DRAFT
Environmental Impact Report

for

CAL FIRE Chalk Mountain Communications Tower and Facilities Replacement Project

(SCH No. 2021-10-0197)

Lead Agency:

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES **on behalf of** CAL FIRE SINCE 1885

Technical Assistance by:

Aspen environmental group

February 2022

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ENVIRONMENTAL IMPACT REPORT
for
CAL FIRE Chalk Mountain Communications Tower and Facilities Replacement Project

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List of Acronyms

APM	Applicant Proposed Measure
AQMD	Air Quality Management District
BMPs	Best Management Practices
BRTR	Biological Resources Technical Report
CalOES	California Office of Emergency Services
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	Conservation Geologic Survey
CHP	California Highway Patrol
CMU	Concrete masonry units
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
DGS	Department of General Services
DOC	Department of Conservation
DPR	Department of Parks and Recreation
DSA	Division of State Architect
ECC	Emergency Communication Center
EIR	Environmental Impact Report
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FMMP	Farmland Mapping and Monitoring Program
GHG	Greenhouse gas
KOP	Key Observation Point
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution District
MIMO	Multiple inputs, multiple outputs
MLD	Most Likely Descendant
MMDS	Multi-point distribution services
MMRP	Mitigation Monitoring and Reporting Plan
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
PCEs	Primary Constituent Elements
PERP	Portable Equipment Registration Program
PSC	Public Safety Communications
PSMN	Public Safety Microwave Network
PV	Photovoltaic
RF	Radio frequency
RWQCB	Regional Water Quality Control Board
SCCC	Santa Cruz County Code
TCR	Tribal Cultural Resource
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VHF	Very high frequency
WEAP	Worker Environmental Awareness Program

Executive Summary

ES.1 Introduction

The California Department of General Services (DGS) on behalf of the California Department of Forestry and Fire Protection (CAL FIRE) has prepared this focused Environmental Impact Report (EIR) for the proposed Chalk Mountain Communications Tower and Facilities Replacement Project (proposed Project or Project).

CAL FIRE proposes to construct and operate the Project, which would install a new replacement telecommunications tower, very high frequency (VHF) radio and microwave antennas, and supporting facilities, at the existing CAL FIRE Chalk Mountain communications facility site, located in Big Basin Redwood State Park in Santa Cruz County. The Project would support new microwave technology and decrease dependency on and overloading of the existing communications tower at the site. The existing 60-foot antenna supporting wood pole and supporting facilities at the site are inadequate for current communication needs. The 2020 CZU Lightning Complex Fire burned through the site and its surroundings, damaging the existing wood pole and antenna. The Chalk Mountain communications facility currently has no microwave capability; the Project would add this capability to provide point-to-point communication links with other remote towers in the statewide communications system. The technology proposed is MIMO technology, which uses small panel antennas, similar to those found on cell phone towers. As technology has evolved, CAL FIRE and other State agencies and local fire/sheriff departments have centralized and coordinated communications at regional dispatch centers, which are interconnected via point-to-point microwave radio transmission capability.

The original wood pole at the CAL FIRE Chalk Mountain site does not provide the required line-of-sight for the point-to-point connectivity or the needed reliability during major weather events, nor is the pole adequate to support antennas for other public agencies seeking to enhance their communications in the area. For these reasons the CAL FIRE Chalk Mountain facility is proposed to be upgraded from a small, isolated 2-channel repeater site to a more robust and efficient public safety communications site that can support CAL FIRE and other public agency communication needs.

ES.2 Focused EIR

An Initial Study was prepared for the proposed Project. The Initial Study determined that the proposed Project would have either no impacts or impacts would be less than significant for all but three topics. Therefore, it was determined that a focused EIR would be an appropriate CEQA document. Three environmental issue area identified as having potentially significant impacts are analyzed in this focused EIR and include Aesthetics, Biological Resources, and Land Use and Planning.

ES.3 Project Description

Under the Project, CAL FIRE proposes to:

- Replace original (damaged) 60-foot telecommunications pole with new tube braced galvanized steel structure 80 feet in height to support new MIMO technology;
- Replace Vault and Supporting Equipment;
- Replace Undersized Generator and Fuel System; and
- Install Solar PV System.

Construction of the proposed Project is estimated to start in 2022 and span approximately 2 years. Site access would be from Highway 1 via Chalks Road, an existing gated dirt road through private and public land where CAL FIRE has access and maintenance agreements in place.

An estimated maximum of 20 personnel would be required for construction activities on any given day, with most days requiring fewer workers. All construction would be within the existing previously disturbed area of the site. Pre-construction and construction activities would include:

- Surveying and staking disturbance limits, vegetation clearing (as needed), installation of security fencing
- New Tower and Vault Construction
- Solar Array Construction
- Old Pole and Vault Removal
- Site Restoration

The Project would not generate new or additional maintenance requirements or the need for additional personnel during operations and maintenance (O&M).

ES.4 Significant Impacts and Mitigation

As part of the Project, CAL FIRE proposes to implement measures called Applicant Proposed Measures (APMs) that would ensure the Project would occur with minimal environmental impacts and in a manner consistent with applicable rules and regulations. These measures would be implemented during the design, construction, and operation of the Project. With implementation of the APMs, no significant unmitigated impacts were identified that would result from Project implementation and no additional mitigation measures are required.

The text of the APMs are listed in EIR Table B-2. These are considered part of the Project and were considered in the evaluation of environmental impacts (see Section C, Environmental Analysis). Project approval would be based upon CAL FIRE adhering to the Project as described in this document, including this project description and the APMs, as well as any mitigation measures that may be imposed as conditions of approval.

The APMs address the following:

Biological Resources
- **APM B-1**. Personnel Environmental Awareness Training.
- **APM B-2**. Pre-construction Surveys and Construction Monitoring.
- **APM B-3**. Special-status Bird Avoidance and Minimization.
- **APM B-4**. Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas.

Cultural and Tribal Cultural Resources
- **APM CR-1**. Train Construction Personnel.
- **APM CR-2**. Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.
- **APM CR-3**. Treatment of Human Remains.

Hazards and Hazardous Materials
- **APM HAZ-1.** Prepare and Implement a Hazardous Materials and Waste Management Plan.
- **APM HAZ-2.** Prepare and Implement a Hazardous Materials Management Business Plan.

Noise
- **APM N-1.** Reduce Construction Noise.

ES.5 Alternatives to the Project

Alternative Project sites and designs were considered to determine if they could reduce the impacts of the Project as proposed. These are discussed in EIR Section D (Project Alternatives). None of the alternatives was determined to be preferred to the Project with regard to overall impacts and to achieving Project objectives. Upgrading the existing VHF system would not meet the Project objective to integrate the facility with the State's Public Safety Microwave Network.

Two alternative sites were identified and evaluated based on their elevation and on the availability of existing access. One, the Chalk Mountain DRP alternative, is a site 0.75 miles east of the proposed Project site. The other is the Eagle Rock alternative, located approximately 6 miles east of the proposed site. Both are in Big Basin Redwood State Park (Park). Being farther inland, neither site provided the same range of coverage as the proposed Project. As well, the Chalk Mountain DRP site is adjacent to a State wilderness and the Eagle Rock site is closer to the main visitor area of the Park.

ES.6 Areas of Known Controversy

The Applicant met with California Coastal Commission (CCC) staff to review the Project. CCC staff expressed concerns regarding the visual impact of the original design of the replacement tower, which would be located within the Coastal Zone, and its compatibility with Local Coastal Program requirements. These issues are addressed in Section C (Environmental Analysis) of the EIR. One comment letter from the Native American Heritage Commission was received during the scoping period. The scoping letter discussed cultural resources and tribal consultation requirements. No other areas of known controversy were identified as a result of the public scoping period; no comments were received during the scoping meeting or subsequently by mail or email.

In addition, during preparation of the Initial Study in February 2020, the EIR team solicited input from the California Department of Fish and Wildlife about concerns regarding potential impacts to the marbled murrelet and its recommended monitoring approach.

A. Introduction

As lead agency under the California Environmental Quality Act (CEQA), the California Department of General Services (DGS) on behalf of the California Department of Forestry and Fire Protection (CAL FIRE) has prepared this focused Environmental Impact Report (EIR) for the proposed Chalk Mountain Communications Tower and Facilities Replacement Project (proposed Project or Project).

The proposed Project is being undertaken to comply with the legislatively mandated plan for the California Office of Emergency Services (CalOES) Public Safety Communications (PSC) to convert all telecommunications sites in the State's Public Safety Microwave Network (PSMN) to digital technology. The Chalk Mountain site does not currently support digital or microwave technology. The conversion of the PSMN to digital technology will support new agency needs and provide better reliability with higher quality circuits.

The overall organization of the EIR is provided in Section A.7, Document Organization and Reader's Guide, at the end of this Introduction. This introductory section provides the background, overview, and objectives of the proposed Project as well as the purpose and format of this EIR.

A.1 Project Background

CAL FIRE operates and manages communications equipment at 192 telecommunications sites throughout California, including at the Chalk Mountain site. CAL FIRE's telecommunications sites provide the essential emergency communications linkage for CAL FIRE's fire protection and emergency response command and control throughout the State. In addition, these facilities are essential components of California's PSMN that transmits 911 calls and emergency instructions during major public safety incidents, including floods, firestorms, and other natural disasters. Many of the CAL FIRE–managed mountaintop sites are also used and relied upon by other public safety agencies for their telecommunication needs.

These mountaintop communications facilities typically consist of a telecommunications tower and a securable, environmentally controlled radio communications building (vault) housing sensitive radio transmission equipment. These facilities include back-up generators that enable the sites to remain operational during power outages if they are connected to the electric grid. Depending on site limitations, the generators are housed either in a separate room within the vault or in a stand-alone securable building. Where electrical power is not available at the site, facilities are powered by diesel or propane generators or solar panels. The Chalk Mountain facility would be solar powered, with storage batteries and a back-up propane-fired generator housed in the equipment building (vault) on site.

CAL FIRE's Chalk Mountain communication site provides an essential emergency communications link for CAL FIRE's fire protection and emergency response command and control activities throughout the State. The Chalk Mountain site serves a large portion of the San Mateo/Santa Cruz coast and it is the only CAL FIRE communications site that covers this area. The facility is an important communications link in the area. For instance, the Chalk Mountain site was the only site that provided radio coverage for the 2007 Martin Fire that threatened old growth redwoods. Failure of this site would completely shut down radio communications along this section of the coast, affecting response to traffic accidents and medical emergencies.

The Chalk Mountain facility supports CAL FIRE radio communications in portions of coastal Santa Cruz and San Mateo Counties, serving approximately 40 miles of the Highway 1 from Davenport in the south to Montara in the north. Inland, the site coverage includes Big Basin, Swanton, Gazos, and Whitehouse Canyon watersheds. CAL FIRE has two forest fire stations in the area, Big Creek and Pescadero, which provide fire protection and emergency medical services to the area. CAL FIRE routinely responds to water rescues and major vehicle accidents in this part of the Highway 1 corridor, where CAL FIRE personnel maybe are the only resource available.

A.2 Project Need and Objectives

A.2.1 Project Need

CAL FIRE proposes to construct and operate the Chalk Mountain Communications Tower and Facilities Replacement Project, which would install a new replacement telecommunications tower, very high frequency (VHF) and ultra-high frequency (UHF) radios with associated antennas, and supporting facilities at the existing CAL FIRE Chalk Mountain communications facility site, located in Santa Cruz County (see Figure B-1, Project Location, in Appendix A). The Project would support new Multiple Input, Multiple Output (MIMO) advanced radio technology and decrease dependency on and overloading of the existing communications tower at the site. The existing 60-foot antenna supporting wood pole and supporting facilities at the site were determined to be inadequate for current communication needs. Subsequent to this determination, the 2020 CZU Lightning Complex Fire burned through the site and its surroundings, damaging the existing wood pole and antenna. CAL FIRE installed an emergency portable repeater as a temporary replacement for the pole and antenna. The temporary repeater will remain in operation until the proposed Project is constructed and operational.

The Chalk Mountain communications facility currently has no access to the PSMN; the Project would add this capability. CAL FIRE would deploy new MIMO[1] technology radios and antennas to provide point-to-point communication links with other remote towers in the statewide communications system. The new technology does not rely on the large, visually obtrusive parabolic dishes often used for microwave technology. Instead, the MIMO technology uses small panel antennas, similar to those found on cell phone towers. The communications system now operating at the Chalk Mountain site provides basic VHF repeater service for two of the frequencies in use by CAL FIRE in the area (referred to as CZU Local and CZU Command 2). As technology has evolved, CAL FIRE and other State agencies and local fire/sheriff departments have centralized and coordinated communications at regional dispatch centers, which are interconnected via point-to-point microwave radio transmission capability. Connecting remote mountain-top radio sites via MIMO technology onto the statewide microwave system allows incident commanders and other first responders to communicate remotely from anywhere they have connectivity to the State microwave system. The MIMO technology allows the use of smaller more mission-critical reliable tower equipment instead of large microwave dishes typically located on microwave towers. In addition to consolidating radio communications into a centralized Emergency Communication Center (ECC), in the event of a major emergency requiring CAL FIRE to evacuate, all radio communications normally handled in the Project area can be rerouted to another site outside of the disaster area, allowing first responders to keep connected to dispatch. At sites without microwave, such as the existing CAL FIRE Chalk Mountain site, if the controlling base station goes off the air, radios are limited to use only in the immediate area; the centralized command structure would be disconnected and unable to provide coordination and support.

California's PSMN provides connectivity with a network where the communications can be shared, managed, and distributed. Microwave communication systems using large dish antennas require rock-steady mounting and infrastructure to support the dish antennas and keep their (typically) 1.5-degree beam width signal pointed at a distant repeater. The smaller MIMO antennas require less robust infrastructure, while providing greater network capacity and greater reliability during poor weather conditions. The original (damaged) wood pole at the CAL FIRE Chalk Mountain site does not provide the required line-of-

[1] MIMO is an abbreviation for "multiple inputs and multiple outputs." The technology uses multiple antennas rather than parabolic reflectors typical of many microwave towers. The technology is used to create highly effective antenna directivity and presents a smaller visual profile.

sight for the point-to-point connectivity or the needed reliability during major weather events, nor is the pole adequate to support antennas for other public agencies seeking to enhance their communications in the area. For these reasons the CAL FIRE Chalk Mountain facility is proposed to be upgraded from a small, isolated 2-channel repeater site to a more robust and efficient public safety communications site that can support CAL FIRE and other public agency communication needs.

