DOCKETED	
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Project Title:	Soda Mountain Solar
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Document Title:	Section 3-20 Wildfire
Description:	This Section evaluates the direct, indirect and cumulative impacts the Project may have related to wildfire and identifies any required Applicant-Proposed Measures (APM) and any required Mitigation Measures.
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3.20 WILDFIRE

This section evaluates impacts related to wildfire that may result directly or indirectly from the project. The analysis in this section describes the applicable regulations, presents an overview of existing conditions, identifies the criteria used for determining the significance of environmental impacts, and describes the potential wildfire impacts of the proposed project. The analysis is based on a review of existing resources, technical data, and applicable laws, regulations, plans, and policies.

3.20.1 Regulatory Setting

3.20.1.1 Federal

CALIFORNIA DESERT CONSERVATION PLAN

The California Desert Conservation Area (CDCA) encompasses 25 million acres in southern California and was designated by Congress in 1976 through the Federal Land Policy and Management Act. The Bureau of Land Management (BLM) manages approximately 10 million of the 25 million acres in the CDCA. Congress directed the BLM to prepare and implement a comprehensive long-range plan for the management, use, development, and protection of public lands within the CDCA. The CDCA Plan (BLM 1999) is based on the concepts of multiple use, sustained yield, and maintenance of environmental quality. The CDCA Plan provides overall regional guidance for BLM-administered lands in the CDCA and establishes long-term goals for protection and use of the California desert.

The CDCA requires that in all areas designated Multiple Use Class L, M, or I, fire suppression measures be taken in accordance with specific fire management plans subject to such conditions as the authorized officer deems necessary, such as the use of motorized vehicles, aircraft, and fire-retardant chemicals (BLM 1999).

DESERT RENEWABLE ENERGY CONSERVATION PLAN

In September 2016, the BLM adopted the Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment (LUPA) to the CDCA Plan, Bishop Resource Management Plan, and Bakersfield Resource Management Plan. The DRECP LUPA addresses solar, wind, geothermal energy generation, and transmission projects on 10.8 million acres of BLM-administered lands in the desert regions of southern California (BLM 2016).

The BLM DRECP LUPA establishes several land use classifications, including Development Focus Areas (DFAs), Variance Process Lands (VPLs), Recreation Management Areas, General Public Lands, and various conservation land use designations. In DFAs, renewable energy projects are incentivized and permitting is streamlined. Renewable energy projects may be implemented on VPLs, but they must first be evaluated under a variance process and then approved by BLM to proceed through National Environmental Policy Act (NEPA) environmental review. General Public Lands are BLM-administered lands that do not have a specific land allocation or designation associated with energy development, conservation, or recreation. These lands are not needed to fulfill the DRECP biological conservation or renewable energy strategy. These areas are available to renewable energy applications but do not benefit from permit review streamlining or other incentives.

BLM Conservation Areas include National Landscape Conservation System lands, Areas of Critical Environmental Concern (ACECs), and Wildlife Allocations. Recreation Management Areas are

designated for recreation actions. This designation includes Extensive Recreation Management Areas, which entail management specifically to address recreation use and demand, and Special Recreation Management Areas, which are high-priority areas for recreation and have unique value and importance for recreation.

Most of the project site is on DRECP General Public Lands, and the gen-tie route is within the Soda Mountains Expansion ACEC (BLM 2022).

FEDERAL WILDLAND FIRE MANAGEMENT POLICY

On BLM-administered lands in the California desert, the BLM implements the Federal Wildland Fire Management Policy in coordination with other federal and state agencies as part of the California Desert Interagency Fire Management Organization (BLM 2020). The Federal Wildland Fire Management Policy was developed by a federal multi-agency group that establishes consistent and coordinated fire management policy across multiple federal jurisdictions. The policy acknowledges the essential role of fire in maintaining natural ecosystems but also prioritizes firefighter and public safety in every fire management activity and focuses on risk management as a foundation for all fire management activities. The policy promotes basing responses to wildland fires on approved local fire management plans and land management plans, regardless of ignition source or location.

FIRE MANAGEMENT PLAN FOR MOJAVE NATIONAL PRESERVE

The Mojave National Preserve encompasses almost 1.6 million acres of desert terrain, including sand dunes, cinder cones, dry lakes, desert washes, and several mountain ranges. According to the *Mojave National Preserve Fire Management Plan*, approximately 343,000 acres (22% of the preserve) are zoned for wildland fire use where natural ignitions can be allowed to burn under certain conditions for the perpetuation of natural processes and the preservation of wildness and naturalness within wilderness (National Park Service [NPS] 2004). The fire management plan also provides for hazard fuel reduction immediately adjacent to park owned structures as necessary for protection of park infrastructure.

NATIONAL ELECTRIC SAFETY CODE AND AMERICAN NATIONAL STANDARDS INSTITUTE GUIDELINES

A variety of line and tower clearance standards are used throughout the electric transmission industry. Nationally, most transmission line owners follow the National Electric Safety Code rules or American National Standards Institute Guidelines, or both, when managing vegetation around transmission system equipment. The National Electric Safety Code deals with electric safety rules, including transmission wire clearance standards, whereas the applicable American National Standards Institute code deals with the practice of pruning and removing vegetation.

NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 855

National Fire Protection Association (NFPA) Standard 855 was created to address increased use of new technologies in modern energy storage systems (ESSs) and the fire and life safety hazards associated with them. The NFPA standardizes criteria for fire protection of ESS installations based on the technology used in the ESS, environmental setting, size and separation of ESS installations, and the fire suppression and control systems in place. It also considers ventilation, detection, signage, listings, and emergency operations responding to ESS emergencies (NFPA 2023).

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION STANDARDS

In compliance with Section 215 of the Federal Power Act, North American Electric Reliability Corporation (NERC) developed mandatory and enforceable reliability standards such as emergency preparedness and operations; facilities design, connections, and maintenance; personnel performance, training, and qualifications; and protection and control. These standards ensure reliable energy production as well as safe operation and maintenance practices (NERC 2021).

NATIONAL FIRE PLAN

The National Fire Plan was developed in 2000 to guide swift and organized response to severe wildland fires and their impacts to communities while ensuring sufficient firefighting capacity. The National Fire Plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability. The National Fire Plan provides technical, financial, and resource guidance and support for wildland fire management across the United States (Forests and Rangelands 2021).

FEDERAL ENERGY REGULATORY COMMISSION

The Federal Energy Regulatory Commission requires utilities to adopt and maintain minimum clearance standards between vegetation and transmission voltage power lines. These clearances vary depending on voltage. In most cases, the minimum clearances required in state regulations are greater than the federal requirement. In California, for example, the state has adopted General Order 95 rather than the NERC standards as the electric safety standard for the state. Federal Energy Regulatory Commission standards are not discussed further.

NATIONAL ELECTRIC SAFETY CODE 2017

The National Electric Safety Code covers basic provisions related to electric supply stations, overhead electric supply and communication lines, and underground electric supply and communication lines. The code also contains work rules for construction, maintenance, and operational activities associated with electric supply and communication lines and equipment. The code, which must be adopted by states on an individual basis, is not applicable in the State of California. As stated previously, the State of California has adopted its own standard (General Order 95) rather than a general national standard. The National Electric Safety Code is not discussed further.

