	1.7	5
Grader	6	200	Diesel	6.8	20
Backhoe/Front Loader	4	120	Diesel	3.4	20
Tractor/Disc	6	210	Diesel	6.8	40
Scraper	8	265	Diesel	3.4	30
Compactor	6	120	Diesel	1.7	10
Water Truck	4	175	Diesel	6.8	N/A
Site Preparation – Roads					
Grader	6	200	Diesel	6.8	20
Backhoe/Front Loader	2	120	Diesel	6.8	10
Compactor	4	120	Diesel	6.8	20
Water Truck	4	175	Diesel	6.8	N/A
Dump Truck	8	235	Diesel	2.7	10
Install Fencing					

Equipment Description	Daily Quantity	Horsepower	Fuel Type	Equivalent Full-Load Operating Time (hours/day)	Vehicle Miles (VMT) per Day on Unpaved Surface
Rough Terrain Forklift	4	75	Diesel	1.7	10
Delivery/Work Trucks	6	200	Diesel	1.0	5
Post-Installation					
Delivery/Work Trucks	8	200	Diesel	1.0	5
Post Machine	10	45	Diesel	8.1	1
Rough Terrain Forklift	4	75	Diesel	6.8	10
Install Support Structure					
Rough Terrain Forklift	4	75	Diesel	6.8	10
Delivery/Work Trucks	4	200	Diesel	1.0	5
Install Inverters and Switchgear and Substructure					
Crane	4	125	Diesel	4.5	1
Backhoe/Front End Loader	4	120	Diesel	6.8	10
Delivery/Work Trucks	4	200	Diesel	1.0	5
DC and AC Wire Installation (UG)					
Backhoe/Front Loader	8	120	Diesel	6.8	10
Crawling Trencher	4	100	Diesel	4.1	1
Mini-Excavator	8	42	Diesel	6.8	10

2.8 Construction Power

A distribution line (up to approximately 2,000 feet in length) interconnecting to the existing utility distribution service will be installed along the Linear Facilities segment to provide auxiliary power during construction and operation. A portion of the distribution line will be constructed on municipal-owned land by the City of Boulder City (the BLM does not have authority to approve project components on municipal land; therefore, the portion of the distribution line planned for municipal land would require separate authorization from the City of Boulder City). Distribution line poles will be made of wood, steel, or concrete and will be 40 feet high from ground surface and spaced an average of 300 feet from one another. The distribution line will be installed during construction to provide power to the laydown area during construction and to data center facility to maintain communications to Project equipment, and provide power for heating, ventilation, air conditioning, and lighting at the PCSs BESS and Switching Station during operations. Alternatively, generators may be used to provide temporary construction power.

3 RELATED FACILITIES AND SYSTEMS

3.1 Transmission System Interconnect

3.1.1 *Proposed Transmission System*

The Proposed Project will deliver electricity to an on-site BESS or to the data center with energy purchased from the Mead Substation and transported via bidirectional firm transmission on SNWA's 230-kV transmission line or will interconnect into the existing WAPA Mead 230-kV Substation from the existing Townsite Solar 1 Facility (on municipal land).

3.1.2 *Ancillary Facilities*

The underground Power Collection Line will be constructed throughout the data center and will connect the buildings with the substation and the BESS s. The Power Collection Line will deliver electricity purchased at the Mead Substation into data center or to the on-site BESS or generate electricity with onsite bio diesel or natural gas fired generation. The Power Collection Line will be co-located within the Linear Facilities segment that includes the site road and the distribution line.

3.1.3 *Status of Interconnection Agreement*

The Applicants affiliate, TS2, has executed a large generator interconnection agreement dated September 20, 2024, with SNWA (the Interconnection Agreement). The Interconnection Agreement provides the Applicant with up to 167 MW of firm bilateral transmission capacity on the SNWA transmission line from the Mead Substation to the newly constructed Boulder Flats substation. The Applicant is seeking to increase its interconnection capacity under the Interconnection Agreement.

3.2 Gas Supply Systems

The Proposed Project includes require a biodiesel for emergency backup generators. The biodiesel will be stored in tanks connected to the generators.