A.2.2 Project Objectives

The objectives of the Project are to:

- Upgrade and supplement CAL FIRE's existing telecommunications infrastructure by replacing the original (damaged) pole and facilities with a new replacement tower and facilities to support the State's PSMN.
- Continue to provide an essential emergency communications linkage for CAL FIRE's fire protection and emergency response command and control throughout the area.
- Enable microwave connectivity to meet the needs of California Highway Patrol (CHP), Department of Parks and Recreation (DPR), and other State agencies.
- Support local fire and sheriff emergency communication operations.
- Comply with a Legislative mandate for the CalOES – PSC to convert all telecommunications sites in the state's PSMN to digital technology.

A.3 Use of a Focused EIR

CEQA Guidelines Section 15063(c)(3) states that an Initial Study assists in the preparation of an EIR, if one is required, by focusing the EIR on the effects determined to be significant, identifying the effects determined not to be significant, and explaining the reasons for determining that potentially significant effects would not be significant.

An Initial Study was prepared for the proposed Project and published along with the Notice of Preparation on October 13, 2021. The Initial Study determined that the proposed Project would have either no impacts or impacts would be less than significant for the following topics:

- Agriculture & Forestry Resources
- Air Quality
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

A summary of the findings of the Initial Study with regard to the aforementioned issue areas is found in EIR Section F.4 (Other CEQA Requirements, Effects Not Found to be Significant in the Initial Study).

Three environmental factors were identified as having potentially significant impacts and are addressed in Section C of this focused EIR. They are:

- Aesthetics
- Biological Resources
- Land Use/Planning

A.3.1 State Use of the EIR

The State will consider this EIR, including any comments from the public, government agencies, and non-government agencies, to determine whether to approve the Project. Prior to any decision, the State will need to certify that the Final EIR was completed in compliance with CEQA, was presented to the decision-making body for review and consideration, and that it reflects the lead agency's independent judgement and analysis (CEQA Section 15090). If any impacts are found to be significant and cannot be reduced to a less than significant level, the State will be required to prepare Findings and a Statement of Overriding Considerations (CEQA Sections 15091 and 15093).

A.3.2 Agency Consultation and Coordination

State and trustee responsible agencies have jurisdiction by law over resources affected by a project. State and trustee responsible agencies, and other permitting agencies, will use this EIR to inform them regarding any significant environmental effects of the proposed Project and any measures designed to minimize or mitigate these significant effects. The EIR will also present a range of reasonable alternatives, if any, that may avoid or reduce impacts. Responsible agencies will use the information to determine if further measures or actions should be taken for the Project to comply with local, State, and federal regulations.

CAL FIRE and DGS held an informational meeting with the California Coastal Commission (CCC), California State Parks (State Parks), and Santa Cruz County in March 2018 to introduce the project, begin early coordination, and solicit potential concerns. Follow-up meetings with Santa Cruz County Planning Department and CCC were held in 2018 and 2019. The State also reached out to San Mateo County Planning Department. On May 16, 2019, the CCC sent a letter that stated its concerns regarding the project's incompatibilities with the Coastal Zone designation and zoning, namely due to tower design and height.

In response to these aesthetics concerns within the Coastal Zone and within Big Basin Redwoods State Park, CAL FIRE modified its original much larger 4-legged lattice tower design to the proposed Rohn 3-legged tube braced structure that is described in this EIR.

In addition, during preparation of the Initial Study in February 2020, the EIR team spoke with the California Department of Fish and Wildlife to solicit input about concerns regarding potential impacts to the marbled murrelet.

A.3.3 Other Permits and Approvals

Table A-1 lists agencies and their respective permits and approvals that may be necessary to achieve compliance with all applicable regulations throughout Project implementation. Some permits or approvals identified may not be required, based on the characteristics of the Project during construction and operation, the location of resources, and the potential for these resources to be affected by the Project.

Table A-1. Permits and Approvals Which May Be Required

Agency/Department	Permit/Approval	Description
Federal		
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit	Protects Waters of the U.S., including tributaries and riparian areas.
U.S. Fish and Wildlife Service (USFWS)	Federal Endangered Species Act	Required if a project would result in take of a federally listed species.

Table A-1. Permits and Approvals Which May Be Required

Agency/Department	Permit/Approval	Description
State of California		
Central Coast Regional Water Quality Control Board (RWQCB) (Region 3)	NPDES Permit for construction dewatering	RWQCB approval is needed for general construction runoff and/or construction dewatering discharges under the National Pollutant Discharge Elimination System (NPDES).
	General Construction Permit and Clean Water Act Section 401 Permit	Project proponents are required to submit a Notice of Intent to the RWQCB for coverage under the General Construction Permit if project disturbance would be over 1 acre. Section 401 permits are necessary when Section 404 permits are required.
California Department of Fish and Wildlife (CDFW)	California Endangered Species Act Incidental Take Authorization	Required if a project would result in take of a State-listed species.
	Streambed Alteration Agreement	Requires CDFW to review project impacts to "waters of the state" (bed, banks, channel, or associated riparian areas of a river, stream, or lake), including impacts to wildlife and vegetation from sediments, diversions, and other disturbances.
Regional		
Santa Cruz County	Coastal Zone Permit (Level 5 development permit)	Required for land development within the Coastal Zone under the California Coastal Act of 1976.
California Air Resources Board (CARB) or Air Quality Management District (AQMD)	Portable Equipment Registration or Air Quality Permit to Operate	Portable equipment subject to local air quality permitting requirements, such as generators or air compressors, must either be registered under the CARB Portable Equipment Registration Program (PERP) or obtain a local air quality permit to operate.
Monterey Bay Unified Air Pollution District (MBUAPCD)	Authority to Construct and Permit to Operate	Required if the internal combustion engine for the emergency backup generator is rated at 50 brake-horsepower or greater.

A.4 Native American Consultation under Assembly Bill 52

No tribes or tribal representatives with cultural affiliations to the project area have previously contacted DGS or CAL FIRE in writing to request to be notified of proposed projects. Therefore, pursuant to Public Resources Code 21080.3.1. (a), the State has fulfilled its legal obligations under AB 52.[2]

Although the State had fulfilled its AB 52 legal obligations, in August 2018, courtesy notification letters regarding the proposed Project were sent to five tribes: the Amah Mutsun Tribal Band; Amah Mutsun Tribal Band of Mission San Juan Bautista; Costanoan Ohlone Rumsen-Mutsen Tribe; Muwekma Ohlone Indian Tribe of the San Francisco Bay Area; and Indian Canyon Mutsun Band of Costanoan. No requests for tribal consultation under AB 52 were received.

[2] NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (See Public Resources Code section 21080.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

A.5 Scoping Comments and Issues Addressed

This section describes distribution of the Notice of Preparation (NOP), the scoping process, and comments received during the scoping the 30-day public scoping period.

A.5.1 Notice of Preparation

The State circulated a NOP on October 13, 2021, to inform the public and State and Trustee Responsible Agencies of the proposed Project, including a description of the Project, intent to prepare an EIR, and to solicit comments on the scope of the EIR. The NOP and announcement of a public scoping meeting was mailed to 29 agencies, organizations, property owners, and tribes and transmitted electronically to 18 interested parties. In addition, a newspaper ad was published in the Santa Crus Sentinel on October 13, 2021. The 30-day scoping period began on October 13 and ended on November 12, 2021.

A.5.2 Scoping Meeting

Due to state-mandated COVID-19 social distancing guidelines, a virtual scoping meeting for the Project was held in lieu of an in-person scoping meeting. The remote meeting was held on October 27, 2021, beginning at 5:00 p.m. Information on accessing the meeting was provided in a newspaper notice and in the distributed NOP. The purpose of the scoping meeting and public comment period was to provide an opportunity for input on the scope and content of the EIR. No members of the public or representatives of any government agencies or other organizations joined the scoping meeting, which closed at 5:30 p.m. due to lack of participants.

A.5.3 Scoping Comments

One comment letter from the Native American Heritage Commission was received during the scoping period. The scoping letter discussed cultural resources and tribal consultation requirements, which have been addressed in the Initial Study, EIR Section F, and the Assembly Bill 52 process. No other public comments were received during the 30-day scoping period.

A.6 Public Review and Comment

The Draft EIR is circulated for review and comment by the public and other interested parties, agencies, and organizations for a period of 45 days. The Draft EIR is available for review at:

http://www.aspeneg.com/cal-fire-chalk-mountain-project/

After the 45-day public review period, the Final EIR will be prepared that responds to comments on the Draft EIR submitted during the review period and modifies the Draft EIR as necessary. All comments or questions about the Draft EIR should be sent by mail or email to:

U.S. Mail: Terry Ash, Senior Environmental Planner
c/o Aspen Environmental Group
235 Montgomery Street, Suite 640
San Francisco, CA 94104

Email: chalkmountaintower@aspeneg.com

A.7 Document Organization and Reader's Guide

This EIR was prepared in accordance with State administrative guidelines established to comply with the CEQA. CEQA Guidelines Section 15151 provides the following standards for EIR adequacy:

> *An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness, and a good faith effort at full disclosure.*

This EIR is divided into the following major sections. Figures are provided as necessary in Appendix A, to graphically represent the topic at hand.

Executive Summary: Provides an overview of the project and a summary of the significant impacts identified in the analysis and associated mitigation measures. A summary of the alternatives and environmentally superior alternative is also provided.

Section A (Introduction). Includes introductory information about the proposed Project; background on CEQA and the environmental review process completed to date; agency use of this EIR; information regarding agencies uses of the EIR; as well as the permits and approvals anticipated to be required to implement the proposed Project.

Section B (Project Description). Includes a detailed description of the proposed Project, including an overview, component details, construction logistics and schedule, operation and maintenance requirements, and Applicant Proposed Measures (APMs) to reduce impacts.

Section C (Environmental Analysis). Contains the environmental setting; applicable regulations, policies, and standards; significance criteria; and provides an evaluation of the environmental issues determined to be potentially significant. Each topic is addressed in a separate subsection, as follows:

- Section C.2 Aesthetics
- Section C.3 Biological Resources
- Section C.4 Land Use and Planning

Section D (Project Alternatives). Includes a description of the alternatives development process, screening methodology, summarizes the screening results, identifies the environmentally superior alternative, and presents the No Project Alternative as required under CEQA Guidelines Section 15126.6(e).

Section E (Cumulative Scenario and Cumulative Impact Analysis). Describes the cumulative scenario, identifies any cumulative projects, and evaluates the proposed Project's cumulative effects on Aesthetics, Biological Resources, and Land Use and Planning. This section discusses the cumulative effects of alternatives to the proposed Project.

Section F (Initial Study Conclusions and Other CEQA Requirements). Contains a discussion of growth-inducing effects, significant irreversible environmental changes, significant effects that cannot be avoided, and effects found not to be significant based on the Initial Study and EIR analyses.

Section G (Mitigation Monitoring and Reporting Plan). Describes how to implement mitigation monitoring and reporting.

Section H (Preparers). Lists all persons contributing to the preparation of the EIR.

Section I (References). Includes all references used as a basis of information for the EIR.

Appendices. Technical reports and studies, and other relevant information are included as appendices to support the environmental analyses, such as the Biological Resources Technical Report and the Alternatives Feasibility Analysis.

B. Project Description

B.1 Introduction

The California Department of Forestry and Fire Protection (CAL FIRE) proposes to construct and operate the Chalk Mountain Communication Tower and Facilities Replacement Project (proposed Project or Project) on the site of CAL FIRE's existing Chalk Mountain communication facility in Santa Cruz County. (See Figure B-1, Project Location, in Appendix A). The current 60-foot wood pole supporting communications antennas at the Chalk Mountain site was damaged in the CZU Lightning Complex fire that burned through the Project site and surrounding area in August and September 2020. The antenna pole is no longer in use; currently, a portable trailer-mounted tower is serving as a temporary tower. The Project would install a permanent replacement telecommunication tower, which would support MIMO technology, very high frequency (VHF), and ultra-high frequency (UHF) antennas. Other facilities and equipment to be installed would support the MIMO and communications technology and decrease dependency and overloading of existing communication facilities at the site. Once the Project is constructed, the 35-foot temporary emergency repeater tower and obsolete facilities and equipment would be removed.

B.2 Project Components

The proposed Project components are shown on Figure B-2 (Preliminary Site Plan) in Appendix A, and are described below. The final location of the replacement tower within the Project site would be determined during final engineering. All Project facilities would be set back at least 20 feet from the boundary of the project site, and equipment and facilities no longer needed at the site would be removed.

Under the proposed Project, CAL FIRE would do the following:

- **Replace Telecommunications Tower.** The damaged 60-foot-tall wood pole at the site does not meet minimum height and structural integrity requirements. The minimum requirements are based on the required point-to-point connectivity for the MIMO panel antennas. The new replacement tower would be a new tube braced galvanized steel structure 80 feet in height and would provide the needed structural integrity and strength to support the MIMO panel antennas with the increased tower height providing the needed point-to-point connectivity links (see Section B.2.1, Replacement Tower). The tower and number of antennae would be designed for known needs. Any future additions to the tower (e.g., other agency antennas of similar size) after Division of the State Architect (DSA) certification to the Project tower would be required to follow the proper DSA PL 18-01 procedures to ensure the appropriate tower analysis is done for adding equipment.
- **Replace Vault and Supporting Equipment.** The existing vault at the CAL FIRE Chalk Mountain communication site is inadequate for the proposed Project. It is too small to accommodate the number of agency users and the new MIMO technology equipment to be used. Additionally, the metal vault does not provide for the climate control needs of the new telecommunications equipment. The vault is at risk of failure due to the age of the building and the extreme weather conditions it is subjected to at is location on a mountain top near the ocean. The replacement vault would be larger, with its final square-footage based on how many agencies would be using the tower in addition to CAL FIRE. It would be approximately 13 feet in height, similar to the existing vault (see Section B.2.2, Vault Replacement). It would be either prefabricated or constructed of masonry blocks. Environmental control equipment in the vault would filter dust, mitigate moisture, and control the climate inside the vault. Once the new vault is constructed, the existing metal vault would be removed.