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS STANDARD 516-2009

The Institute of Electrical and Electronics Engineers is a leading authority in setting standards for the electric power industry. Standard 516-2009, *Guide for Maintenance Methods on Energized Power Lines*, establishes minimum vegetation-to-conductor clearances to maintain electrical integrity of the electrical system.

3.20.1.2 State

CALIFORNIA FIRE PLAN

The *2018 Strategic Fire Plan for California* directs each California Department of Forestry and Fire Protection (CAL FIRE) unit to prepare a locally specific fire management plan (CAL FIRE 2018). These documents assess the fire situation within each of CAL FIRE's 21 units and six contract counties and include stakeholder contributions and priorities, as well as identify strategic areas for pre-fire planning

and fuels treatment. The unit plans are required to be updated annually with the Strategic California Fire Plan update in 2024.

While the project falls within the 2023/2024 Strategic Fire Plan for the San Bernardino Unit (CAL FIRE 2023a), the site is entirely on federal land, and there are multiple regional, state, and local agreements and operating plans currently in use that provide for mutual aid between and among federal, state, and local fire agencies. These mutual aid systems exist to ensure that adequate resources, facilities, and other supports are provided to jurisdictions whenever resources prove to be inadequate for a given incident.

CALIFORNIA PUBLIC UTILITIES COMMISSION GENERAL ORDER NO. 95

California Public Utilities Commission (CPUC) General Order No. 95 formulates for the State of California requirements for overhead line design, construction, and maintenance, the application of which will ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead lines and to the public in general.

ASSEMBLY BILL 1054

Assembly Bill 1054 provides for a Wildfire Fund, which electrical corporations may access upon meeting specific requirements. Electrical corporations must opt into the fund, make financial commitments, and maintain a safety certificate from the CPUC, among other conditions. In July 2019, Southern California Edison opted into the Wildfire Fund, which requires it to satisfy a burden of proof test and obtain a safety certification by satisfying the conditions of Public Utilities Code Section 8389(e)(1–7).

PUBLIC UTILITIES CODE SECTION 8389(e)(1–7)

This section specifies the requirements for an electrical corporation to obtain a safety certification by documenting the following: an approved wildfire mitigation plan, good standing, an established safety committee composed of members with relevant safety experience, an executive incentive compensation structure to promote safety as a priority, an established process of board-of-director-level reporting to the commission on safety issues, a compensation structure for new or amended contracts for executive officers, and implementation of its approved wildfire mitigation plan.

CALIFORNIA FIRE CODE 2022 CHAPTER 12

With a basis in the International Fire Code, California Fire Code 2022 Chapter 12 (International Code Council 2022) outlines requirements for current energy systems designed to generate and store energy in, on, and adjacent to a building or facility. Specifically, Section 1205 addresses solar photovoltaic systems, and Section 1207 addresses ESSs. Chapter 12 covers many topics in detail, including location and layout of battery ESSs to be installed; quantities and types of storage batteries and battery systems; manufacturer's specifications, ratings, and listings of storage batteries/systems; location and content of signage; access and pathways to storage systems; details on fire-extinguishing, smoke detection, and ventilation systems; and design standards to ensure fire safety. Permits shall be obtained prior to installing and operating ESSs.

CALIFORNIA PUBLIC RESOURCES CODE SECTION 4292

This section requires that a minimum firebreak of 10 feet in all directions from the outer circumference of a pole or tower be established around any pole that supports a switch, transformer, lightning arrester, line junction, or end or corner pole. All vegetation shall be cleared within the firebreak.

CALIFORNIA PUBLIC RESOURCES CODE SECTION 4293

California Public Resources Code Section 4293 states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, in forest-covered land, or in grass-covered land and has primary responsibility for the fire protection of such area shall maintain a clearance of a certain distance, depending on line voltage. This section establishes the minimum vegetation clearance distances (between vegetation and energized conductors) required for overhead transmission line construction. Minimum clearances are as follows:

- A minimum radial clearance of 4 feet shall be established for any conductor of a line operating at 2,400 or more volts but less than 72,000 volts.
- A minimum radial clearance of 6 feet shall be established for any conductor of a line operating at 72,000 or more volts but less than 110,000 volts.
- A minimum radial clearance of 10 feet shall be established for any conductor of a line operating at 110,000 or more volts but less than 300,000 volts.
- A minimum radial clearance of 15 feet shall be established for any conductor of a line operating at 300,000 or more volts.

Specific requirements applicable to the construction and operation of the proposed project include those from the following sections in California Public Resources Code, Division 4, Chapter 6:

- Section 4427 – Operation of fire-causing equipment
- Section 4428 – Use of hydrocarbon-powered engines near forest, brush, or grass-covered lands without maintaining firefighting tools
- Section 4431 – Gasoline-powered saws and firefighting tools
- Section 4442 – Measures, requirements, and exemptions for spark arresters

CALIFORNIA GOVERNMENT CODE

California Government Code Sections 51175 through 51189 provide guidance for classifying lands in California as fire hazard areas and requirements for managing property within those lands. The primary factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. CAL FIRE maps fire hazards as zones, referred to as Fire Hazard Severity Zones (FHSZs). CAL FIRE is responsible for classifying FHSZs for State Responsibility Areas (SRAs) based on statewide criteria and makes the information available for public review. Furthermore, local agencies must designate, by ordinance, very high FHSZs within their jurisdiction based on the recommendations of CAL FIRE (CAL FIRE 2022). SRAs are land for which CAL FIRE is the primary emergency response agency, while Local Responsibility Areas (LRAs) and Federal Responsibility Areas (FRAs) are the primary responsibility of the local government and the federal government, respectively. All incorporated areas and unincorporated lands not in FRAs or SRAs are classified as LRAs.

CALIFORNIA PUBLIC UTILITIES COMMISSION GENERAL ORDERS 128 AND 165

General Order 128 establishes rules governing the construction of underground electric and communication lines to promote and safeguard public health and safety. General Order 165 establishes requirements for inspections of electric distribution and transmission facilities (excluding those facilities contained in a substation) in rural, high fire-threat areas to ensure safe and high-quality electrical service.

CALIFORNIA PUBLIC UTILITIES COMMISSION GENERAL ORDER 95

CPUC General Order 95 governs the design, construction, and maintenance of overhead electrical lines. Rule 31.1 generally states that this should be done in accordance with accepted good practices for the given location conditions known at the time by the persons responsible for the design, construction, and maintenance of the overhead electrical lines and equipment. Rule 35 of General Order 95 requires the following clearances between bare-line conductors and vegetation in high fire-threat areas:

- 4-foot radial clearances for any conductor of a line operating at 2,400 volts or more, but less than 72,000 volts
- 6-foot radial clearances for any conductor of a line operating at 72,000 volts or more, but less than 110,000 volts
- 10-foot radial clearances for any conductor of a line operating at 110,000 volts or more, but less than 300,000 volts
- 15-foot radial clearances for any conductor of a line operating at 300,000 volts or more

CALIFORNIA PUBLIC UTILITIES COMMISSION FIRE-THREAT ZONES

In 2018, CPUC approved a statewide Fire-Threat Map, which delineates high fire-threat districts and is intended to assist with implementation of new fire prevention rules (CPUC 2021). The map delineates areas in the state where there is an elevated risk and an extreme risk from utility-associated wildfires and includes potential impacts on people and property. The Fire-Threat Map helps prioritize fire hazard areas to allow for implementation of new fire safety regulations adopted by CPUC in December 2017. Electric investor-owned utilities must file an annual report that contains a fire prevention plan containing specified information for its overhead electric facilities in the high fire-threat district. Increased vegetation management and new fire regulations also apply to the high fire-threat district.