Southwest Gas has indicated they could transport up to 3000Mcf/day at 300psi to the facility.

3.3 Other Related Systems

3.3.1 *Communication System Requirements*

Multiple communication systems will be used for construction and operation. These items will include telephone, fiber optics, and T1 internet. The Applicant expects to use existing wired or wireless telecommunications facilities. In addition, the Applicant will install hard-wired (landline) systems as part of the electrical construction activities or will supplement with small aperture (less than 1 meter) satellite communications gear.

4 OPERATION AND MAINTENANCE (O&M)

An operations and maintenance (O&M) plan for a data center is a holistic strategy that includes daily, weekly, monthly, and annual checklists for critical infrastructure and equipment. The goal is to maximize uptime, extend the life of equipment, and ensure continuous, efficient, and secure operations.

Environmental controls

- **Daily:** Monitor temperature and humidity levels in the data center to ensure they remain within the optimal range of 64.4°F to 80.6°F (18°C to 27°C) and 40% to 60% humidity.
- **Weekly:** Check and inspect HVAC and cooling units for leaks or other issues.
- **Quarterly:** Conduct comprehensive visual and technical inspections of all cooling systems. Test the cooling system and check for any material buildup.
- **Annually:** Perform preventive maintenance on HVAC systems, which includes changing air filters, cleaning coils, and checking refrigerant level

Power systems

- **Daily:** Inspect Uninterruptible Power Supply (UPS) systems and generators to confirm they are functioning correctly.
- **Quarterly:** Test backup generators under load to ensure they can sustain the data center during an extended power outage.
- **Annually:** Conduct comprehensive maintenance on all electrical components, including UPS units, batteries, Power Distribution Units (PDUs), and switchboards. Test the integrity of aging power cables.

Project operations will require a workforce of up to forty full-time-equivalent positions at an average salary of \$100,000/year including benefits. This workforce will include administrative/management personnel, operator/ maintenance, and security personnel.

Dust during O&M will be controlled and minimized by applying water and/or BLM-approved palliatives (see Section 6.4.1, *Air Quality*).

Table 4-1. Routine Maintenance Protocol

Equipment	Maintenance Interval	Task
Data Center	Daily	Monitor temperature and humidity levels in the data center to ensure they remain within the optimal range of 64.4°F to 80.6°F (18°C to 27°C) and 40% to 60% humidity. Conduct comprehensive visual and technical inspections of all cooling systems. Test the cooling systems and check for any material buildup.
	Quarterly	- Test backup generators underload to ensure they can sustain the data center during an extended power outage. - Visually inspect modules for discoloration - Visually inspect wiring for connections and secure mounting - Visually inspect mounting structure for rust and erosion around foundations - Manually clean localized debris from bird droppings, etc.
	Annually	- Conduct comprehensive maintenance on all electrical components, including UPS units, batteries, Power Distribution Units (PDUs), and switchboards. Test the integrity of aging power cables. - Perform preventive maintenance on HVAC systems, which includes changing air filters, cleaning coils, and checking refrigerant level. - Audit physical security controls, update visitor management procedures, and review access authorizations.
Inverters/trans-formers and BESS	Semi-annually	- Perform temperature checks on breakers and electrical terminations. - Visually inspect all major components and wiring harnesses for discoloration or damage - Measure all low voltage power supply levels. - Inspect/remove any dust/debris inside cabinet. - Inspect door seals. - Check proper fan and HVAC operation. - Inspect and clean (replace if necessary) filters. - Check electrical termination torque. - Check the operation of all safety devices (e-stop, door switches, ground fault detection)
	Annually	- Check all nuts, bolts, and connections for torque and heat discoloration. - Calibrate control board and sensors. - Inspect air conditioning units for proper operation
Medium-voltage transformers	Semi-annually	- Perform temperature check. - Inspect door seals. - Record all gauge readings. - Clean any dirt/debris from low-voltage compartment
Breakers and switchgear	Semi-annually	- Inspect for discoloration of equipment and terminations. - Inspect door seals
	Annually	Check open/close operation
Overhead transmission lines (if any)	Annually (and after heavy rains)	- Inspect guy wires and tower angle. - Visually inspect supports/insulators. - Visually inspect discoloration at terminations
Roadways	Annually (and after heavy rain)	Inspect access way and site road that cross drainage paths for erosion