- **Replace Undersized Generator and Fuel System.** The Chalk Mountain facility is solar powered, but has a back-up generator. A new generator would be installed in the replacement vault. The emergency generator fuel system at the Project site is undersized, allowing for only a few days of generator operation. The CAL FIRE Chalk Mountain site can be inaccessible for refueling for weeks at a time during rain events in the winter months. (In recent years, during extended winter power outages or utility connection failures at various CAL FIRE communication sites, expensive helicopter resupply of propane and diesel fuel have been needed to keep generators running and sites operational.) The fuel system would consist of a new propane tank located on site and a fuel line to the generator. The replacement generator and fuel system at Chalk Mountain would allow longer emergency generator use without refueling.
- **Install Solar PV System.** The facility's current power needs are met by solar panels on site and a back-up generator. New solar photovoltaic (PV) arrays would be installed on the Project site to provide electrical power to the new telecommunications equipment (see Section B.2.3, Solar PV System). The final size of the solar PV system would be determined based on need, which would be determined by how many other public safety agencies in addition to CAL FIRE would use the new tower for their telecommunications needs. Battery storage of solar power generated onsite would be housed within the replacement vault.

B.2.1 Replacement Tower

The 60-foot wood pole supporting communications antennas was damaged in the CZU Lightning Complex fire and would be replaced with a new tube braced galvanized steel structure up to 80 feet tall. This would allow for point-to-point communication and provide the needed structural support for antennas on the tower. The new tower would be built to meet seismic standards for essential services and to withstand 100 mile-per-hour winds. It would have a minimum 25-year service life.

Specifically, the new Chalk Mountain communication tower is proposed to be a modified Rohn heavy duty, 3-legged braced structure, with the final design based on site-specific conditions (see Figure B-3, Typical 3-Legged Tube Braced Communications Structure, in Appendix A). If required, guy wires would be installed, similar to the existing wood pole. Antennas would be installed on the tower at the minimum heights required for a clear line of sight to distant mountain peaks hosting other communication towers (approximately 15 to 50 miles away). Equipment in the vault would connect to the antennas through an underground conduit from the vault to the tower.

B.2.2 Vault Replacement

The existing vault would be replaced with a new vault housing VHF, UHF, and MIMO communications equipment and required accessories, solar power storage batteries, a 40 kilowatt (kW) emergency backup generator and fuel system, a multi-purpose alarm, and a heating/venting/cooling system. The final size of the new vault would depend on the number of public agencies using the tower and their equipment needs. This would be determined during final engineering, but it is expected the new vault would be up to approximately 700 square feet and approximately 13 feet tall. The roof of the vault may also support solar PV panels. A concrete pad for a new propane tank would be installed outside of the replacement vault toward the rear of the site (see Figure B-2 in Appendix A).

B.2.3 Solar PV System

A number of solar panels are currently in use at the site. The size of the new solar PV system and energy storage batteries (to be housed in the vault) would be based on the number of future agency occupants

using the tower for telecommunication, but it is expected to be sufficient to generate approximately 55 kilowatts (kW). The solar PV modules would be manufactured offsite and transported to the Project site. The panels would be arranged in strings with a maximum height of 12 feet at their top edge. The number of panels would depend on the solar technology ultimately selected at the time of procurement and the final power needs of the facility. Panels would be electrically connected in panel strings using wiring secured to the panel racking system. It is estimated that the gross area of the solar field would be approximately 650 square feet (see Figure B-2 in Appendix A).

The PV modules would be mounted on steel piles (e.g., cylindrical pipes, H-beams, or similar) driven into the soil using pneumatic techniques, such as a hydraulic rock hammer attachment on the boom of a rubber-tired backhoe excavator. The piles typically would be spaced 10 feet apart and would be less than 10 feet deep. Underground cables would be installed to convey the electricity from the panels to the vault building.

B.3 Project Construction

B.3.1 Construction Schedule

Construction of the proposed Project is estimated to start in 2022, following receipt of applicable permits, completion of final engineering, and procurement of equipment and materials. Construction is expected to span approximately 2 years. This duration takes into consideration delays that may occur due to weather, material and equipment availability, seasonal environmental restrictions, and the need to keep the existing telecommunications facility operational during construction. Construction would primarily occur during daylight Monday through Saturday (6 days a week) between 7:00 a.m. and 6:00 p.m. and would be consistent with the county noise ordinance.

B.3.2 Pre-Construction Activities

Access Road Maintenance and Repair

Site access would be from Highway 1 via Chalks Road, an existing gated dirt road through private and public land where CAL FIRE has access and maintenance agreements in place. The existing access road may require repairs to accommodate construction and after construction. These would be performed as part of standard ongoing CAL FIRE operations and maintenance activities for the existing telecommunications facility.

Staging Area

Project construction would require establishing a temporary staging area within the Project site, to be used as reporting locations for workers, vehicle and equipment parking, and material storage. The staging area may also have construction trailers for construction personnel and inspectors. The materials associated with the construction would be delivered by truck to the site and stored.

Equipment and materials commonly stored at the construction staging area would include, but not be limited to construction vehicles and equipment; portable sanitation facilities; steel bundles; new communication tower sections; soil spoils; construction trailers; concrete batch plant; signage; consumables (such as fuel, filler compound, etc.); waste materials for salvaging, recycling, or disposal; and materials for Best Management Practices (BMPs) (e.g., straw wattles, gravel, silt fences, and potentially water tanks). Fuel and hydraulic fluids may also be located at the construction staging area. Normal construction equipment maintenance and refueling would be conducted at the site.

Establish Work Area

Pre-construction activities at the work site would consist of surveying and staking disturbance limits and the locations of the replacement tower and vault, as well as the staging area. There may be some vegetation clearing associated project setup; however, the project site is level and largely free of vegetation. A dozer or grader would likely be used prepare the work area and clear vegetation as needed. Minor grading to ensure runoff flows in the direction of the natural drainage may be needed and would be designed to prevent ponding and erosion that could cause damage to the new tower footings and other Project improvements. The graded area would be compacted to be capable of supporting heavy vehicular traffic. If needed, temporary security fencing may be installed.

All construction would be within the existing previously disturbed area of the site. The new tower would be located more centrally in the site, north of the wood antenna pole location, to reduce visual impacts.

Means of erecting the new tower would be determined by the construction contractor and could involve use of a helicopter to deliver and position tower sections or delivery of sections by truck and use of a crane on site for installation

If a crane is used for erection of the new tower, then a crane pad would be required that would occupy an area of approximately 50 feet by 50 feet and would be located adjacent to the new tower within the laydown/work area. The actual size of other work areas at the project facilities to be replaced would depend on the construction activity but would occur only within the State land on the Project site.

B.3.3 Construction Activities

Minimal grading would be required for the proposed Project; however, approximately 25 cubic yards of spoils from foundation excavations would be used onsite as fill. At the end of construction, less than 1,000 square feet of new impervious surfaces would be created by the footprint of the new vault, tower foundation, and fuel tank pad.

New Tower and Vault Construction

The new tower foundation would be designed based on the final tower design. Depending on final geotechnical engineering, the tower foundation may need to be rock anchored up to 20 feet deep or more for stability. Spoils from foundation excavations would be placed within the Project site.

After final positioning and orientation of the tower is verified, the foundation footings would be excavated or drilled. Anchor bolts may be drilled into bedrock, if necessary, to properly anchor the foundation. Steel-reinforced rebar cages would be assembled on the Project site and installed in the foundation excavation, followed by a concrete pour. Concrete would be either delivered to the site or produced at a temporary on-site batch plant.

Once the foundation is complete, the new tower would be erected. A crane (or helicopter) would be used to set the steel tower onto the foundation. The tower may be assembled into a complete structure at the staging yard or erected in pieces. When the new tower is in place, the structure would be bolted to the foundation and, if erected in pieces, tower sections would be installed and bolted. Sections may also be spot welded together for additional stability. Final engineering would determine if guy wires were needed.

The new vault would be either a precast building or constructed using concrete masonry units (CMU) (i.e., cinder block), depending on final engineering. It would be located just south of the tower on a poured concrete slab foundation.

Solar Array Construction

The solar PV system installation may require limited earthwork, including grading, fill, compaction, and erosion control. This would be followed by installation of the PV supports and PV panels and their associated electrical equipment. Construction of the PV arrays would include installation of support beams, module racking assemblies, PV modules, inverters, transformers, grounding, and buried conduit for electrical cables. System installation would begin with installation of the panel mounting and steel pier support structures. The exact design would be finalized pending specific soil conditions. Supporting structures would be installed by pneumatically driven piles or bored holes. This activity would be followed by panel installation and electrical work. Small concrete pads would be required for the switchgear, as well as inverter(s) and transformer(s), if necessary to convert the energy generated from direct current (DC) to alternating current (AC) for equipment usage. Concrete would be delivered from offsite or produced at an onsite concrete batch plant.

Old Pole and Vault Removal

Once the communications equipment has been installed on the new tower and connected to the equipment in the new vault, the temporary portable tower, old wood pole, and existing vault would be removed. The above-ground portions of the existing structures would be dismantled and removed from the site. Footings are typically removed to a minimum of 12 inches below ground surface. Any holes left from removing the existing foundations would be backfilled with spoils from the excavation for the new tower and other grading activities. Removed infrastructure would be dismantled for recycling or disposal. Foundations/footings material would be crushed by mechanical means such as a pneumatic hammer at the site and trucked out or reused onsite. All material not reused would be removed and delivered to an authorized facility for recycling or disposal.

B.3.4 Restoration Activities

Upon completion of construction and testing of Project components, all disturbed work areas (including the access road) would be restored to prior conditions. Equipment and facilities no longer needed at the site (wood pole, old vault, old equipment, portable tower) would be removed. Any needed repair of the access road would be undertaken by CAL FIRE as part of its routine road maintenance.

B.3.5 Construction Workforce and Equipment

An estimated maximum of 20 personnel would be required for construction activities on any given day, with most days requiring fewer workers. Table B-1 presents the typical construction equipment that may be used during construction.

Table B-1. Construction Equipment to be Utilized

	Activity			
Equipment	**Grading**	**Tower Replacement**	**Vault Replacement**	**Site Restoration**
Water Truck	**X**	**X**	**X**	**X**
Various Small Crew Vehicles	**X**	**X**	**X**	**X**
Backhoe Loader	**X**	**X**		**X**
Loader	**X**	**X**		
Bulldozer	**X**			
Dump Truck	**X**			

Table B-1. Construction Equipment to be Utilized

	Activity			
Equipment	**Grading**	**Tower Replacement**	**Vault Replacement**	**Site Restoration**
Motor Grader	X			
Rock Hammer	X			
Soil Vibratory Compactor	X	X	X	
Jackhammer		X	X	
Auger Truck		X	X	
Crane		X	X	
Excavator		X	X	
Concrete Trucks		X	X	
Compressor		X		
All Terrain Forklift		X		
Man Lifts		X		
Helicopter (if used)		X		
Various restoration equipment, including hydroseeder				X

B.3.6 Water and Sanitation Requirements

Water would be used as needed for dust control during construction. Water would be obtained from offsite water purveyors and trucked to the site. During construction, portable restroom facilities would be onsite and would be serviced by licensed providers. During operation, minimal water would be required.

B.4 Project Operation and Maintenance

Ongoing operations and maintenance (O&M) activities are necessary to ensure reliable service, as well as safety of the general public. The Project would not generate new or additional maintenance requirements or the need for additional personnel. O&M activities for the communication facility would be performed by existing CAL FIRE personnel and would be similar to those occurring under existing conditions, which include access road maintenance, inspections, tower checks, and equipment servicing and replacement as needed.

B.5 Applicant Proposed Measures

As part of the Project, CAL FIRE (i.e., the Applicant) proposes to implement measures to ensure the Project would occur with minimal environmental impacts and in a manner consistent with applicable rules and regulations. These measures would be implemented during the design, construction, and operation of the Project.

The Applicant Proposed Measures (APMs) listed in Table B-2 are considered part of the Project and are considered in the evaluation of environmental impacts (see Section C, Environmental Analysis). Project approval would be based upon CAL FIRE adhering to the Project as described in this document, including this project description and the APMs, as well as any mitigation measures that may be imposed as conditions of approval.

Table B-2. List of Applicant Proposed Measures

Biological Resources

APM B-1. Personnel Environmental Awareness Training. An agency-approved biologist shall prepare an environmental-education program to be presented to all personnel assigned to the Project. The program shall be presented in-person immediately prior to the start of construction, and as crew members are added to the project, a video presentation may be used in lieu of an in-person presentation. Participants shall be required to acknowledge in writing that they have participated and understand the content of the training. The program shall describe sensitive resources and associated APMs, mitigation measures, applicable permits and regulatory requirements, and any resource agency requirements.

APM B-2. Pre-construction Surveys and Construction Monitoring. A qualified biologist shall be present for all Project activities that may impact special-status species habitat or jurisdictional areas. This is likely to include vegetation removal, site grading, and any other ground-disturbing activities.

The qualified biologist shall arrive early on the first workday morning of each week or the first day after a construction hiatus of more than two days and conduct a pre-activity survey to check under and around all vehicles or heavy equipment that shall be moved during the day, to check under and around and inside materials at staging areas, to check trenches, survey for active nests (February 15 through August 15), and to otherwise ensure that no special-status animals could be harmed when workers arrive. The qualified biologist shall also survey the access road to the Project site on the morning of the first day of Project construction and equipment mobilization. If a special-status animal is found, visible markers such as pinflags or flagging shall be used to show avoidance areas and workers shall be informed of prohibited activities near the animal until it moves away on its own. As part of Environmental Awareness Training (see APM B-1), workers shall be instructed to check under and around vehicles, equipment, and materials, including inside of piping, prior to moving at any times to ensure that no wildlife or nests are present. If wildlife or nests are identified, the qualified biologist shall be notified immediately. As determined by the qualified biologist, work may need to be halted to ensure animal safety. However, it is assumed that during nesting season, any non-special status birds establishing nests in the vicinity during the construction week will be habituated to ongoing construction activities. To reduce potential impacts to California red-legged frog, the qualified biologist shall install avoidance fencing along both sides of the access road within 100 feet of the crossing of Cascade Creek. The qualified biologist shall inspect the fencing regularly and make any necessary repairs.