POWER LINE FIRE PREVENTION FIELD GUIDE 2021 EDITION

The *California Power Line Fire Prevention Field Guide* outlines procedures to minimize the risk of wildfire caused by electrical power lines and equipment (CAL FIRE et al. 2021). CAL FIRE, three of the state's investor-owned utilities (Pacific Gas and Electric Company, Southern California Edison, and San Diego Gas and Electric), and other California electric utilities have mutually developed the comprehensive field guide for their personnel. In addition to public safety, the guide details fire hazard reduction maintenance procedures for the safety of conductors and certain hardware.

3.20.1.3 Local

The project is located on federally owned land managed by the BLM. While it is not subject to County of San Bernardino land use plans and ordinances, local plans were reviewed for informational purposes.

SAN BERNARDINO COUNTYWIDE PLAN

The following policies identified in the Hazards and Personal and Property Protection elements of the San Bernardino Countywide Plan are relevant to this analysis (San Bernardino County 2024).

- **Policy HZ-1.14 Long-term fire hazard reduction and abatement**. We require proactive vegetation management/hazard abatement to reduce fire hazards on existing private properties, along roadsides of evacuation routes out of wildfire prone areas, and other private/public land where applicable, and we require new development to enter into a long-term maintenance

agreement for vegetation management in defensible space, fuel modification, and roadside fuel reduction in the Fire Safety Overlay and/or Very High Fire Hazard Severity Zones.

- **Policy HZ-1.15 Evacuation route adequacy**. We coordinate with CAL FIRE, California's Office of Emergency Services, and other local fire districts to identify strategies that ensure the maintenance and reliability of evacuation routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.
- **Policy PP-3.5 Firefighting water supply and facilities**. We coordinate with water providers to maintain adequate water supply, pressure, and facilities to protect people and property from urban fires and wildfires.
- **Policy PP-3.8 Fire-adapted communities**. We inform and prepare our residents and businesses to collaboratively plan and act to more safely coexist with the risk of wildfires.
- **Policy PP-3.11 Post-burn risks**. In areas burned by wildfire, we require new and reconstructed development to adhere to current development standards, and may require additional study to evaluate increased flooding, debris flow, and mudslide risks.
- **Policy PP-4.1 Emergency management plans**. We maintain, update, and adopt the Emergency Operations Plan, Continuity of Operations Plan, and the Multi-Jurisdictional Hazard Mitigation Plan. Plan updates are coordinated with wildfire hazard planning efforts of outside agencies, such as CAL FIRE Strategic Fire Plan, Community Wildfire Protection Plans, U.S. Forest Service, military institutions, California Fire Safe Council and other non- profit stakeholder groups, and other applicable local, state, and federal agencies.

SAN BERNARDINO COUNTY EMERGENCY OPERATIONS PLAN

Section 8.2, Emergency Evacuation, of the *San Bernardino County Emergency Operations Plan* (San Bernardino County 2018) identifies key elements to a successful evacuation plan in an emergency, such as a wildfire threatening life and property. This includes agreements and partnerships, transportation planning considerations, and medical/disabled needs. The San Bernardino County Sheriff's Department is the lead agency for all evacuation planning.

SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT

The San Bernardino County Fire Protection District (SBCoFD) is an all-risk/full-service fire department committed to providing the highest level of service in the most efficient and cost-effective manner. At 20,160 square miles, San Bernardino County is the largest county in the continental United States and the SBCoFD's jurisdiction protects 19,293 square miles. The project is within Division 5 of the SBCoFD, the North Desert Service Zone (SBCoFD 2024).

Due to local weather, topography, and other conditions, the SBCoFD has adopted the 2019 California Fire Code with certain changes, modifications, amendments, additions, deletions, and exceptions relating to fire regulations.

3.20.2 Environmental Setting

3.20.2.1 Fire Response and Protection Services

The project is located on federally owned land managed by the BLM in the Mojave Desert and is bisected by Interstate 15. The project site contains sparse vegetation and is not adjacent to developed areas. Fire response for the project site and vicinity is provided by mutual aid agreements among the BLM California

Desert District, counties, and local fire departments (National Interagency Fire Center 2023). The capabilities and availability of these local resources to respond to wildfires vary due to staffing levels and availability, access to appropriate equipment, and response times and distances to fire ignitions.

The project site is in an area designated as an FRA; FRAs are the primary responsibility of the local government and the federal government, respectively (San Bernardino County 2020a). As the project is not in an SRA, CAL FIRE would not be responsible for fire management or suppression activities in this area (San Bernardino County 2023). Agencies that are likely to provide wildfire protection to the project site would be SBCoFD and the BLM Fire and Aviation Program.

The SBCoFD Station 53 is approximately 9 miles from the project site, with a 10- to 15-minute response time. The SBCoFD Station in Harvard and the Newberry Springs Volunteer Fire Department both have 30- to 35-minute response times. They are approximately 30 and 33 miles from the project, respectively (ESRI 2023). The BLM also has a variety of fire resources and apparatuses that can respond to emerging incidents; the closest station is approximately 50 miles from the project in Barstow, California.

3.20.2.2 Fire Hazard Severity Zones

CAL FIRE is responsible for classifying FHSZs as moderate, high, or very high based on statewide criteria and makes the information available for public review. The primary factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition, and atmospheric conditions. The project site would be in a moderate FHSZ (San Bernardino County 2020b). The project site is also not in a CPUC-designated high fire-threat district or in an area designated as having elevated or extreme fire threat from utility-associated fires (CPUC 2021). Very high FHSZs in LRAs and SRAs are concentrated in the southwestern portion of San Bernardino County.