Equipment	Maintenance Interval	Task
Vegetation	Semi-annually	• Noxious weed inspections will be conducted in accordance with the BLM-approved Integrated Weed Management Plan • Inspect localized vegetation and control to no higher than what is commercially reasonable. • Apply herbicides as necessary to control noxious weeds
	As needed	• Mechanical and/or other approved treatment, as required to reduce vegetation height
Backup Power	Annually	• Visually inspect backup power system • Perform functional test of backup power system
Fencing	Quarterly (and after heavy rain)	• Inspect perimeter fence for vandalism and erosion at base. • Conduct desert tortoise fence inspections in accordance with the terms and conditions of the Project-specific Biological Opinion

5 DECOMMISSIONING AND SITE RECLAMATION

The Proposed Project has an anticipated operational life of 50 years, after which the Applicant may choose to apply to the BLM for renewal of the ROW authorization, or choose to decommission the Project, remove the systems and their components, and restore the Project Area. In order to renew, the Applicant will request a renewal from the BLM at least 120 calendar days before the grant or lease expires consistent with the renewal terms and conditions specified in the grant or lease.

A final Facility Decommissioning and Site Reclamation Plan will be created in accordance with BLM policy and objectives at the time and will be approved by the BLM once the operational life of the Proposed Project has been reached.

6 ENVIRONMENTAL CONSIDERATIONS

6.1 Site Characteristics and Environmental Issues

An Environmental Assessment (“EA”), including a detailed analysis of site characteristics and environmental considerations was performed for Townsite Solar 2 Phase 1, which is adjacent to the Project. The Phase 1 EA assessed the environmental impact of the Proposed Project in the following areas:

- Air Resources
- Cultural Resources
- Environmental Justice and Socioeconomics
- Fish and Wildlife, Excluding Federally Listed Species
- Forestry (analyzed under Vegetation)
- Fuels and Fire Management
- Hydrologic Conditions (analyzed under Soils)
- Invasive Species/Noxious Weeds
- Migratory Birds (and Eagles)
- Recreation/Travel/Wild and Scenic Rivers
- Soils
- Threatened, Endangered, and Candidate Animal Species (i.e., the desert tortoise)
- Vegetation, Including Special-Status Plants, Cacti, and Invasive Species and Noxious Weeds
- Visual Resources
- Wastes (Hazardous or Solid)

It is anticipated that the same resources as existed and were analyzed in Phase 1 EA are present in the Phase 2 Project area.

6.2 Other Uses on the Project Area

6.2.1 *Grazing and Mining*

There are no grazing allotments within the Project site.

6.2.2 *Recreation and Off-Highway Vehicle Conflicts*

In accordance with the existing Las Vegas Resource Management Plan, off-highway vehicle use in the surrounding area has been designated as “Limited to existing roads, trails, and dry washes” (BLM 1998). In the vicinity of the Project Area, there are no known casual recreation uses in the area, even though there are existing dirt roads and trails throughout the Project Area. There have not been any special recreation permits for events or commercial activities in the locale issued by BLM LVFO. There are no developed recreation facilities or opportunities in this portion of the Special Recreation Management Area

(BLM 2021). The data center facility portion of the Proposed Project will make this area unavailable for dispersed recreational activities for the operational life of the Proposed Project. The Proposed Project will limit recreational access through the site once site preparation has begun by blocking potential east-west recreational movement across the site.

6.2.3 Project Military Aviation

Although the Project is not under any military airspace or in a Department of Defense Consultation Area, it is approximately 40 miles south of Nellis Air Force Base. Given that distance, Project elements will not affect the approach or departure corridors for runways at the base. Because the Project will not construct facilities taller than 200 feet, it will not require Federal Aviation Administration evaluation of safety hazards. However, the military has indicated that structures higher than 50 feet within the vicinity of the base may present electromagnetic compatibility concerns for test missions at the Nevada Test and Training Range. The Proposed Project does not include components over 50 feet in height.