For each site visit, the qualified biologist shall create and complete a monitoring form describing activities and any relevant violations, incidents, or sightings, including steps taken to resolve violations or problems. These forms shall be compiled into a final report to show compliance with regulations. The qualified biologist shall also ensure the following:

- Trenches or holes left unfilled overnight shall be entirely covered and secured to prevent wildlife from falling in or becoming trapped. If trenches or holes cannot be covered, escape ramps shall be provided allowing animals to escape.
- Staging and parking areas shall be sited in previously disturbed areas to avoid natural areas, sensitive habitats, and jurisdictional areas.
- Small-mammal burrows, debris piles, logs, boards, rock piles, and dense vegetation shall be avoided to the maximum extent possible. Burrows that must be destroyed for construction shall be hand excavated or mechanically excavated under the supervision of an agency-approved biologist.
- There shall be no food-related trash, or any other trash, left on site at the end of each workday. This includes food wrappers, drink cans or bottles, bread crusts, orange or banana peels, etc. Human trash, especially food-related trash, attracts predators.
- No one shall capture and/or relocate California red-legged frogs or other listed species within the proposed Project site or along the access road.
- All sightings of special-status species shall be reported to the California Natural Diversity Database. Observations of listed species shall be reported directly to the USFWS and CDFW, as applicable.

Table B-2. List of Applicant Proposed Measures

APM B-3. Special-status Bird Avoidance and Minimization. To avoid or minimize potential impacts to marbled murrelet, golden eagle, long-eared owl, and other migratory birds from construction, during the nesting season (February 15 through August 15), a nesting bird survey shall be conducted by a qualified avian biologist prior to initiating construction activities. No more than 10 days prior to project initiation, a survey shall be conducted by a qualified avian biologist in the area within 500 feet of the project footprint. The survey area shall be based on the full project footprint, including the active construction site, staging areas, and equipment. Throughout the nesting season, weekly nesting sweeps shall also be conducted by the qualified biologist. No restrictions would be necessary for activities that take place outside the nesting season.

If an active nest is found, a visible no-disturbance buffer zone shall be established around it. Currently accepted CDFW and USFWS nesting-bird buffer distances are 250 feet for passerines and 500 feet for raptors. A qualified avian biologist shall be authorized to reduce these buffers to ensure that the nesting birds are not impacted but also to allow construction to proceed, when feasible, and shall notify CDFW and USFWS of all buffer reductions. For non-special-status bird species, it is assumed that the bird has habituated to the work activity and no buffer would be required, but efforts will be made to minimize noise and vibration, and no direct disturbance of the nest shall occur.

No project-related activities shall take place withing the buffer zones, with the exception of vehicle passage (no stopping, idling, or other noise generation allowed), or until the qualified biologist determines that the nest is no longer active. For project-related activities taking place outside the nesting season, no precautions for nesting birds are necessary.

APM B-4. Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas. In addition to SWPPP requirements, the following Best Management Practices (BMPs) shall be implemented during construction to prevent potential impacts to drainages, waters, and wetlands:

- Vehicles and equipment shall not operate in ponded or flowing water.
- Water containing mud, silt, or other pollutants from grading or other activities shall be prevented from entering drainages.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances resulting from Project-related activities and that could be hazardous to vegetation or wildlife resources shall not be allowed to contaminate soil or enter drainages.
- No equipment maintenance or refueling shall occur outside of developed areas or within 150 feet of any streambeds or drainages.
- No vehicle or equipment shall be parked or idle within 100 feet of Cascade Creek.
- Any erosion control material used to prevent erosion shall be certified weed free and shall not contain monofilament plastic.

Cultural and Tribal Cultural Resources

APM CR-1. **Train Construction Personnel.** Prior to the initiation of construction, all construction personnel shall be trained, by a qualified archaeologist, regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. This training may be in person or video and may be combined with APM B-1. Participants shall be required to acknowledge in writing that they have participated and understand the content of the training. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits. The State shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources and anticipated procedures to treat unexpected discoveries.

Table B-2. List of Applicant Proposed Measures

APM CR-2. **Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.** If previously unidentified cultural resources are identified during construction activities, construction work within 50 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the State, the State Historic Preservation Officer, any interested Tribes, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under California Environmental Quality Act Section 21083.2, or are determined to be tribal cultural resource as defined in Section 21074. If previously unidentified cultural resources or tribal cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with the State, SHPO, any interested Tribes, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.

APM CR-3. **Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. If the remains are located on federal lands, federal land managers, federal law enforcement, and the federal archaeologist must be informed as well, due to complementary jurisdiction issues. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours from the time they are given access to the site to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours from the time they are given access to the site, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

Hazards and Hazardous Materials

APM HAZ-1. **Prepare and Implement a Hazardous Materials and Waste Management Plan**. Prior to approval of the final construction plans for the proposed Project, an existing CAL FIRE–approved hazardous materials and waste management plan, or if no such plan is in place, a project-specific Hazardous Materials and Waste Management Plan for the construction phase of the proposed Project shall be prepared and submitted to the CAL FIRE for approval. The Plan shall be prepared to ensure compliance with all applicable federal, State, and local regulations. The Hazardous Materials and Waste Management Plan shall reduce or avoid the use of potentially hazardous materials for the purposes of worker safety; protection from soil, groundwater, and surface water contamination; and proper disposal of hazardous materials. The plan shall include the following information related to hazardous materials and waste, as applicable:

- A list of the hazardous materials that shall be present on site and in the construction yard during construction, including information regarding their storage, use, and transportation.

Table B-2. List of Applicant Proposed Measures

- Any secondary containment and countermeasures that shall be required for onsite and construction yard hazardous materials, as well as the required responses for different quantities of potential spills.
- A list of spill response materials and the locations of such materials at the proposed Project site and in the construction yard during construction.
- Procedure for Fueling and Maintenance of Construction Vehicles and Equipment: Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. The Plan shall include the following procedures:
  - Onsite refueling of construction equipment shall follow specified procedures to prevent leaks or spills. Procedures shall require refueling be located a minimum of 150 feet from a stream channel and the use of spill mats, drop cloths made of plastic, drip pans, or trays to be placed under refueling areas to ensure that fuels do not come into contact with the ground. Spill cleanup materials shall be kept readily available on the refueling vehicles.
  - Drip pans or other collection devices shall be placed under equipment, such as motors, pumps, generators, and welders, during operation and at night to capture drips or spills. Equipment shall be inspected and maintained daily for potential leakage or failures.
- A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials;
- A description of the waste-specific management and disposal procedures that shall be conducted for any hazardous materials that will be used or are discovered during construction of the proposed Project; and
- A project specific Worker Environmental Awareness Program (WEAP) to be conducted prior to construction to train all site personnel of the Hazardous Materials and Waste Management Plan requirements prior to the commencement of work. This may be combined with APM B-1.

APM HAZ-2. **Prepare and Implement a Hazardous Materials Management Business Plan.** Prior to operations of project propane storage and generator facilities, an existing CAL FIRE–approved hazardous materials management plan, or if no such plan is in place, a project-specific Hazardous Materials Business Plan for the operation phase of the proposed Project shall be prepared and submitted to the CAL FIRE for approval prior. The Plan shall be prepared to ensure compliance with State and federal regulations contained within the Resource Conservation and Recovery Act policies. The Business Plan shall specify hazardous liquid and other hazardous waste handling procedures for personnel responsible for handling or hauling hazardous materials and wastes to/from the Project site.

Noise

APM N-1. Reduce Construction Noise. To avoid creating a substantial temporary noise increase for receptors within the Big Basin Redwood State Park and the road that provides access to the site, construction contractors shall:

- Limit construction activities and construction traffic to daytime hours.
- Heavy equipment operation and use of impact tools, such as a hydraulic rock hammer or jackhammer, shall be restricted to weekdays (Monday through Friday).
- Haul truck engines and other engines powering fixed or mobile construction equipment shall be equipped with adequate mufflers.
- Haul trucks shall be operated in accordance with posted speed limits.
- Truck engine exhaust brake use shall be limited to emergencies.

C. Environmental Analysis

C.1 Introduction to Environmental Analysis

This section of the EIR examines the environmental consequences associated with the proposed Project. Based on the results of the Initial Study, the environmental disciplines examined in this focused EIR are:

- Section C.2 Aesthetics
- Section C.3 Biological Resources
- Section C.4 Land Use and Planning

C.1.1 Organization of Each Subsection

For each of these three disciplines, the EIR provides:

- An overview of the project's setting with regard to the discipline's parameters
- A summary of regulations, policies, and standards that may apply
- If applicable, particular applicant proposed measures to reduce impacts
- A discussion of the environmental impacts of the project, including:
  - Approach to impact analysis
  - Impact significance criteria
  - Discussion of and conclusions regarding impacts

The analysis of impacts associated with each environmental discipline provides regulatory agencies, lead agency's decision makers, and the general public sufficient information to understand and meaningfully consider the severity of environmental impacts of the proposed Project.

Alternatives to the proposed Project, including the No Project Alternative, are described and evaluated in Section D. Cumulative impacts are presented in Section E, and other CEQA analysis requirements are addressed in Section G.

C.1.2 CEQA Requirements

Under CEQA, impacts are evaluated using significance thresholds or standards. These thresholds derive from the CEQA Guidelines Appendix G checklist, which provides sample questions that may be tailored to satisfy individual agency needs and project circumstances. For each resource defined in the checklist, a determination is made that there is (1) no impact, (2) a less than significant impact, (3) a less than significant impact with mitigation incorporated, or (4) a significant and unavoidable impact.

Significant impacts under CEQA require the public agency that is approving, funding, or carrying out the project to consider mitigation, where feasible, to avoid or reduce the impacts to less than significant levels. CEQA Guidelines Sections 15126.2(a–c), 15358, and 15382 further define and describe significant effects.

For the purpose of this document, and pursuant to CEQA Guidelines Section 15125(a), the environmental setting used for the impact analysis reflects conditions in the vicinity of the project at the time of issuance of the Notice of Preparation (October 13, 2021). However, the Project site and vicinity burned in the CZU Lightning Complex fire in August 2020; therefore, reference is made to the environmental setting prior to the wildfire to provide context. The EIR evaluates the environmental consequences and potential impacts that would occur from implementation of the proposed Project or alternatives. Under CEQA, the impacts identified are compared with specific significance criteria or thresholds and are classified according to significance categories listed in each environmental discipline.

While the criteria for determining significant impacts are unique to each environmental discipline, the classification of the impacts was uniformly applied in accordance with the following definitions:

- Significant impact that cannot be mitigated to a level that is less than significant (unavoidable)
- Significant impact but it can be mitigated to a level that is less than significant
- Less than significant impact
- No impact (or beneficial impact)

C.1.3 Impact Analysis

The analysis completed for each environmental discipline follows the CEQA requirements defined above.

C.1.3.1 Significance Criteria

Thresholds of significance, also referred to as significance criteria, are used to determine when a project will result in a significant impact on the environment. Thresholds of significance are, "identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (CEQA Guidelines Section 15064.7(a).) This EIR uses the sample questions provided in CEQA Guidelines, Appendix G, as significance criteria.

C.1.3.2 Applicant Proposed Measures

The Applicant has proposed a number of measures and procedures to avoid or reduce impacts, which are referred to as Applicant Proposed Measures (APMs). APMs are considered part of the proposed Project and are provided in Section B.6 Applicant Proposed Measures, in Table B-2. The APMs are considered to be part of the proposed Project in the assessment of impacts and, therefore, are not identified as separate mitigation measures. However, implementation of each APM would be monitored by the DGS to ensure the APM is effective in reducing the impact as intended.

C.1.3.3 Mitigation Measures

Significant impacts under CEQA require the public agency that is approving, funding, or carrying out the project to consider mitigation, where feasible, to avoid or reduce the impacts to less than significant levels. In the case of the proposed Project, which includes the APMs identified in Section B.6, no impacts were identified as being significant and requiring mitigation. Therefore, no separate mitigation measures are recommended.

C.1.4 Other CEQA Requirements

Section F of this EIR presents the analysis required by CEQA for the following topics:

- Growth-inducing effects
- Significant and irreversible and irretrievable changes
- Significant environmental effects that cannot be avoided if the proposed Project is implemented

Section F also includes a summary of the effects found in the Initial Study to not be significant for 17 resource topics. Therefore, these were not considered further in the EIR. These resources are:

- Agriculture & Forestry Resources
- Air Quality
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

C.2 Aesthetics

This section addresses Aesthetics as it applies to the proposed Project. The discussion provides and overview of the environmental setting (Section C.2.1) and applicable regulations, policies, and standards (Section C.2.2), followed by identification of applicable impact significance criteria (Section C.2.3). The section then identifies the environmental impacts of the proposed Project.

Aesthetic analysis is a systematic process to logically assess visible *change* in the existing physical environment resulting from Project implementation and the anticipated viewer *response* to that change. Aesthetics or visual resources are terms used interchangeably throughout this section; they refer to visual considerations in the perceived physical environment. Landforms, water, vegetation patterns, and built structures are among the landscape features that define an area's visual character.

For purposes of this analysis, the study area is defined as the land that would be occupied by the Project as well as the locations from which the Project would be seen, also referred to as the project viewshed.

C.2.1 Environmental Setting

C.2.1.1 Regional and Site Setting

The proposed Project site is at elevation 1,585 feet and hosts an existing CAL FIRE telecommunications facility on Big Basin Redwoods State Park land in northwestern Santa Cruz County. The site is approximately 20 miles north of the City of Santa Cruz and 8 miles south of the community of Pescadero in San Mateo County (see Figure B-1, Location Map). The existing facility where the proposed Project would be implemented is situated along a ridge, approximately 0.75 miles west of the actual Chalk Mountain and approximately 3 miles east of the Pacific Ocean. At its nearest, Highway 1 (Cabrillo Highway) is approximately 1.7 miles southwest of the site. The western boundary of the 5,900-acre West Waddell Creek State Wilderness within Big Basin Redwoods State Park is 0.75 miles east of the site. The area surrounding the site is undeveloped steep terrain descending down from the site location. Originally surrounded by mature forest vegetation, the site and vicinity were burned by the 2020 CZU Lightning Complex Fire. This wildfire event substantially altered the viewscape, which is expected to reforest over an extended recovery period. (See Figures C.3-1a and C.3-1b, Views of the Project Vicinity.) (All figures are presented in Appendix A.)