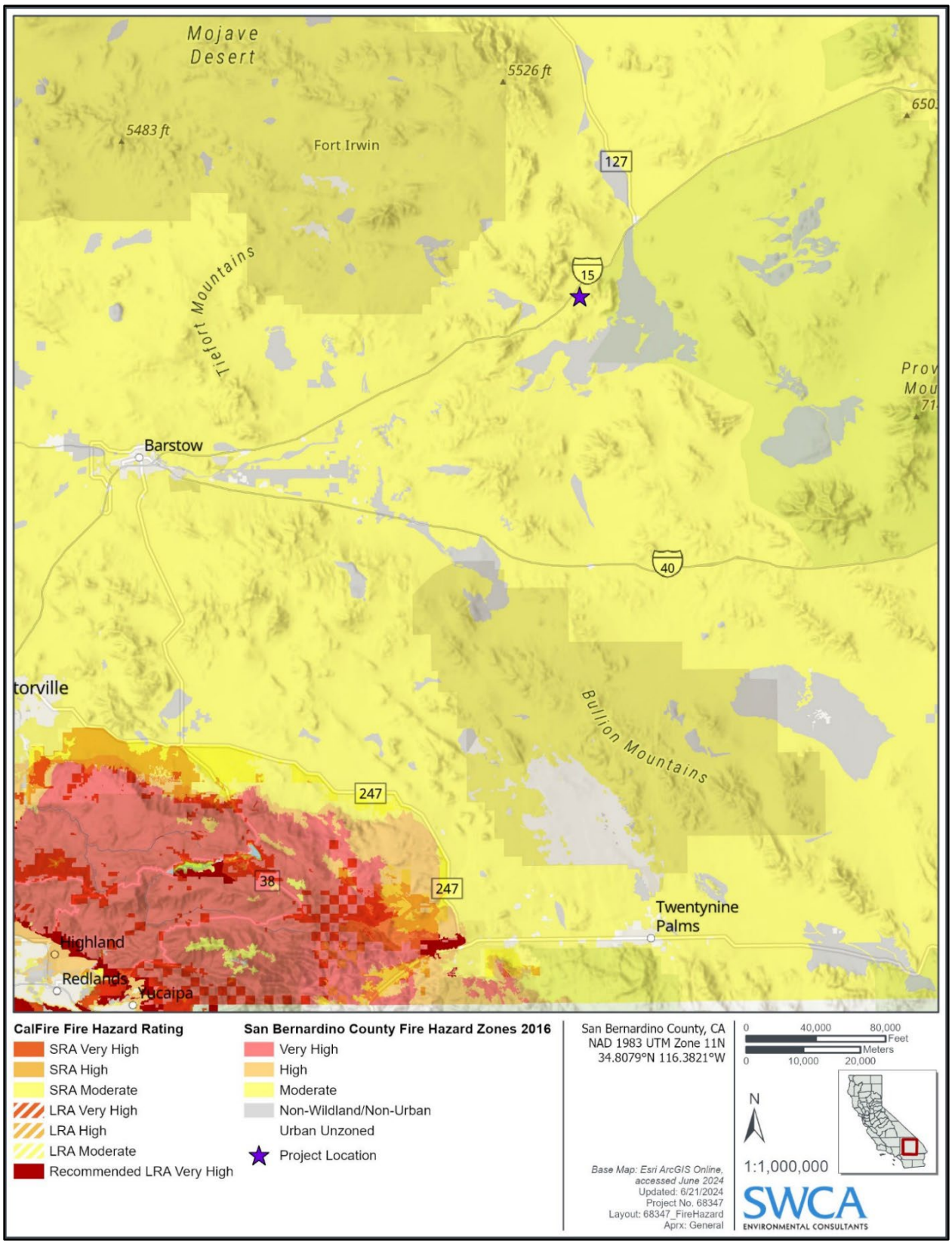

Figure 3.20-1. Fire Hazard Severity Zones in the study area.

3.20.2.3 Fuels

The fuels in the study area were classified using Standard Fire Behavior Fuel Models (Scott and Burgan 2005). The study area includes the project site, where equipment and activities may occur, and a 1-mile buffer around the project site to account for fire spread. The 40 fuel models are based on fuel depth, fuel load, and other characteristics of the fuel type and are used to summarize and predict fire behavior. The general classifications by fire-carrying fuel type are non-burnable (NB), grass (GR), grass-shrub (GS), shrub (SH), and timber litter (TL). Specific fuel models within a fuel type (e.g., GS1, GS2, GS3, and GS4 are the fuel models within the grass-shrub fuel type) generally have higher fuel model numbers to indicate an increase in fuel loading.

Most of the study area (79%) is composed of nearly pure grass or herbaceous fuel models (GS1), and most of the remainder (19%) is non-burnable (Table 3.20-1; Figure 3.20-2). The project site has a similar fuel model composition, with GR1 (83%) and non-burnable (17%) fuel models occupying most of the project site.

Table 3.20-1. Fuel Models in the Project Site and Study Area

Fuel Model	Acres (%) in Project Site	Acres (%) in Study Area
NB1	19.6 (<1%)	325.4 (3%)
NB8	0 (0%)	0.9 (<1%)
NB9	424.1 (16%)	2,090.1 (16%)
GR1	2,223.7 (83%)	10,177.9 (79%)
GR2	0 (0%)	10.9 (<1%)
GS1	10.5 (<1%)	338.3 (3%)
GS2	0 (0%)	5.4 (<1%)
TL2	0 (0%)	12.2 (<1%)
TL3	0 (0%)	0.2 (<1%)

Source: Interagency Fuel Treatment Decision Support System (2023).
Note: Due to rounding of percentages, the total may not equal 100%.

Existing electric utility infrastructure in the project site is also a potential source of ignitions. A recent study has found that lightning strikes account for a large percentage of electrical faults in transmission lines, which would increase wildfire ignition risk (Wu and Wang 2021). Access roads to electric infrastructure also increase potential sources of ignition during construction and maintenance, as these roads create more avenues for increased human intrusion into the area. Increased human activities increase potential ignition sources through cigarette butts, other human-ignited materials, sparks or ignitions from vehicles, or sparks from construction, maintenance, and decommissioning activities.