6.2.4 Other Existing Uses and Access

The Proposed Project will not adversely affect the existing ROWs within and adjacent to the site. The Proposed Project is within an undisturbed portion of the BLM's community pit (N-048712) and was reduced in size to accommodate possible future expansion of the pit, which has valid existing rights for the west half of Section 14, T23S, R63E (BLM 2021).

Existing development in the vicinity of the Proposed Project consists of an operating gravel quarry and private shooting range, approximately 0.5 mile to the north, which will not be impacted by Project construction or operations. Approximately 2,000 feet to the east is the proposed BCNV Facility on municipal land and directly south of the Proposed Project is the Townsite Solar 1 Project, also on municipal land. To the west is CTC BRQ Pit, an existing privately held sand and gravel pit. An evaluation of these and other uses on the Proposed Project site will be evaluated in the NEPA process.

6.3 Design Features

The Applicant will incorporate applicable design features from the 2024 PEIS ROD into the Proposed Project development process, including the following management plans, as required by the BLM:

- Dust Abatement Plan
- Facility Decommissioning and Site Reclamation Plan (at the conclusion of the life of the Project)
- Fire Management Plan
- Health and Safety Plan
- Integrated Weed Management Plan
- Lighting Management Plan
- Raven Management Plan
- Site Drainage Plan and Stormwater Pollution Prevention Plan
- Spill Prevention and Emergency Response Plan
- Traffic Management Plan

6.4 Worker Education and Awareness Plan (WEAP) Environmental Protection Measures

The following are preliminary Applicant-proposed environmental protection measures (EPMs). These measures are subject to change based on the findings of site-specific technical analyses and the analysis during the NEPA process.

6.4.1 Air Quality/Heat/Water Use/Noise/Visual Impacts

- Water will be applied to the ground during the construction and use of the Project Area, roads, and other disturbed areas as necessary to control dust.
- A Dust Control Operating Permit will be obtained from Clark County Department of Environment and Sustainability, Division of Air Quality prior to construction, and requisite dust control measures and BMPs will be implemented during the construction of the Proposed Project.
- During operations, air quality in and around Boulder City area will not be impacted by the data center. While proposed data center will have back-up generators fueled by biodiesel, they will only be used during testing and system emergencies. The back-up generators will be operated in accordance with local, state and federal air quality requirements
- The facility will use cooling towers that move warm air upward several hundred feet above the buildings and directs heat away from ground level. The nearest residence is 400 feet above the site and approximately 3 miles away. The projected wind-adjusted temperature increase is approximately 0.04°C under normal operating conditions, well below the average human perception threshold for temperature change of 0.92°C. It is a one-time steady increase that does not accumulate over time.
- Appropriate water erosion and dust control measures will be implemented to prevent an increased dust and sediment load to ephemeral washes around the construction site and to comply with Clark County dust control requirements. Dust during construction will be controlled and minimized by applying water and/or BLM-approved palliatives.
- The proposed data center would use an advanced closed-loop air-cooled (dry) cooling system with direct-to-chip liquid cooling and dry cooling towers to eliminate excessive water use and protect Southern Nevada water resources. Up to 400,000 gallons of a purified water/propylene glycol mix for a one-time initial fill of the closed-loop cooling system. The purified water/propylene mix will be purchased from a vendor of that product. Up to 2,000 gallons/yr. of the purified water/propylene glycol will be needed for periodic maintenance and will likewise be sourced from a vendor of that mixture. The cooling system will not be filled with any municipal water, as it is not appropriate for this type of cooling system. The initial fill of the cooling system and any topping up of the system must be with the purchased purified water/propylene mix. Any waste from the system associated with periodic maintenance will be trapped and properly disposed of offsite through contractors approved to handle and dispose of the material.
 - Potable Water Uses:
 -
 - Ongoing use of building restrooms and kitchen (1,000-2,000 gallons/day) for employees.
 - The potable water will be stored in tanks on site or will be procured from Boulder City and transported to the site via a city owned pipeline.