The existing structure for supporting antennas on the site is a 60-foot wooden pole; however, it was damaged in the fire and no longer is in use, although it remains erect and guy-wired on the site. A 35-foot mobile tower (emergency repeater) has been positioned onsite to temporarily replace the pole's function. The mobile tower and the existing wooden pole, vault, foundations, and other elements no longer needed for the communication facility will be removed/demolished. The replacement tower would be a new 80-foot-high lattice steel tower, 20 feet taller than the existing wooden pole. In cross-section, the lattice tower would be triangular in shape and support antennas for CAL FIRE and other public agencies. (See Figure B-3, Typical 3-Legged Tube Braced Communications Structure, and Figure C.2-2, Preliminary Tower Elevations with Antennas.) At its base, the tower would be 4 feet 3 inches on each of its three sides and set in a concrete foundation nearly flush to ground level. The tower would taper, with the top of the tower measuring 2 feet 4 inches on each side. Vertical antennas would be attached at various heights along the body of the tower to support communication needs of CAL FIRE and other public agencies. The new tower would be erected in the interior of the site, approximately 60 feet north of the existing wood pole location and 120 feet north of the top of slope, which defines the edge of the site. The existing wood pole is solid and dark in color, similar in appearance to a tall telephone or electric power distribution pole. The lattice tower replacement would be comprised of galvanized steel members assembled in a lattice or zig-zag

pattern and would be lighter in color than the wood pole. As with the existing wood pole, guy wires would provide additional seismic and wind stability to the new tower, if determined to be needed in final engineering. The existing equipment building (vault) is approximately 10 x 20 feet and 13 feet high and is situated approximately 20 feet from the top of slope. The new replacement vault would be approximately 30 x 22 feet and 13 feet high. It would be set back approximately 50 feet from the top of slope. An underground conduit would connect lines from tower antennas to equipment inside the new building. Sets of solar panels would be ground mounted approximately 30 feet west of the building and tower and 10 feet or more from the top of slope. Panels may also be installed on the top of the building. A propane tank for an emergency generator would be installed on a pad at the rear (northside) of the site.

C.2.1.2 Environmental Conditions

The communications site is level and forms what is essentially a cul-de-sac extending south from the Chalks Road, which passes to the north of the site. (See Figure C.2-2, Aerial View of Project Site.)

Highway 1 in the Project vicinity is eligible for designation as a State Scenic Highway and is designated by Santa Cruz and San Mateo Counties as scenic. The Chalks Road site access route from Cascade Ranch/ Highway 1 follows topographic contours as it winds up to and past the Project site, continuing east further into the Park. It is sufficiently wide for one-way travel by vehicles, including trucks, with occasional turnouts and wide places to allow passing. The dirt road is maintained by CAL FIRE to remove any ruts, slides, tree falls, and washouts that may occur.

Originally surrounded by mature forest vegetation, the site and vicinity were burned by the 2020 CZU Lightning Complex Fire. The result is that the current views toward the site are dominated by vertical dead tree trunks on the mountain slopes. The wildfire substantially altered the viewscape, which is expected to reforest over an extended recovery period. (See Figures C.3-1a and C.3-1b, Views of the Project Vicinity.)

Although distant from Highway 1, the existing wood pole and vault are visible from the highway, as is the barren rock on the slopes descending from the site. The site is also visible from a Park overlook 0.75 miles to the east, at the edge of West Waddell Creek State Wilderness. (See Figure C-2.3, View from Chalk Mountain Overlook.)

C.2.2 Applicable Regulations, Policies, and Standards

C.2.2.1 Federal Regulations, Policies and Standards

There are no federal regulations, policies, or standards applicable to the visual impact of the proposed Project.

C.2.2.2 State Regulations, Policies and Standards

Big Basin Redwood State Park General Plan. The Big Basin Redwoods State Park General Plan puts forth area-specific guidelines. The proposed Project area would be within or in close proximity to the Wilderness and Backcountry areas. The aesthetic guidelines/policies applicable to this Project include (CA Parks, 2013):

> ***Aesthetics Goal****: Identify and protect positive aesthetic values to preserve the fundamental character of the park for future generations.*
>
> - ***Aesthetics Guidelines Aesthetics 1****: Preserve and enhance positive aesthetic resources and remove or screen elements that have negative aesthetic qualities to preserve the park's scenic and recreation values.*

California Department of Transportation: Scenic Highway Program. The Scenic Highway Program in the State of California is aimed at the protection and long-term preservation of highway corridors of scenic value to ensure the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a State scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation for scenic highway designation approval, and receives the designation. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for them to become designated. As previously discussed, the proposed Project site is located 1.7 miles east of Highway 1, which is eligible for designation as a State scenic route but has not been officially designated (Caltrans, 2021)

C.2.2.3 Local Regulations, Policies, and Standards

As discussed in Section C.4 Land Use and Planning (subsection C.4.2.3), the Project is not subject to local ordinances and regulations but must obtain a Coastal Development Permit, issued by the county. Under local zoning, a freestanding wireless communication tower up to 78 feet in height would be allowed at the project site. Similar towers in other zoning districts could be allowed up to 90 feet in height.

Santa Cruz County General Plan/Local Coastal Program. Land use in the County is governed by the Santa Cruz County General Plan/Local Coastal Program (LCP) Land Use Plan in the Land Use Element and the Parks, Recreation, and Public Facilities Element (Santa Cruz County, 1994). LCP Implementation Plan sections that apply to the proposed Project include the following:

- ***Section 13.10.510(D)(2). Height Exceptions****. Chimneys, church spires and steeples, water tanks, cooling towers, elevators, flagpoles, monuments, noncommercial radio and television antennas, fire towers, and similar structures not used for human habitation and not covering more than 10 percent of the ground area covered by the structure may be erected to a height of not more than 25 feet above the height limit allowed in any district. … Noncommercial radio and television towers or freestanding antennas may exceed the height limits above by 25 feet with the approval of a Level IV use approval.*
- *Section 13.10.660(E). Exemptions. The following types of wireless communication facilities, devices, and activities that are exempt from the provision of SCCC 13.10.660 through 13.10.668 include the following: "wireless communication facilities and/or components of such facilities to be used solely for public safety purposes, installed and operation by authorized public safety agencies (e.g., County 911 emergency services, police, sheriff, and/or fire departments, first responder medical services, hospitals, etc.). However, "if the facility, device and/or activities requires a coastal development permit" Sections 13.10.663(A)(1) through (A)(8) shall continue to apply.*
- *Section 13.10.663. General development/performance standards for wireless communication facilities.*
  - *(A) Site Location. The following criteria shall govern appropriate locations and designs for wireless communication facilities, including dish antennas and multi-channel, multi-point distribution services (MMDS)/wireless cable antennas, and may require the applicant to select an alternative site other than the site shown on an initial permit application for a wireless facility:*
    - *(1) Visual Character of Site. Site location and development of wireless communication facilities shall preserve the visual character, native vegetation and aesthetic values of the parcel on which such facilities are proposed, the surrounding parcels and road right-of-way, and the surrounding land uses to the greatest extent that is technically feasible, and shall minimize visual impacts on surrounding land and land uses to the greatest extent feasible. Facilities shall be integrated to the maximum extent feasible to the existing characteristics of the site, and every*

effort shall be made to avoid, or minimize to the maximum extent feasible, visibility of a wireless communication facility within significant public viewsheds. Utilization of camouflaging and/or stealth techniques shall be encouraged where appropriate. Support facilities shall be integrated to the existing characteristics of the site, so as to minimize visual impact. …

(3) Ridgeline Visual Impacts. Wireless communication facilities proposed for visually prominent ridgeline, hillside or hilltop locations shall be sited and designed to be as visually unobtrusive as possible. Consistent with General Plan/LCP Policy 8.6.6, wireless communication facilities should be sited so the top of the proposed tower/facilities is below any ridgeline when viewed from public roads in the vicinity. If the tower must extend above a ridgeline the applicant must camouflage the tower by utilizing stealth techniques and hiding it among surrounding vegetation.

(7) Coastal Zone Considerations. New wireless communication facilities in any portion of the Coastal Zone shall be consistent with applicable policies of the County Local Coastal Program (LCP) and the California Coastal Act. …

(8) Consistency with Other County Land Use Regulations. All proposed wireless communication facilities shall comply with the policies of the County General Plan/Local Coastal Plan and all applicable development standards for the zoning district in which the facility is to locations, particularly policies for protection of visual resources (i.e., General Plan/LCP Section 5.10). Public vistas from scenic roads, as designated in the General Plan Section 5.10.10, shall be afforded the highest level of protection.

Other General Plan/LCP policies applicable to this proposed Project include:

- ***5.10.2 Development Within Visual Resource Areas (LCP).*** *Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fields, wooded forests. open meadows, and mountain hillside views. Require projects to be evaluated against the context of their unique environment and regulate structure height, setbacks and design to protect these resources consistent with the objectives and policies of this section. Require discretionary review for all development within the visual resource area of Highway One, outside of the Urban/Rural boundary, as designated on the GP/LCP Visual Resources Map and apply the design criteria of Section 13.20.130 of the County's zoning ordinance to such development.*
- ***5.10.3 Protection of Public Vistas (LCP).*** *Protect significant public vistas as described in policy 5.10.2 from all publicly used roads and vista points by minimizing disruption of landform and aesthetic character caused by grading operations, timber harvests, utility wires and poles, signs, inappropriate landscaping and structure design. Provide necessary landscaping to screen development which is unavoidably sited within these vistas.*
- ***5.10.10 Designation of Scenic Roads (LCP).*** *The following roads and highways are valued for their vistas. The public vistas from these roads shall be afforded the highest level of protection.*
  - *State Highways Route 1 – from San Mateo County to Monterey County*

C.2.3 Environmental Impacts of the Proposed Project

C.2.3.1 Approach to Data Collection

The visual resources technical approach used the Visual Sensitivity–Visual Change (VS-VC) method. Under the VS-VC method, the Project was evaluated from public roads and vantage points to develop an overall assessment of the existing landscape character, visual quality, and viewing conditions. Then, at representative key observation points (KOPs) the existing landscape was evaluated (for visual quality, viewer concern, and viewer exposure) and photographed.

KOPs are representative, stationary viewing locations selected for the purpose of analyzing and describing existing visual resources in the Project study area and conducting impact assessments. KOPs were selected to be representative of typical public viewing locations from which the Project would be seen. Two KOPs were selected to characterize the local setting of the proposed Project. Each of the KOPs is shown on the KOP map presented as Figure C.2-4, Key Observation Point Locations.

The factors considered in determining adverse effects on visual resources included: (1) scenic quality of the study area landscape; (2) available visual access and visibility, frequency, and duration that the landscape is viewed; (3) viewing conditions (distance, angle of observation, relative size or scale, spatial relationships, motion, light conditions, seasonal variability, and atmospheric conditions) and the degree to which the Project components would dominate the view of the observer; (4) resulting contrast (form, line, color, and texture) of the Project facilities with existing landscape characteristics; (5) the extent to which Project features or activities would block views of higher value landscape features; and (6) the level of public interest in the existing landscape characteristics and concern over potential changes.

Visual Quality is a measure of the overall impression or appeal of an area as determined by particular landscape characteristics such as landforms, rockforms, water features, and vegetation patterns, as well as associated public values. The attributes of variety, vividness, coherence, uniqueness, harmony, and pattern contribute to visual quality classifications of indistinctive (Low), common (Moderate), and distinctive (High). Visual quality is studied as a point of reference to assess whether a given project would appear compatible with the established features of the setting or would contrast noticeably and unfavorably with them.

Viewer Concern addresses the level of interest or concern of viewers regarding an area's visual resources (rated from Low to High) and is closely associated with viewers' expectations for the area. Viewer concern reflects the importance placed on a given landscape based on the human perceptions of the intrinsic beauty of the existing landforms, rockforms, water features, vegetation patterns, and even cultural features.

Viewer Exposure describes the degree to which viewers are exposed to views of the landscape (rated from Low to High). Viewer exposure considers landscape visibility (the ability to see the landscape), distance zones (proximity of viewers to the subject landscape; Foreground, Middleground, and Background), number of viewers (Low to High), and the duration of view (Brief to Extended).

Landscape visibility can be a function of several interconnected considerations including proximity to a viewing point, degree of discernible detail, seasonal variations (rain, fog, and haze can obscure landscapes), time of day, and/or presence or absence of screening features such as landforms, vegetation, and/or built structures. Even though a landscape may have highly scenic qualities, it may be remote, receiving relatively few visitors and, thus, has a lower degree of viewer exposure. Conversely, a subject landscape or project may be situated in relatively close proximity to a major road or highway used by a substantial number of motorists and yet still result in relatively low viewer exposure if the rate of travel speed is high and viewing times are brief, or if the landscape is partially screened by vegetation or other features. Often, it is the subject area's proximity to viewers, or distance zone, that is of particular importance in determining viewer exposure. Landscapes are generally subdivided into three or four distance zones based on relative visibility from travel routes or observation points. As noted above, distance zones typically include Foreground, Middleground, and Background. The actual number of zones and distance assigned to each zone is dependent on the existing terrain characteristics and is often determined on a project-by-project basis.

Overall Visual Sensitivity is a concluding assessment of an existing landscape's susceptibility to an adverse visual outcome (rated from Low to High). A landscape with a high degree of visual sensitivity is able to

accommodate only a low degree of adverse visual change without resulting in a substantial visual effect. A landscape with a low degree of visual sensitivity is able to accommodate a high degree of adverse visual change before exhibiting a substantial visual effect. Overall visual sensitivity is derived from a comparison of existing visual quality, viewer concern, and viewer exposure.

Potential overall **visual change** was determined at each representative KOP based on an assessment of Project-induced visual contrast, project dominance, and view blockage (or view impairment). Each of the key factors contributing to visual change is discussed below.

Visual Contrast describes the degree to which a project's visual characteristics or elements (consisting of form, line, color, and texture) differ from the same visual elements in the existing landscape. The degree of contrast ranges from Low to High. The presence of forms, lines, colors, and textures in the landscape similar to those of a project's indicates a landscape more capable of accepting those project characteristics than a landscape where those elements are absent.

Project Dominance is a measure of a feature's apparent size relative to other visible landscape features and the total field of view. A feature's dominance is affected by its relative location in the field of view and the distance between the viewer and the feature. The level of dominance ranges from Subordinate to Dominant.