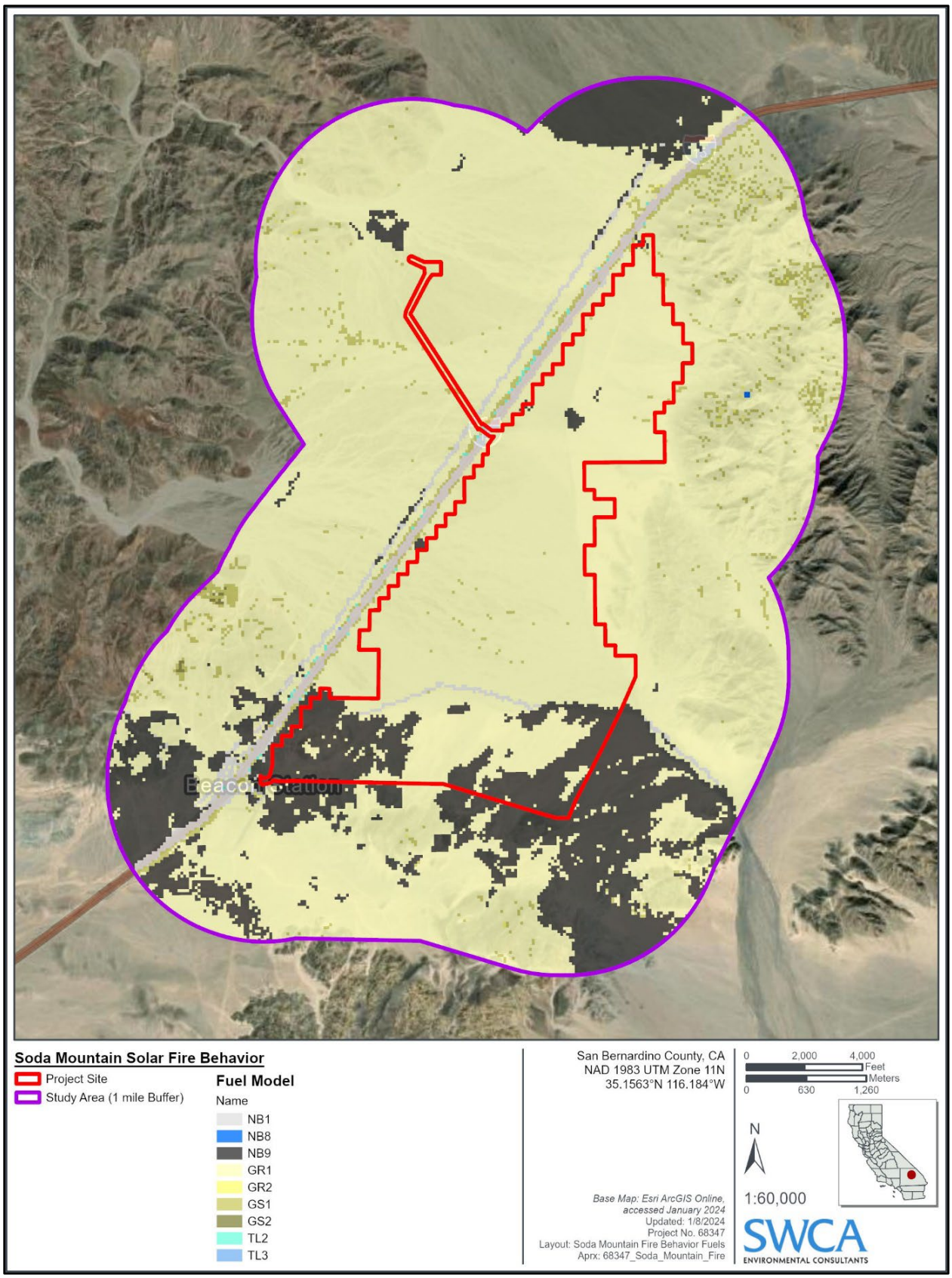

Figure 3.20-2. Fuel models in the study area.

3.20.2.4 Flame Length

Weather, topography, and fuels affect fire behavior. Fire behavior can be described by flame length and rate of spread, among other variables. In general, fires with flame lengths less than 4 feet and rate of spread less than 20 chains per hour (ch/hr) (1 chain is 66 feet) can be effectively controlled with direct attack suppression tactics using hand tools. However, where flame lengths exceed 4 feet and rate of spread exceeds 20 ch/hr, suppression efforts are typically more difficult, and heavy equipment, aerial support, or indirect tactics may be employed (National Wildfire Coordinating Group 2013).

Fire behavior modeling indicates that flame lengths would be less than 4 feet in most (87%) of the study area and nearly the entirety of the project site (99%) (Table 3.20-2; Figure 3.20-3). Shorter flame lengths are typical in fine fuels such as short grasses, while longer flame lengths are typical in tall grasses and woody fuel types with a heavy fuel loading.

Table 3.20-2. Modeled Flame Length in the Project Site and Study Area

Flame Length (feet)	Acres (%) in Project Site	Acres (%) in Study Area
NB	443.7 (17%)	2,416.3 (19%)
0–1	0 (0%)	12.9 (<1%)
1–4	2,223.7 (83%)	8,769.0 (68%)
4–8	10.5 (<1%)	1,703.1 (13%)
8–11	0 (0%)	52.9 (<1%)
11–25	0 (0%)	6.9 (<1%)
>25	0 (0%)	0 (0%)

Source: Interagency Fuel Treatment Decision Support System (2023).
Note: Due to rounding of percentages, the total may not equal 100%.

3.20.2.5 Rate of Spread

Modeling shows that the rate of spread would be less than 50 ch/hr for approximately 75% of the study area (Table 3.20-3; Figure 3.20-4). This rate of fire spread is common in moderate fire behavior of grass fuel models. Most of the project site (99%) would also support a rate of spread less than 50 ch/hr.

Table 3.20-3. Modeled Rate of Spread in the Project Site and Study Area

Rate of Spread (ch/hr)	Acres (%) in Project Site	Acres (%) in Study Area
NB	443.7 (17%)	2,416.3 (19%)
0–2	0 (0%)	12.5 (<1%)
2–5	0 (0%)	1.3 (<1%)
5–20	0 (0%)	151.7 (1%)
20–50	2,205.5 (83%)	7,097.3 (55%)
50–150	28.7 (1%)	3,213.2 (25%)
>150	0 (0%)	68.9 (<1%)

Source: Interagency Fuel Treatment Decision Support System (2023).
Note: Due to rounding of percentages, the total may not equal 100%.