- Approximately 90% of potable water used on site will be returned to the Boulder City wastewater treatment plan through a new sewer line constructed and paid for by the project.
 - Wastewater Usage:
 - During construction, the Applicant will seek to purchase up to 500,000 gallons per day of wastewater for dust control from the City.
 - This effluent is currently being discharged into the desert by City’s wastewater treatment plant.
- The Proposed Project will follow the BLM Guidelines and standards and all colors will be selected from the approved BLM color palette. The project will use a lighting design that focuses on safety and complies with all local regulations, including requirements to reduce light pollution in accordance with the Dark Skies Project. The Applicant will work with local authorities to develop landscaping and building colors that fit with the surrounding environment. The height of the building will comply with all City ordinances, and the building’s lower elevation will reduce its visibility by residents. It is not anticipated that there will be any significant reflectivity of any major component of the Proposed Project.
- The Applicant will employ BMPs to protect the soil surface by covering or binding soil particles. The Proposed Project will incorporate erosion control measures required by regulatory agency permits and contract documents, as well as other measures selected by the contractor. Project-specific BMPs will be designed by the contractor and included in the Project Stormwater Pollution Prevention Plan. BLM has allowed the use of several dust palliatives on other projects within the SND. If dust palliatives are used in place of water for the Proposed Project, the total amount of water needed during construction will be reduced. The Applicant may opt to use such palliatives, as authorized by the BLM for the Proposed Project. The soil binder/dust palliatives that are proposed for the Project, and that the BLM has previously allowed, are:
 - Road Bond 1000
 - For roads and heavy traffic areas: Soil Cement
 - For non-traffic areas on finer soils: Formulated Soil Binder FSB 1000
 - For non-traffic areas on sandier/rockier soils: Plas-Tex
- The Project will conduct a noise study before the commencement of construction and. The Project will have no audible impact on local residents due to its location nearly 3 miles from and 400 feet below the nearest residence. Sound levels drop with distance, from 76 dBA 10 feet from the building inside the facility fence line (similar to a hair dryer or dishwasher), to 40 dBA at half a mile (similar to a quiet room or refrigerator), and approximately 7 dBA at the nearest home. If emergency generators were running, the sound level at approximately 3 miles would be 24 dBA, similar to rustling leaves. These impacts will be further reduced through acoustically-treated generator enclosures, strategic equipment placement, and compliance with local noise ordinances. The Applicant will ensure that noise levels will comply with all local, state and federal guidelines

6.4.2 Cultural Resources

- Cultural resources are defined as buildings, sites, structures, or objects, each of which has historical, architectural, archaeological, cultural, and/or scientific importance. Numerous laws,

regulations, and statutes, on both the federal and state levels, seek to protect and target the management of cultural resources.

- In consultation with the BLM and with SHPO concurrence, any areas that contain cultural resources of significance or whose eligibility for inclusion on the National Register of Historic Places (NRHP) is unevaluated, will be avoided, mitigated, or “treated” and recorded as appropriate.

6.4.3 Desert Tortoise

- The Applicant will implement the minimization measures and compensatory mitigation requirements as required and outlined in the applicable Biological Opinion.

6.4.4 Fire Protection

- All federal, state, and county laws, ordinances, rules, and regulations that pertain to prevention, pre-suppression, and suppression of fire will be strictly adhered to.

6.4.5 Reclamation

- For temporary disturbance areas that require clearing and/or grading work, restoration and reclamation procedures will follow the Restoration Plan and will be based on site-specific requirements and techniques commonly employed at the time the area is to be reclaimed and/or based on the Restoration Plan and would include regrading, top soiling, and revegetating all disturbed areas.
- After construction is complete, disturbed work areas will be graded to the approximate original contour, and the area will be revegetated with BLM-approved seed mixtures according to the Restoration Plan. Most postconstruction work will entail scarifying soils to reduce compaction and reseeded.
- A Facility Decommissioning and Site Reclamation Plan will be prepared in accordance with BLM policy and objectives at the time and approved by the BLM, once the operational life of the Proposed Project has been reached.

6.5 Mitigation Methods

6.5.1 Desert Tortoise

- Per the Project-specific Biological Opinion, the following compensatory mitigation is required to avoid, minimize, and offset potential adverse effects to the desert tortoise (USFWS 2022).
- **Habitat Compensation:** To further offset the adverse effects from the Project, the Applicant will pay the currently applicable desert tortoise remuneration fee to BLM.

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