View Blockage or ***Impairment*** describes the extent to which any previously visible landscape features are blocked from view, or views of those features are impaired as a result of a project's scale and/or position. Blockage of higher-quality landscape features by lower-quality project features causes adverse visual impacts. The degree of view blockage ranges from None to High. (Note: because of its location, this factor is not relevant for the proposed Project, as it would not block views)

Overall Visual Change is a concluding assessment as to the degree of change that would be caused by a project. Overall visual change is derived by combining the three equally weighted factors of visual contrast, project dominance, and view blockage and ranges from Low to High.

Overall visual change is then considered within the context of the determined overall visual sensitivity of the existing landscape and viewing dynamics, and an impact significance conclusion is made. Table C.2-1 illustrates the general interrelationship between visual sensitivity and visual change and is used as a consistency check between individual KOP evaluations. Actual parameter determinations (e.g., visual contrast, project dominance, and view blockage) are based on analyst experience and site-specific circumstances.

While the interrelationships presented in Table C.2-1 are intended as guidance only, it is reasonable to conclude that lower visual sensitivity ratings paired with lower visual change ratings will generally correlate with lower degrees of impact significance when viewed in the field. Conversely, higher visual sensitivity ratings paired with higher visual change ratings will tend to result in higher degrees of visual impact.

Implicit in this rating methodology is the acknowledgment that for a visual impact to be considered significant, two conditions generally exist: (1) the existing landscape is of reasonably high quality and is relatively valued by viewers, and (2) the perceived incompatibility of one or more project elements or characteristics tends toward the high extreme, leading to a substantial reduction in visual quality

Table C.2-1. General Guidance for Review of Adverse Impact Significance

Overall Visual Sensitivity	Overall Visual Change				
	Low	Low to Moderate	Moderate	Moderate to High	High
Low	Minor and Less than Significant[1]	Minor and Less than Significant[1]	Less than Significant[2]	Less than Significant	Less than Significant
Low to Moderate	Minor and Less than Significant[1]	Less than Significant	Less than Significant	Less than Significant	Potentially Significant[3]
Moderate	Less than Significant	Less than Significant	Less than Significant	Potentially Significant	Potentially Significant
Moderate to High	Less than Significant	Less than Significant	Potentially Significant	Potentially Significant	Significant[4]
High	Less than Significant	Potentially Significant	Potentially Significant	Significant	Significant

1 - Minor and Less than Significant – Impacts are visible but may not be noticeable. To the extent they are noticed, they are perceived as negative but less than significant in the context of existing landscape characteristics and viewing opportunities.

2 - Less than Significant – Impacts are generally noticeable and perceived as negative but do not exceed environmental thresholds of significance—they are still considered less than significant in the context of existing landscape characteristics and viewing opportunities.

3 - Potentially Significant – Impacts are readily perceived as negative and may exceed environmental thresholds depending on project- and site-specific circumstances. Implementation of effective mitigation may reduce a potentially significant impact to a less-than-significant level.

4 - Significant – Impacts are readily perceived as negative and exceed environmental thresholds. Implementation of effective mitigation may reduce a significant impact to a less-than-significant level.

C.2.3.2 Impact Analysis Approach

A topographic map and aerial and street level views available online (on Google Earth) were consulted in preparation for a site visit. The Chalk Mountain tower site and vicinity were visited on July 30, 2021, to observe existing visual conditions and landscape elements. Through the morning and early afternoon, the site was not visible from lower elevations, including Highway 1, due to a dense marine fog that often occurs during the summer. The site itself was above the marine layer and was visited in the morning; the fog cleared by late afternoon, allowing viewing from lower elevations. The potential visibility of the communications site was evaluated from the nearest public roads, Highway 1 (Cabrillo Highway) and Whitehouse Canyon Road. The Project site is at the western edge of Big Basin Redwood Park, which is currently closed for safety reasons after the devastating CZU Lightning Complex Fire of August 2020. Potential views of the site from within the park could not be evaluated directly.

The existing wood pole and vault are visible from some locations along Highway 1. The existing vault is approximately 30 feet from the top of slope to the south and 50 feet from the top of slope on the east and west. The new vault would be a similar height as the existing vault (13 feet) but would be setback 60 feet from the top of slope to the south and 50 feet from the top of slope to the east and west. Being farther from the south edge of the site would reduce somewhat its visibility from the highway. The existing wood pole is approximately 50 feet from the top of slope to the south and 60 feet from the top of slope to the east and west. It presents as a solid structure. The new tower would be over 100 feet from the top of slope to the south and 60 feet from the top of slope to the east and west. The position of the new tower would somewhat reduce its apparent height compared to the existing pole, but at 80 feet high it would still appear somewhat taller as seen from the highway. The existing pole is a dark solid shape; the new tower would be lighter in color and the lattice structure would be less solid in appearance.

Near foreground views of the proposed Project site are available to persons on the unimproved Chalks Road. The road is gated near Highway 1 and within the State Park; the road is closed to unauthorized motor vehicle traffic. Chalks Road serves as both a fire/access road and a trail for hikers, mountain bikers, and equestrians. The site itself is a cul-de-sac off Chalks Road, reducing its visibility to through users of Chalks Road, which is partially separated from the site by topography. The near view of the site would be available briefly to hikers, mountain bikers, or equestrians on the access road. Lacking vegetation, the site is dominated by infrastructure, which includes a temporary portable communications tower, the existing wooden antenna pole, an equipment vault, and several solar panels. The site is 1.7 miles east of Highway 1, which is eligible for designation as a State scenic highway. As noted, Highway 1 is a designated scenic highway by Santa Cruz County in its General Plan/Local Coastal Program and by San Mateo County.

There is no public vehicular access to the site. Access from the west is through Cascade Ranch on Highway 1. From a locked gate at the rear of the ranch, Chalks Road winds up the mountain, passing at the backside of the Project site, which is within the west boundary of Big Basin Redwoods State Park. The road continues east, farther into the Park. Access from the east is by way of various unpaved gated park roads and trails that connect to Chalks Road east of the site.

A vista point indicated on Park maps is 0.75 miles east of the Project site, at the peak of Chalk Mountain at the edge of the West Waddell Creek State Wilderness. The current and proposed facilities are visible from the vista point. The Park is closed as a result of the 2020 wildfire; however, the Project site is over 4 miles from the core area of the Park and the site is expected to be barely visible if at all from locations in the Park.

The most frequent potential viewers of the Project would be motorists on Highway 1 and the visitors to the Cascade Creek and South Whitehouse Creek trail heads adjacent to the highway, where unobstructed views of the Chalk Mountain ridgeline occur. At these locations the site would be visible at a middleground to background distance. From Highway 1, the site is visible along approximately 2 miles of the highway's length, from a point just north of Whitehouse Canyon Road to approximately 0.35 miles south of Cascade Ranch Historic Farm. This segment of highway is in San Mateo County. A vehicle travelling at 55 miles per hour would traverse this distance in about 2.2 minutes. Presumably a driver's attention would be focused on the road and nearby landscape. Passengers in southbound vehicles would have potential views of the site from the rear driver-side seat; passengers in northbound vehicles would have views of the site from the front and rear passenger-side seats. Considering the orientation of local ridges and valleys compared to the orientation of the highway in this area, northbound viewers are more likely to notice the site than southbound viewers.

A portion of Año Nuevo State Reserve/Park borders both sides of Highway 1 from Whitehouse Canyon Road south for approximately 1.2 miles. Potential views of the Project site from other locations on Highway 1 are blocked by vegetation and landforms on the east side of the highway. Looking toward the Project site, within the foreground (0-1 miles) the topography consists of flat to rolling topography that gives way to the more distant peaks and valleys of the mountain ridgeline. Figures C.3-1a and C.3-1b show the current post-fire conditions at and near the site, which will change over time as the vegetation reestablishes. This will provide a less barren visual experience that is the case now, where burnt vertical tree trunks are a predominant feature on the slopes and ridgelines.

A number of rural residences are located at the east end of Whitehouse Canyon Road, approximately 0.75 miles northeast of the Project site at an elevation of approximately 650 feet, well below the Project site elevation. The Project would not be visible from these residences owing to screening provided by the local topography and mature vegetation, which was only partially burned in the fire. The ridgeline Project site may be visible from limited locations within Big Basin State Park, but distance, topography, and (when

reestablished) vegetation would limit overall visibility. At middleground (1-4 miles) and background (4+ miles) distances, the tower would be barely visible, if at all. The visibility and prominence of objects diminishes with distance owing to the effects of atmospheric moisture and haze. The narrow profile of the tower, its see-through lattice structure, and its lighter color against the sky would reduce somewhat the visual prominence of the tower as compared to the existing dark colored solid wood pole. The effects of distance, natural haze, and sunlight make features in a landscape appear more muted in color and less distinct in form when viewed over long distances. These effects would tend to make the tower nearly indistinguishable from other vertical tree forms in the area and would not attract the eye of a viewer scanning the ridge panorama any more than the existing pole, vault, and bare rock do. While the forest cover has been devastated, there remain many tall vertical trunks characterizing the areas ridge lines and slopes, echoing the verticality of the tower.

From public roads, the only discernable visual difference between existing conditions (with the wood pole in place) and the proposed visual conditions at the site (with the pole replaced by a lattice steel tower located closer to the middle of the site) would be the additional 20-foot height of the proposed tower. This visual effect is tempered by the reduced contrast of the tower against the sky, as compared to the darker wood pole, and the lattice (see-through) structure of the tower as compared to the solid wood pole. Although taller, the tower is expected to be no more visibly prominent than the wood pole because of these factors. Moreover, at the viewing distance, most observers would not take note of the differences between the existing conditions and those that would result from Project implementation.

KOP 1 Highway 1 at Whitehouse Canyon Road

Figure C-2.5, KOP 1 Highway 1 at Whitehouse Canyon Road, presents the existing view and simulated view looking to the east-northeast from KOP 1 on Highway 1 at Whitehouse Canyon Road in San Mateo County, approximately 2.4 miles from the Chalk Mountain site. The view from KOP 1 captures much of the west facing mountain slopes, which are topographically steep and, after the 2020 fire, covered with fire damaged or destroyed vegetation. The tower is visible over the lower ridges. The Project site is a near-background element in the visual landscape from this location.

Visual Quality. The view from KOP 1 presents a cohesive natural landscape that has been altered by fire in the far middle ground and background. The foreground is dominated by green, grey, and tan roadside vegetation and an overhead utility line and pole. The middle ground presents a flat to rolling terrain that is largely grassland and, given the season, tan and grey coloration dominates. The background is a series of undeveloped steep-sided hills rising abruptly from the middle ground fields; their crests are dominated by largely bare tree trunks left after the wildfire. The steep hillsides are dominated by tan rock and grey-green low vegetation. The Project site is visible as a barren area beyond and slightly above the intervening hills. The existing tower on the site is visible to a focused viewer and echoes the verticality of the ridgetop tree trunks. The landscape is common (Moderate) for this part of Highway 1.

Viewer Concern. The dominate viewer concern along Highway 1 is the ocean to the west and waves that characterize the shore. Inland from the highway, the landscape viewed from KOP-1 lacks distinctive elements such as waterbodies, interesting rock forms, or dense groves that would draw the interest of viewers. Viewer concern is rated Low to Medium.

Viewer Exposure. Given the orientation of Highway 1 to the inland landscape at and near KOP-1, motorists traveling on the highway would have a limited exposure to the view of the hills, including the Project site. Users of the nearby South Whitehouse Creek trailhead and parking area in Año Nuevo State Park would be able to see the Project site and tower as a distant inland element against the skyline in the east. At this viewing distance, elements would be indistinct. The site would not dominate the view and it is likely that

viewers at the trailhead would be more focused on the adjacent highway or the trail that leads out to the coastal bluffs to the west. Viewer exposure is considered to be Low, given the short potential viewing time for motorists and the relatively small number of visitors to the trailhead and their focus on the trail at the top of the coastal bluffs.

Overall Visual Sensitivity. Overall visual sensitivity is derived from a comparison of existing visual quality, viewer concern, and viewer exposure and the degree to which a project would result in an adverse visual outcome. The existing Project site hosts a wood pole and vault that are visible at the top of a barren area on the ridge. The proposed Project would replace the existing tower with a taller lattice steel tower and erect a replacement vault that would be similar in height to the existing vault, although with a larger footprint. Overall visual sensitivity is considered Low to Moderate, given the landscape is common along this section of the coast, the change visual change visible from the Highway between the conditions currently existing and those proposed at the site are nominal and viewed from a distance. As well, the visual contrast in form line, color, and texture introduced by the Project would be similar to existing conditions. Given the relative size of the Project relative to the size of existing visible features at the site, the distance between these features and the viewer, and the site's elevated position, the elements introduced by the Project would be Subordinate to other features in the view.

KOP 2 Highway 1 at K&S Ranch

Figure C-2.6, KOP 2 Highway 1 at K&S Ranch, presents the existing view and simulated view looking northeast from KOP 2 on Highway 1 at the entrance to K&S Ranch in San Mateo County. The existing wood pole and vault are indicated by an arrow and are approximately 1.8 miles distant from this location. The view from KOP 2 captures much of the southwest facing mountain slopes, which are topographically steep and, after the 2020 wildfire, covered with fire damaged or destroyed timber.

Visual Quality. The view from KOP 2 presents a cohesive natural landscape that has been altered by fire in the middle ground and background. The foreground is dominated by green, grey, and tan shrub and grass vegetation. The foreground here presents a flat to rolling terrain that is largely grassland and, given the season, tan and grey coloration dominates. The middle ground includes undamaged vegetation and nearby fire-damaged hills. The dominate coloration is grey to black with tawny areas of damaged trees and underlying rock. The background rises in steep-sided hills with dominated by burned tree trunks. The Project site is visible as a prominent barren area beyond and above the intervening hills. The existing tower on the site is visible to a focused viewer. The landscape is common (Moderate) for this part of Highway 1.

Viewer Concern. The dominate viewer concern along this section of Highway 1 is roadside vegetation the lines both sides of the highway. KOP 2 presents an eastward looking gap in the vegetation, showing the Project site in the background. As in KOP 1, the inland landscape viewed from KOP 2 lacks distinctive elements such as waterbodies, interesting rock forms, or dense groves that would draw the interest of viewers. Viewer concern is rated Low to Medium

Viewer Exposure. At and near KOP 2, motorists would have an intermittent exposure to the view of the hills, including the Project site, owing to roadside vegetation. At this viewing distance, the barren rock surrounding the Project site would be clearly visible but the built elements on the site would be indistinct. The site would not dominate the view. Viewer exposure is considered to be Low, given the short potential viewing time for motorists.