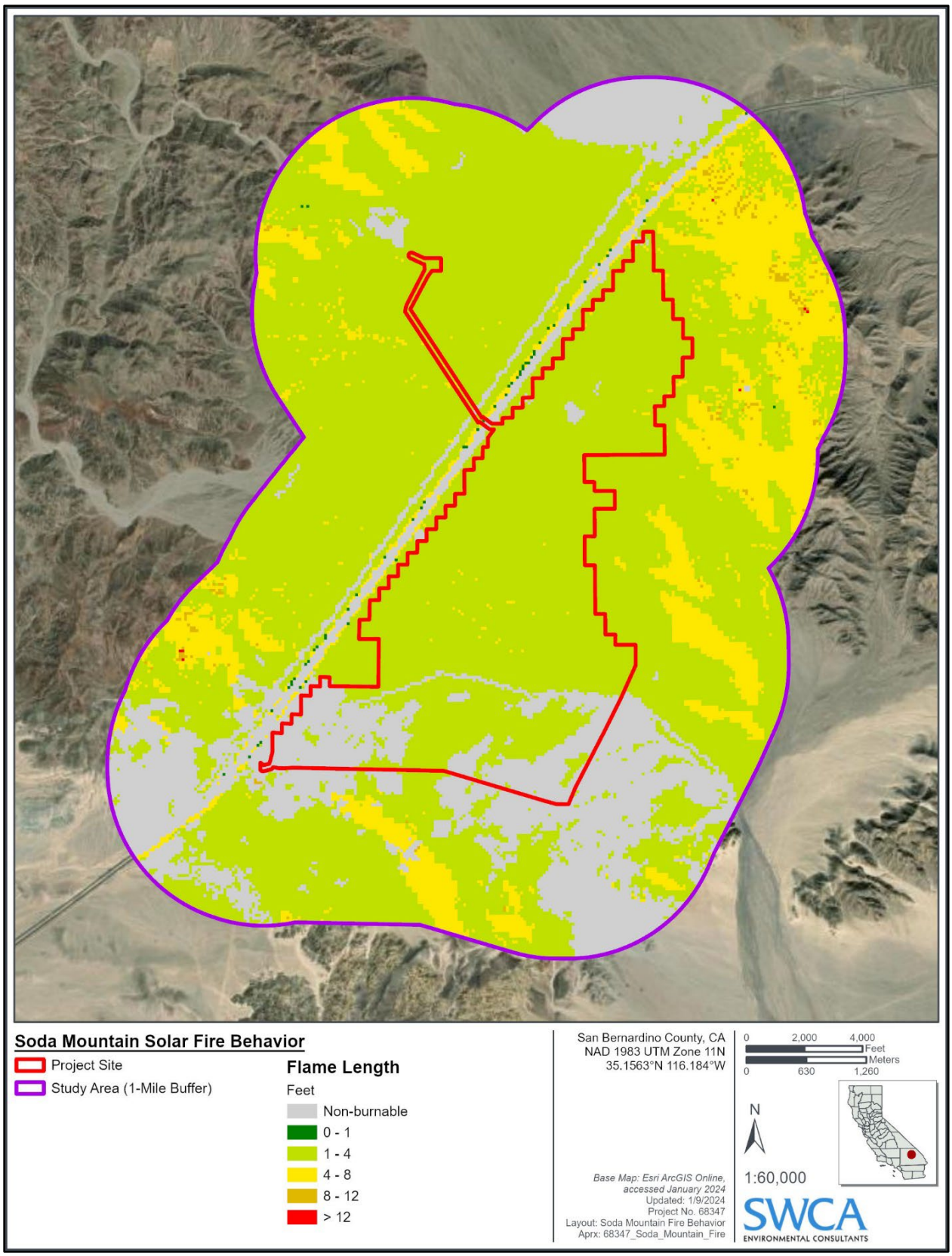

Figure 3.20-3. Modeled flame length in the study area.

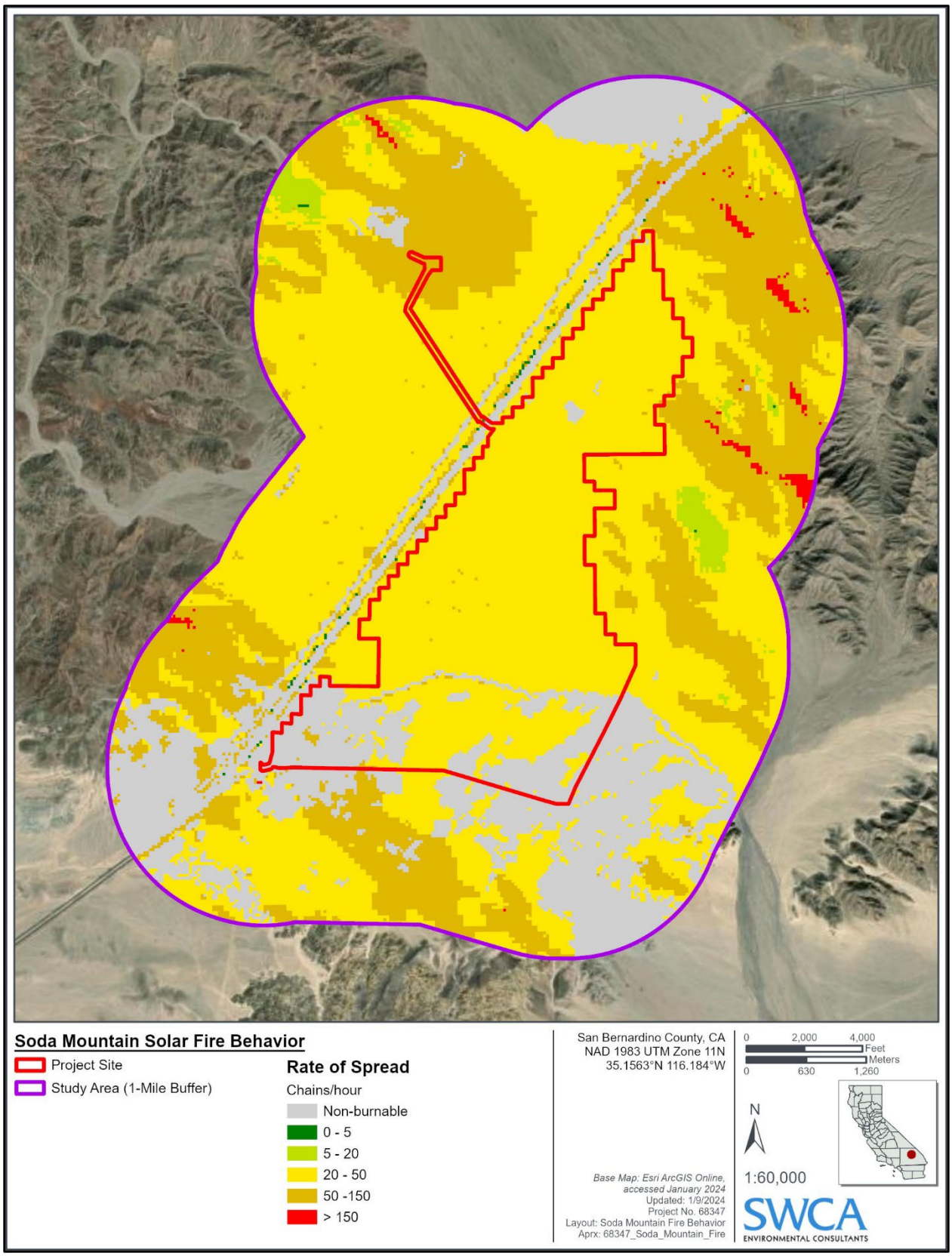

Figure 3.20-4. Modeled rate of spread in the study area.

3.20.2.6 Fireline Intensity

Modeling shows that over 73% of the study area would be below 100 British thermal units (Btu)/foot-second (Table 3.20-4; Figure 3.20-5). A value of 100 Btu is the equivalent of a large candle. This heat output is common for light, flashy fuels such as grass. Most of the project site (99%) would also support a fireline intensity of less than 100 Btu/foot-second.

Table 3.20-4. Modeled Fireline Intensity for the Project Site and Study Area

Intensity (Btu/foot-second)	Acres (%) in Project Site	Acres (%) in Study Area
NB	443.7 (17%)	2,416.3 (19%)
0–5	0 (0%)	11.6 (<1%)
5–100	2,219.3 (83%)	8,218.2 (64%)
100–500	14.9 (<1%)	2,248.0 (17%)
500–1,000	0 (0%)	58.5 (<1%)
1,000–6,175	0 (0%)	8.7 (<1%)
>6,175	0 (0%)	0 (0%)

Source: Interagency Fuel Treatment Decision Support System (2023).
Note: Due to rounding of percentages, the total may not equal 100%.

3.20.2.7 Fire History

There is no record of any wildfires since 1984 within a 10-mile buffer of the project site. The closest fire was the 2020 Mojave Fire, which, at its closest part of the fire perimeter, was approximately 24 miles from the project site. The Mojave Fire burned approximately 2,490 acres (CAL FIRE 2023b; Monitoring Trends in Burn Severity 2023). In August 2020, the 43,273-acre Cima Fire burned through the Joshua Tree woodland of Cima Dome, approximately 40 miles east/northeast of the project site. In July 2023, the 93,078-acre York Fire burned through Joshua Tree woodland and into Clark County, Nevada, approximately 50 miles east-southeast of the project site.

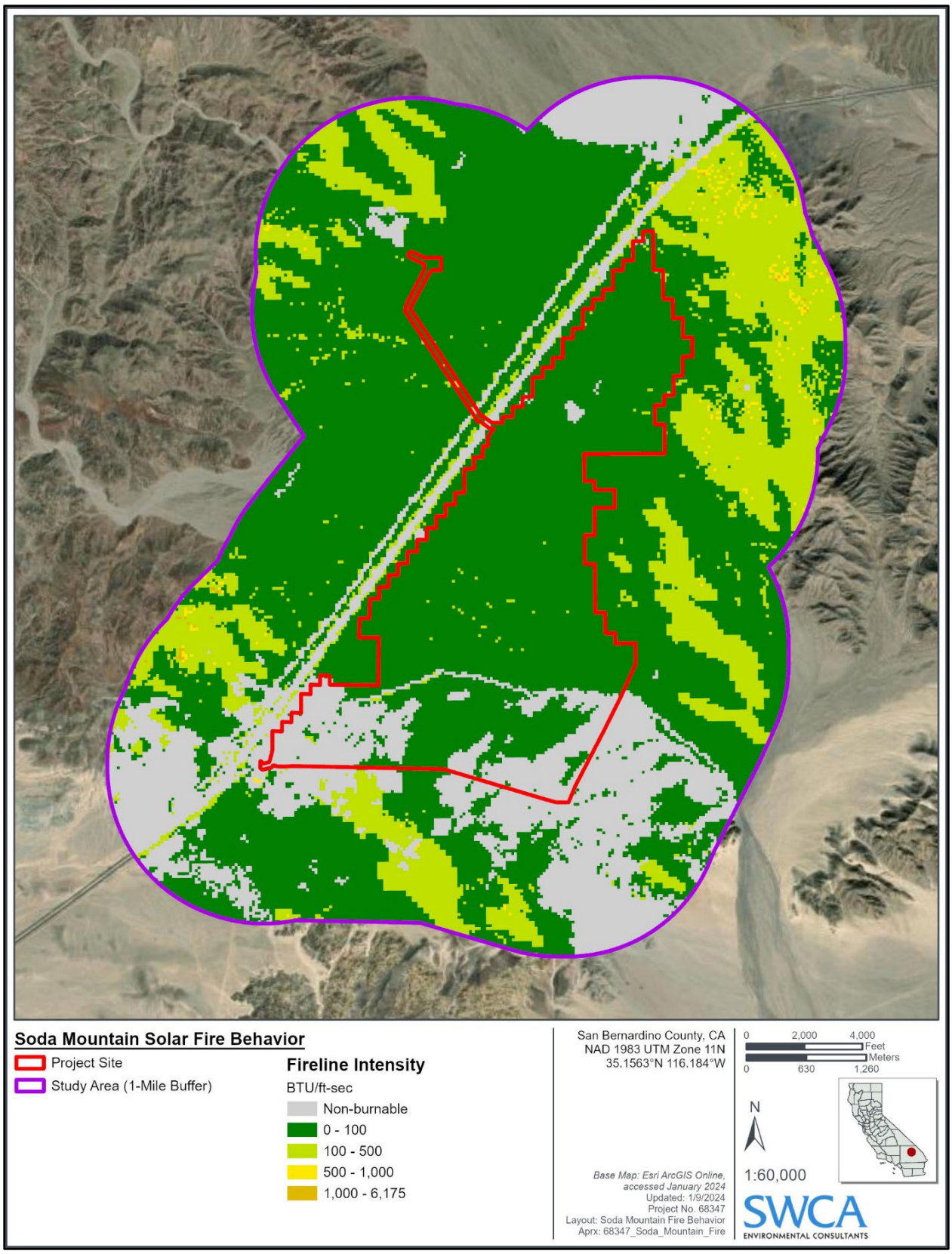

Figure 3.20-5. Modeled fireline intensity in the study area.

3.20.3 Impact Analysis

3.20.3.1 Thresholds of Significance

The determinations of significance of project impacts are based on applicable policies, regulations, goals, and guidelines defined by the California Environmental Quality Act (CEQA). Specifically, the project would be considered to have a significant effect on wildfire if the effects meet the significance criteria described below:

1. Substantially impair an adopted emergency response plan or emergency evacuation plan.
2. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
3. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Each of these thresholds is discussed in Section 3.20.3.4, Impact Assessment, below.

3.20.3.2 Methodology

Weather and climate data from the Opal Mountain remote automated weather station and existing vegetation type layer data (Interagency Fuel Treatment Decision Support System [IFTDSS] 2023) were used to compile vegetation and fuels datasets. Fire behavior modeling (flame length, rate of spread, and fireline intensity) was conducted using IFTDSS. To represent peak fire conditions, the following 97th percentile weather parameters were used:

- 1-hour fuel moisture 2%
- 10-hour fuel moisture 2%
- 100-hour fuel moisture 3%
- Herbaceous fuel moisture 32%
- Woody fuel moisture 61%
- Winds 26 miles per hour at 225° (southwest)

The study area takes into consideration the fire environment with current fuels conditions and weather patterns. It is understood that due to the nature of fire spread, some ignitions may lead to fires that spread beyond the study area. Fuels data is at 30-meter resolution (IFTDSS 2023).

Fire response times were calculated using ESRI's ArcPro 3.2. Data for station locations came from ArcGIS Online data (ESRI 2023).

3.20.3.3 Applicant-Proposed Measures

There are no applicant-proposed measures as part of the proposed project.

3.20.3.4 Impact Assessment

Impact WF-1: Would the project substantially impair an adopted emergency response plan or emergency evacuation plan? (Less than Significant)

San Bernardino County Office of Emergency Services (OES) and the San Bernardino County Sheriff's Department have planned evacuation procedures based on the adopted San Bernardino County General Plan policies and the County Emergency Operations Plan. The OES organizational structure is in place to effectively implement emergency procedures. There is one fire station within a short (approximately 10–15-minute) response time of the project.

There is expected to be a temporary and minimal, if any, increase in the regional population associated with the project; after construction, few staff would be required on-site for regular operations and maintenance. Additionally, some of these workers may be local residents. Project design allows a main travel artery, Interstate 15, to bisect the project site. With other secondary roads and no major population center nearby, evacuation procedures would not be impaired. Therefore, the proposed project would have a **less-than-significant impact** on an adopted emergency response or evacuation plan.

Impact WF-2: Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less than Significant)

According to CAL FIRE's mapping, the project site is not within an SRA or LRA as the project is on federal land. The project site is predominantly flat and located in a remote, largely undeveloped area.

While there is some topographic relief (the nearby Soda Mountain), the area overall is generally flat. Additionally, there is very little flammable fuel (low fuel loading) on these slopes. Remote automated weather station data show prevailing winds are predictable and not influenced by topography.