Overall Visual Sensitivity. Overall visual sensitivity is considered Low, given the landscape is common along this section of the coast, the Project site is visible intermittently from a relatively short segment of the highway, and the visual change between current and proposed conditions at the Project site are nominal

and viewed from a distance. The visual contrast in form line, color, and texture introduced by the Project would be similar to existing conditions. Given the relative size of the Project relative to the existing visible features at the site, the distance between these features and the viewer, and the site's elevated position, the elements introduced by the Project would be Subordinate to other features in this view.

C.2.3.3 Impact Significance Criteria

Based on the CEQA Guidelines Appendix G criteria, a project would have significant impacts on visual resources if it would:

- AE-1: Have a substantial adverse effect on a scenic vista?
- AE-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a State scenic highway?
- AE-3: In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?
- AE-4: Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

C.2.3.4 Impacts and Mitigation Measures

Impact AE-1	**Would the project have a substantial adverse effect on a scenic vista? (Less than Significant)**

The nearest vista viewing point from which the Project is visible is approximately 0.75 miles to the east. During construction of the new telecommunications facilities, temporary visual changes would occur due to the presence of workers and on-site staging of equipment and materials. Construction is expected to occur intermittently for up to approximately 2 years, allowing for delays that may occur due to weather, delays in material delivery, or as a result of construction sequencing to maintain continuity of service. The presence of construction equipment and personnel would be temporary, ending with the end of construction.

The proposed Project would include replacing the existing communications pole (60 feet high) with a new 3-legged tube-braced lattice communication tower (up to 80 feet high) supporting MIMO technology. The new tower would be located approximately 60 feet north from the existing pole to reduce visual impacts from lower elevations but, as with the wood pole, would still extend above the ridgeline when viewed from below. All other project components, including the proposed replacement vault, propane tank, and solar PV installation, would be low profile and would be either not visible or minimally visible from locations along Highway 1 due to the Project site's elevated position relative to the surrounding topography and the positions of the facilities within the site. The visual change from increasing the communication tower height and size would not be visible to residences located in the canyon to the northeast of the site. From roadways and recreational trails, the 20-foot increase in tower height would be seen as a nominal change compared to existing conditions. The Big Basin Redwoods State Park General Plan Land Use map indicates overlooks located approximately 0.5 miles west and 0.75 miles east of the Project site. The overlook to the west is approximately 300 feet lower in elevation than the Project site, with intervening topography and (when regrown) vegetation that would hide all or most of the Project from view. The overlook to the east is at a similar elevation as the Project with a clear line-of-sight to the existing and proposed site facilities. At a distance of 0.75 miles, and given the existing structures on the site, the change introduced by the Project would be nominal and consistent with existing site conditions. As shown in Figures C-2.5 and C-2.6 the site is visible from portions of Highway 1; however, it is outside of the General Plan's designated scenic areas (Santa Cruz County, 2015) The ridgeline facility is and would be visible from Highway 1,

a County designated scenic highway, and from some locations within Big Basin State Park; however, the visual change between the existing and proposed tower and vault would be nominal as seen from all locations. This impact is less than significant and no mitigation is recommended.

Impact AE-2	**Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? (No Impact)**

There are no important trees, rock outcroppings, or historic buildings on or near the proposed Project site. The entire proposed Project would be within the existing telecommunications facility site, with replacement facilities set back farther from the top of slope than the existing facilities. The existing wood pole is visible and the proposed tower would be visible from a portion of Highway 1, a potentially eligible State scenic highway. However, from a distance of approximately 1.7 miles, no scenic resources within the Project site would be substantially damaged, so no impact to a State scenic highway would occur.

Impact AE-3	**In non-urbanized areas, would the project substantially degrade the existing visual character or quality of the public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (Less than Significant)**

The proposed Project would be located in a non-urban area on State land at the existing CAL FIRE telecommunications facility within the Santa Cruz Mountains. The area was burned in a wildfire in 2020, so the visual character of the entire area has been altered from previous conditions, which are expected to reestablish over an extended recovery period as natural succession and/or planting eventually restores the vegetation. The site and upper slopes around the site were largely devoid of vegetation before the fire and the proposed Project will not alter this condition. Upon completion of construction activities and testing of project components, all disturbed work areas (including the access road) would be restored to prior conditions. As discussed in Impact AE-1 above, the presence of equipment and vehicles may be noticeable from offsite locations during construction; however, construction activities would be intermittent and temporary.

The component of the proposed Project with the most prominent visual impact would be the new 80-foot telecommunications tower replacing the existing 60-foot wooden pole. As proposed, the new tower would be a modified Rohn heavy duty, 3-legged braced structure (See Figure B-3) with final designed based on site specific conditions. If required, guy wires would be installed. Guy wires support the existing wood pole as well and these would be removed along with the pole. The Project's communications and other equipment would be housed in the replacement vault and solar arrays would installed on-site to power the facility. These would not significantly contribute to visual changes in the surrounding landscape due to their low height and setback from the edge of the site. The Project would replace existing structures with new structures that are similar in function to the existing structures. The replacement vault would be the same height as the existing vault but have a larger footprint. The increased height of the proposed replacement tower would incrementally increase the overall visibility of the existing facility from potential viewing locations along Highway 1 and within Big Basin Redwoods State Park. However, the change from a 60-foot-tall structure to an 80-foot-tall structure would be minimally noticeable from the distance at which most viewers would see it. As well, the lattice work of the tower would be lighter in color against the sky and less opaque as compared to the wood pole. Therefore, the visual character and quality of the public views of the site and its surroundings would not be substantially degraded as compared to existing conditions. For the reasons noted, the impact on visual character is less than significant.

Impact AE-4 Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less than Significant)

Construction would primarily occur Monday through Saturday (6 days a week) between 7:00 a.m. and 6:00 p.m., with nighttime construction not expected, resulting in no changes to existing lighting of the site during construction. The current 60-foot telecommunications pole at the project site does not include, nor was it recommended to include lights for air navigation safety. Federal Aviation Administration (FAA) guidelines (Advisory Circular 70/7460-1) identify when towers need to be review by the agency and when lights are required to reduce potential hazards to air navigation. The proposed 80-foot replacement tower also is below the FAA's 200-foot above-ground height threshold and does not require FAA review for possible inclusion of lighting for aviation safety and no lighting would be installed. Additionally, there would be no new permanent external source of lighting within the proposed Project site. Solar panels would be oriented south to capture sunlight and, because of their elevated position and orientation relative to potential viewers, would not create glare at the lower elevations surrounding the site or on Chalks Road. Impacts to both day and nighttime views would be less than significant and no mitigation is recommended.

C.3 Biological Resources

This section describes the biological resources that were known to occur or have the potential to occur in the proposed Project area prior to the 2020 CZU August Lightning Complex fire and describes current conditions existing after the fire. Section C.3.1 includes a description of the biotic environment at the time of the fire, including common plants and wildlife, sensitive habitats, special-status species and their locations in relation to the proposed Project. It then describes how the wildfire has altered the biological landscape. Section C.3.2 identifies applicable regulations, policies, and standards. Section C.3.3 identifies measures the applicant will implement to reduce potential impacts to biological resources. Section C.3.4 presents an analysis of potential impacts to biological resources from implementation of the Project.

C.3.1 Environmental Setting

C.3.1.1 Regional Setting

Information used in preparing this Biological Resources section was derived from the Biological Resources Technical Report (BRTR) (See Appendix A.) that was prepared prior to the 2020 wildfire, databases, and a subsequent, post-fire site visit.

Prior to the 2020 wildfire, the access road to the site and the lower slopes around the site were heavily vegetated with mature trees and shrubs. This forest cover provided habitat for breeding birds, including the marbled murrelet. Creeks in the vicinity have the potential to support various aquatic and amphibian species of concern to State and federal wildlife agencies and that are listed as threatened or endangered and requiring protection. The Project site is largely devoid of vegetation, as are the upper reaches of the slopes that fall away from the level site. Figures C.3-1a&b (Views at the Project Site) provide photographs of the site and its surroundings as of July 2021. (Figures are presented in Appendix A).

C.3.1.2 Environmental Setting

Vegetation Communities

The proposed Project site is located within an existing, operating telecommunications facility. Pre-fire vegetation on the Project site was composed primarily of native and non-native ruderal species that persist in areas that are frequently disturbed. The lands surrounding the Project site were vegetated by a coniferous woodland dominated by knobcone pine (*Pinus attenuata*) with other species such as Coulter pine (*Pinus coulteri*) and Douglas fir (*Pseudotsuga menziesii*) also present. The canopy was open with patches of several species of manzanita that are likely to include crinite manzanita (*Arctostaphylos crustacea* ssp. *crinite*), glossy leaved manzanita (*Arctostaphylos nummularia*), and others present in the openings. The vegetation surrounding the Project site appeared to best match the description of knobcone pine forest (*Pinus attenuata* Forest Alliance) in *A Manual of California Vegetation* (Sawyer et al., 2009). No sensitive natural communities or sensitive vegetation were present within the proposed Project site.

The proposed Project site and its surroundings burned in the CZU August Lightning Complex fire that burned through the area in late August 2020. The pine trees, Douglas fir, and other vegetation around the telecommunications facility and along the access road were burned. Many trees are dead and others have been damaged and may die as a result of the fire. Pine and Douglas fir seedlings are expected to slowly re-colonize the area along with manzanita and other shrubs. The mature conifer forest will take decades to return to pre-fire conditions.

Special-Status Plants and Animals

A background review was completed prior to the wildfire. The review identify special-status plants and animals known from the region. This included a review of records from the California Natural Diversity Database (CNDDB; CDFW, 2021) within 5 miles of the proposed Project area. It also includes a review of the California Native Plant Society (CNPS) On-line Electronic Inventory (CNPS, 2021) and Consortium of California Herbaria data (CCH, 2021) for special-status plant locations near the site. An IPaC informal species list from the U.S. Fish and Wildlife Service (USFWS) was also generated to identify federally protected species known from the region (USFWS, 2021).

A total of fifty-nine special-status plants were identified in the background review. Many of these have no potential to be present or to be impacted by the proposed Project because of a lack of suitable habitat (even before the fire) or because the proposed Project site is outside of the elevation or geographic range of the species and these species are therefore not addressed further in this document. Those with at least a moderate potential to be present are addressed briefly below.

A total of fourteen special-status animals were identified in the background review. Several of these have no potential to be present or impacted by the proposed Project and are therefore not addressed further. Eight special-status animals have a potential to be present and are addressed briefly in Table C.3-1.

Table C.3-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in Study Area
PLANTS			
Arabis blepharophylla **Coast rock cress**	CRPR: 4.3	Perennial herb; rocky areas in broad-leafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub; Monterey Co. north to Sonoma Co.; Elev. from sea level to about 1,100 m. above mean sea level (amsl). Feb-May.	**Moderate**. Suitable habitat present, known from within about 2 miles.
Arctostaphylos andersonii **Anderson's manzanita**	CRPR: 1B.2	Shrub; broad-leafed upland forest, chaparral, north coast coniferous forest; Santa Cruz, Alameda, and San Mateo Cos; Elev. of about 60 to 760 m. amsl. Nov-May.	**Moderate**. Suitable habitat present, known from within about 2 miles.
Arctostaphylos regismontana **Kings Mountain manzanita**	CRPR: 1B.2	Shrub; broad-leafed upland forest, chaparral, north coast coniferous forest; granite or sandstone outcrops; San Mateo and Santa Cruz Cos.; Elev. of about 240 to 705 m. amsl. Dec-Apr.	**Moderate**. Suitable habitat present, known from within about 3 miles.
Hesperocyparis abramsiana var. *butanoensis* **Butano Ridge cypress**	FT, SE, CRPR: 1B.2	Tree; grows on sandstone in closed-cone coniferous forest, lower montane coniferous forest, and chaparral; Santa Cruz and San Mateo Cos.; Elev. from about 400 to 490 m. amsl. Year-round.	**Moderate**. Suitable habitat present, known from within about 2 miles
Penstemon rattanii var. *kleei* **Santa Cruz Mountains beardtongue**	CRPR: 1B.2	Perennial herb; sandy shale slopes; sometimes in the transition between forest and chaparral; Santa Cruz and surrounding Cos.; Elev. from about 455 to 915 m. amsl. May-Jun.	**Moderate**. Suitable habitat present, known from within about 5 miles.

Table C.3-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in Study Area
Stebbinsoseris decipiens **Santa Cruz microseris**	CRPR: 1B.2	Annual; open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes; broad-leafed and closed-cone coniferous forest, chaparral, and coastal scrub and prairie; Monterey Co. north to Marin Co.; Elev. from about 90 to 750 m. amsl. Apr-May.	**High**. Suitable habitat present. Known from within about 1 mile of the Project site.
AMPHIBIANS			
Aneides niger **Santa Cruz black salamander**	SSC	Mixed deciduous woodlands, coniferous forests, coastal grasslands. Found under rocks near streams, in talus, under damp logs and other objects. Not aquatic but requires damp environments and moves only during times of high humidity.	**Moderate**. Suitable habitat is present along the access route. Known from within about 2.5 miles of the Project site.
Dicamptodon ensatus **California giant salamander**	SSC	Occurs in coastal forests in or near clear, cold, permanent and semi-permanent streams and seeps. Aquatic breeder.	**Moderate**. Suitable habitat is present along the access route. Known from within about 2.1 miles of the Project site.
Rana boylii **Foothill yellow-legged frog**	SE	Found in or near rocky streams in woodland, scrub, and meadow habitats. Require shallow, flowing water in small to moderate streams with sunny and partly shaded banks for basking.	**Low**. Marginally suitable habitat is present along the access route. Known historically (1953) from within about 3.0 miles of the Project site.
Rana draytonii **California red-legged frog**	FT, SSC	Breeds in deep, still or slow-moving water with associated bulrush, willow, or cattail including sag ponds, stock ponds, irrigation ponds, silta-tion ponds, sewage perc. ponds, and backwaters along rivers and streams; may also breed in ponds without veg. May use upland cover (burrows, logs, leaf litter, seeps/ springs) some distance from aquatic breeding sites. Designated critical habitat nearby.	**High**. Suitable habitat is present along the access route at the crossing of Cascade Creek. Known from within about 0.5 miles of the Project site.
REPTILES			
Thamnophis sirtalis tetrataenia **San Francisco garter snake**	FE, SE	Freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County.	**Moderate.** Suitable habitat is present along the access route at the crossing of Cascade Creek. Known from within about 5.0 miles of the Project site.
BIRDS			
Aquila chrysaetos **Golden eagle**	SSC, CFP	Rolling terrain where open grassland turns to scattered oaks, sycamores, or large pines. Cliff-walled canyons provide nesting habitat, but birds will also nest in medium to large trees in open areas.	**High**. Foraging habitat present. **Minimal**. Nesting habitat is absent from the Project site.