A discussion of how potential project pollutants would be contained and treated in the event of upset or accident conditions, such as a wildfire event, is included in Chapter 3.9, Hazards and Hazardous Materials, Impact HAZ-1. As detailed therein, emergency spill and response procedures would be communicated within the hazardous materials business plan and a spill prevention, control, and countermeasure plan, and best management practices (BMPs) such as double containment would minimize risks associated with release of potential project pollutants on-site.

Therefore, the proposed project would have a **less-than-significant impact** on exacerbated wildfire risks due to slope, prevailing winds, and other factors, and would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Impact WF-3: Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (Less than Significant)

Construction activities would involve the temporary use of heavy construction equipment and vehicles to install the project components over the course of approximately 18 months. Although the project is in a remote desert setting and would not occur within a high or very high FHSZ, the electrical components still pose a risk of fire if they become damaged or tampered with. Electrical components that may pose a risk of fire include voltage transformers, batteries, substations, and the switchyard. As these components

are in a sparsely vegetated and remote location away from densely populated areas, the potential for faulty electrical equipment to substantially exacerbate fire risks for populated areas is minimal. Additionally, assembly and installation of the electrical equipment would meet existing electrical and safety standards. Certified electricians and utility journeymen would be part of the construction workforce to ensure that all electrical equipment is assembled properly. The substation would be secured with a barbed wire chain-link fence to comply with electrical codes and would include communication systems to comply with Federal Energy Regulatory Commission and California Independent System Operator/Utility monitoring and control requirements to ensure safe operation. The battery energy storage system facilities would be housed in enclosed storage containers constructed on level cement or concrete foundations. The enclosures would contain any accidental fires and prevent them from spreading and causing further damage. Most of the solar facilities' equipment would consist of solar photovoltaic (PV) panels and their mounting systems, which would be assembled from materials that are not combustible or flammable.

The interior and perimeter roads and parking areas only pose an increased fire risk during construction or annual maintenance of these features; at other times, they serve as fuel breaks that moderate fire behavior. An on-site 22,500-gallon water tank is exclusively for fire suppression activities. Potential sources of ignition associated with construction and maintenance of these features may include vehicles on-site, the use of mechanized and heavy equipment, construction activities that cause sparks, and increased human presence. Electrical equipment consistently increases the potential for ignitions during construction, maintenance, and daily operations; however, the project has been designed to reduce exacerbating fire risk. Project design includes undergrounding of collection wires and, within each battery energy storage system, a fire detection and suppression control system that would be triggered automatically when the system senses imminent fire danger. Therefore, the proposed project would have a **less-than-significant** impact on required installation or maintenance of associated infrastructure, including solar arrays, ESSs, water storage tanks, and roads.

Impact WF-4: Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (Less than Significant)

The project site is predominantly flat and thereby would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project does not include any housing; therefore, it would not expose people to increased risk associated with flooding, landslides, or post-fire slope instability as a result of locating housing near such existing risks.

As described in Chapter 3.7, Geology and Soils, there are no identified landslide hazards for the project site. Project construction and operation would have a less-than-significant wildfire risk due to limited ground disturbance, flat site topography, and minimal vegetation on-site. As the project would have a low potential to exacerbate wildfire risk, it also would not pose a substantial risk of causing post-fire slope instability. Additionally, because the project site is located on flat land, the project would not be located on slopes that could contribute to the occurrence of landslides or flooding. The project would have a **less-than-significant impact** on exposing people or structure to significant risks, including flooding, landslides, runoff, or post-fire instability.

3.20.4 Cumulative Impacts

Impact C-WF-1: Would the impacts of the proposed project, in combination with other existing and reasonably foreseeable future projects, contribute to a cumulative impact related to wildfire? (Less than Significant)

EMERGENCY RESPONSE/EVACUATION PLAN

The project on its own would have a less-than-significant impact to impairing an adopted emergency response or evacuation plan. There are other solar projects in the vicinity (California Desert District BLM jurisdiction and throughout San Bernardino County) at various stages of development. Each of these increases the potential for ignitions, not just during construction and maintenance but continuously if there is the installation of electrical equipment. The region is a fire-prone environment that readily burns if there is an ignition source. Multiple projects that could increase the potential for ignitions and that are situated at a distance from one another would increase the demand for firefighting resources and potentially increase drive times, should there be more than one ongoing fire. It is likely that the area will see a continued increase in similar project development in the foreseeable future. With other projects in the vicinity of similar nature to this project, there are likely mitigation measures and comparable design features in place to reduce the impact on emergency response resources and mitigate fire behavior. Additionally, similar projects would have a comparably minimal increase to the population. Thus, the project, in combination with cumulative projects, would not result in a cumulatively considerable impact to an emergency response or evacuation plan.

WILDFIRE RISK

As detailed in Section 3.20.3.4, the project increases the potential sources of ignition, both during construction and maintenance activities and with the installation of electrical equipment. The project site is predominantly flat, making slope, wind, and other topographic features minimally likely to exacerbate wildfire risks. However, there are notable geographic features and terrain in the region beyond the project site, creating the possibility of wind and topography aligning for potentially increased fire behavior in the event of a wildfire outside the project site. There are other solar projects in the vicinity at various stages of development, making it likely that periods of construction and maintenance for the project would overlap with those of other nearby projects. This may impact resources response within SBCoFD's jurisdiction. Additionally, some projects include installing electrical equipment, increasing potential sources of ignition. However, fuel types in the project site and vicinity generally support low to moderate fire behavior, and fuels are discontinuous due to roads and other non-burnable substrates. Additionally, recent fire history (1984–2022) in a 10-mile radius from the project shows zero fires. Thus, the project in combination with cumulative projects **would not result in a cumulatively considerable impact** to wildfire risks.

INFRASTRUCTURE WILDFIRE RISK

The project would have a potential impact to wildfire risk from required infrastructure because of the construction and maintenance period activities and the installed electrical equipment being potential sources of ignition. With similar projects in the vicinity, construction and maintenance period activities and additional electrical equipment would add to the overall wildfire risk. Although some of the infrastructure associated with these types of projects is for fire mitigation (fuel breaks, improved roads, water storage tanks), potential sources of ignition remain. With increased powerlines and electrical equipment in the project vicinity from other projects, emergency responders may have to change tactics when engaging near this type of equipment. Both ground and aerial firefighting resources often modify suppression tactics for safety reasons when considerable electrical infrastructure is involved. However,

regular operations and maintenance of the project would involve visual inspections and maintenance when needed to address damage or deterioration of equipment. Thus, the project, in combination with cumulative projects, **would not result in a cumulatively considerable impact** to wildfire risks from infrastructure.

POST-FIRE IMPACTS

The project would have a less-than-significant impact to the public post-fire due to the stable, flat land of the site. Although there are notable geographic features in the region, the study area is not susceptible to landslides. Fire behavior within the project site is minimal and would be moderated due to project design features; similar projects in the vicinity would have comparable design features and necessary mitigation measures in place. Thus, the project, in combination with cumulative projects, would not result in a cumulatively considerable impact on exposing people or structures to significant risks, including flooding or landslides.

In conjunction with other projects in the vicinity, the proposed project **would not result in a cumulatively considerable impact** related to wildfire.

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