Table C.3-1. Special-Status Species that Could Occur in the Project Vicinity

Species	Status	Habitat	Occurrence in Study Area
Asio otus **Long-eared owl**	SSC	Nests/roosts in conifer, oak, riparian, pinyon-juniper, and desert woodlands adjacent to grasslands, meadows, or shrublands for foraging. Requires dense cover for nesting. On central and southern coast, found primarily in oak and riparian.	**Low**. Suitable habitat present, nearest known occurrence approximately 10.0 miles to the northeast
Brachyramphus marmoratus **Marbled murrelet**	FT, SE	Nests in old-growth redwood-dominated forests, up to 25 miles inland, often in Douglas-fir. Feeds near-shore; nests inland along northern and central California coast. Critical habitat nearby.	**Moderate**. Suitable habitat is present along the access route. Many nearby CNDDB records, the nearest being 0.5 mi south. Project site and access route are within critical habitat. The Project site burned in August 2020 and it is likely that the suitable habitat is no longer present.
MAMMALS			
Antrozous pallidus **Pallid bat**	SSC	Roosts singly or gregariously in rock outcrops, cliffs, caves, mines, trees, bridges, and occupied as well as vacant buildings. Found in grasslands, shrublands, woodlands, and forests from below sea level to 7000 feet elevation. Most often roosts high above the ground but has also been found roosting on the ground.	**Low**. Suitable habitat is present within the Project site. Not known from within 5.0 miles of the Project site. At least one CNDDB record for this part of Santa Cruz County.
Corynorhinus townsendii **Townsend's big-eared bat**	SSC	Found throughout California in many habitats. Distribution is patchy and strongly correlated with caves and cave-like roosting habitat, with population centers occurring in areas dominated by exposed, cavity-forming rock and/or historic mining areas. Forages in habitat edges along streams in wooded habitats. Extremely sensitive to disturbance.	**Low**. Roosting habitat unlikely near the Chalk Mtn project site but this bat could forage over the project area.

Definitions of occurrence probability: Estimated occurrence probabilities are based on literature sources cited earlier, field surveys, and habitat analyses reported here.

Present: Observed on the site by qualified biologists.
High: Habitat is a type often utilized by the species and the site is within the known range of the species.
Moderate: Site is within the known range of the species and habitat on the site is a type occasionally used.
Low: Site is within the species' known range but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.
Minimal: No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused study covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species. See BRTR, for discussion of species with minimal potential for occurrence (Aspen Environmental Group, 2020).

STATUS CODES:
FE Federally Endangered
FT Federally Threatened
FCT Federal Candidate for listing as threatened
SE State Endangered
SCT State Candidate for listing as threatened
SSC California Species of Special Concern
FP Fully Protected
WL Watch List

California Rare Plant Rank (CRPR) designations. Note: According to the California Native Plant Society (http://www.cnps.org/cnps/rareplants/ranking.php), plants ranked as CRPR 1B and 2B meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.

1B Plants rare and endangered in California and throughout their range
2B Plants rare, threatened or endangered in California but more common elsewhere in their range.
3 Plants about which we need more information; a review list.
4 Plants of limited distribution; a watch list

Special-Status Plants

Butano Ridge cypress (*Hesperocyparis abramsiana* var. *butanoensis*) is an evergreen tree that grows along the Butano Ridge in Santa Cruz County. It is federally listed threatened and state listed endangered. It grows on sandstone in a variety of habitats including closed-cone coniferous forest, lower montane coniferous forest, and chaparral. It is known from within about 2 miles of the proposed Project site and has a moderate potential to be present in the Project vicinity. It is unclear what impact the recent wildfire has had on this species but in general this species requires fire to trigger seed germination (USFWS, 2016). When fire frequency increases it poses a risk to this species (USFWS, 2016).

Five additional special-status wildlife species could be present in or near the proposed Project site: coast rock cress (*Arabis blepharophylla*), Anderson's manzanita (*Arctostaphylos andersonii*), Kings Mountain manzanita (*Arctostaphylos regismontana*), Santa Cruz Mountains beardtongue (*Penstemon rattanii* var. *kleei*), and Santa Cruz microseris (*Stebbinsoseris decipiens*). All of these, except coast rock cress are ranked as CRPR 1B which indicates that they are rare or endangered in California and throughout their range. Coast rock cress is ranked as CRPR 4.3 which indicates it has a limited distribution in California

Special-Status Animals

Foothill yellow-legged frog (*Rana boylii*) (FCT, SSC) is a federal candidate species for listing as threatened. It is also a State species of special concern. It inhabits rocky streams in woodland, scrub, and meadow habitats. It requires shallow, flowing water with sunny and partly shaded banks for basking. It is known to be within less than 5 miles of the proposed Project site and has a low potential to be present along the access road in Cascade Creek and at least one additional unnamed drainage.

California red-legged frog (*Rana draytonii*) (FT, SSC) is federally listed as threatened and is a State species of special concern. It typically inhabits permanent and near-permanent sunlit ponds, lakes, and streams but can also be found in springs, reservoirs, and stock ponds (USFWS 2002, 2005; Rathbun et al., 1997). It often leaves the aquatic habitats to forage in uplands and shelter in small-mammal burrows. It is known to be within 1.5 miles of the proposed Project site. The proposed Project site does not provide suitable habitat for California red-legged frog, but suitable habitat is present along the access road at the Cascade Creek crossing.

Marbled murrelet (*Brachyramphus marmoratus*) (FT, SE) is federally listed as threatened and State listed as endangered. It spends the majority of its life on the open ocean feeding in nearshore marine waters on fish and invertebrates, but it comes inland to nest (USFWS, 1997). It typically nests in old-growth forests but will also occasionally use younger forests with an old-growth component (USFWS, 1997). It is known to nest within about 0.75 miles of the proposed Project site in the heavily forested canyon of Cascade Creek. The access road to the proposed Project site travels through the occupied habitat. The recent wildfire may have removed the suitable mature habitat for marbled murrelet, and it is unclear how long it will take for the vegetation to return and support nesting. Much of the proposed Project site and access road are located within designated critical habitat for the marbled murrelet.

Seven additional special-status wildlife species could be present in or near the proposed Project site: Santa Cruz black salamander (*Aneides niger*), California giant salamander (*Dicamptodon ensatus*), San Francisco

garter snake (*Thamnophis sirtalis tetrataenia)*, golden eagle (*Aquila chrysaetos*), long-eared owl (*Asio otus*), and pallid bat (*Antrozous pallidus*). Several of these have a potential to forage within the proposed Project site. The Santa Cruz black salamander, California giant salamander, and San Francisco garter snake have a potential to be present along the access road but not at the proposed Project site. Suitable nesting habitat for golden eagle and long-eared owl is also present in the mountains surrounding the proposed Project site but not within the proposed Project site.

Nesting birds

The federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3513 prohibit take of migratory birds, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting). No nesting birds were observed during the survey (September 2018), but nesting birds are likely to be present in vegetation and structures, during the nesting season (January through August).

Jurisdictional Waters

A delineation of Waters of U.S. and Waters of State was not completed for the proposed Project area; however, a baseline biological survey of the project area was completed and no potential non-wetland Waters of U.S./Waters of State, federally regulated wetlands, or CDFW-regulated streambed, were identified within the Project site. Several jurisdictional features, including Cascade Creek, are present along the existing access road to the proposed Project site and impacts to these drainages should be avoided. Cascade Creek and several unnamed drainages, as well as nearby ponds, are located in the surrounding area of the proposed Project site and access road.

C.3.2 Applicable Regulations, Policies, and Standards

C.3.2.1 Federal Regulations, Policies and Standards

Endangered Species Act. The Endangered Species Act (ESA) (16 USC 1531 et seq.) establishes legal requirements for the conservation of endangered and threatened species and the ecosystems upon which they depend.

- ***Section 9.*** Section 9 of the ESA lists those actions that are prohibited under the ESA, including take (i.e., to harass, harm, pursue, hunt, wound, or kill) of listed species without special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or shelter. "Harass" is further defined as actions that create the likelihood of injury to listed species to an extent as to significantly disrupt normal behavior patterns which include breeding, feeding, and shelter.
- ***Section 10.*** Section 10 allows for the "incidental take" of endangered and threatened species by non-Federal entities. Incidental take is defined by the ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Section 10 requires an applicant for an incidental take permit to submit a habitat conservation plan that specifies, among other things, the impacts that are likely to result from the taking and the measures the applicant will undertake to minimize and mitigate such impacts.
- ***Critical Habitat.*** Designation of an area as critical habitat provides a means by which the habitat of an endangered or threatened species can be protected from adverse changes or destruction resulting from federal activities or projects. A critical habitat designation does not set up a preserve or refuge and usually applies only when federal funding, permits, or projects are involved.

Clean Water Act. The Clean Water Act (33 USC 1251 et seq.) establishes legal requirements for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

- ***Section 401.*** Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a State certification that the discharge complies with other provisions of the Clean Water Act. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California.
- ***Section 404.*** Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Implementing regulations by the USACE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the EPA in conjunction with the USACE (40 CFR Parts 230). The Guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) (16 USC 703-711) is a treaty signed by the United States, Canada, Mexico, and Japan that prohibits take of any migratory bird, including eggs or active nests, except as permitted by regulation (e.g., hunting waterfowl or upland game species). Under the MBTA, "migratory bird" is broadly defined as "any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle" and thus applies to most native bird species.

Bald and Golden Eagle Protection Act. The BGEPA (16 USC, 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this act. Under BGEPA, take includes "disturb," which means "to agitate or bother a bald eagle or a golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

C.3.2.2 State Regulations, Policies and Standards

California Endangered Species Act. The California Endangered Species Act (CESA) (Fish and Game Code 2050 et seq.) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect a species listed under both CESA and the federal ESA, compliance with the federal ESA will satisfy CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under Fish and Game Code Section 2080.1. For projects that will result in take of a species listed under CESA but not under the federal ESA, the applicant must apply for a take permit under Section 2081(b).

Fully Protected Designations – California Fish and Game Code Sections 3511, 4700, 5515, and 5050. Prior to enactment of CESA and the federal ESA, California enacted laws to "fully protect" designated wildlife species from take, including hunting, harvesting, and other activities. Unlike the subsequent CESA and ESA, there was no provision for authorized take of designated fully protected species. Currently, 36 fish and wildlife species are designated as fully protected in California, including golden eagle.

California Senate Bill 618 (signed by Governor Brown in October 2011) authorizes take of fully protected species, where pursuant to a Natural Conservation Community Plan, approved by CDFW. The legislation gives fully protected species the same level of protection as is provided under the Natural Community Conservation Planning Act for endangered and threatened species (see below).

Native Birds – California Fish and Game Code Sections 3503 and 3513. California Fish and Game Code Section 3503 prohibits take, possession, or needless destruction of bird nests or eggs except as otherwise provided by the Code; Section 3503.5 prohibits take or possession of birds of prey or their eggs except as otherwise provided by the Code; and Section 3513 provides for the adoption of the MBTA's provisions (above). With the exception of a few non-native birds such as European starling, the take of any birds or loss of active bird nests or young is regulated by these statutes. Most of these species have no other special conservation status as defined above. The administering agency for these sections is the CDFW. As with the MBTA, these statutes offer no statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game migratory birds.

Streambed Alteration Agreements – California Fish and Game Code Sections 1600-1616. Under these sections of the Fish and Game Code, an applicant is required to notify CDFW prior to constructing a project that would divert, obstruct, or change the natural flow, bed, channel, or bank of a river, stream, or lake. Preliminary notification and project review generally occur during the environmental review process. When a fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. CDFW jurisdiction is determined to occur within the water body of any natural river, stream, or lake. The term "stream," which includes creeks and rivers, is defined in Title 14, CCR, Section 1.72.

C.3.2.3 Local Regulations, Policies and Standards

Santa Cruz County Code identifies several ordinances and regulations to protect environmental resources within the County. The ordinances and regulations are discussed in Title 16 of the County Code. Numerous environmental resources are protected by Title 16 including Riparian Corridor and Wetlands Protection (Chapter 16.30), Sensitive Habitat Protection (Chapter 16.32), and Significant Trees Protection (16.34) among others.

The County of San Mateo Planning and Building Department also has an ordinance that protects significant trees. The Significant Tree Ordinance (Part Three of Division VIII of the San Mateo County Ordinance Code) applies to native trees to the County that has a circumference of 38 inches (38") or more measured at four and one half feet (4½') vertically above the ground or immediately below the lowest branch, whichever is lower, and having the inherent capacity of naturally producing one main axis continuing to grow more vigorously than the lateral axes.

C.3.3 Applicant Proposed Measures (APMs)

The Project includes specific APMs designed to reduce potential impacts. These are considered to be part of the Project. In addition to compliance with regulatory requirements, the following APMs would be implemented as part of the proposed Project.

APM B-1 **Personnel Environmental Awareness Training.** An agency-approved biologist shall prepare an environmental education program to be presented to all personnel assigned to the Project. The program shall be presented in-person immediately prior to the start of construction, and as crew members are added to the project, a video presentation may be used in lieu of an in-person presentation. Participants shall be required to acknowledge in writing that they have participated and understand the content of the training. The program shall describe sensitive resources and associated APMs, mitigation measures, applicable permits and regulatory requirements, and any resource agency requirements.

APM B-2 **Pre-construction Surveys and Construction Monitoring**. A qualified biologist shall be present for all Project activities that may impact special-status species habitat or jurisdictional areas. This is likely to include vegetation removal, site grading, and any other ground-disturbing activities.

The qualified biologist shall arrive early on the first workday morning of each week or the first day after a construction hiatus of more than two days and conduct a pre-activity survey to check under and around all vehicles or heavy equipment that shall be moved during the day, to check under and around and inside materials at staging areas, to check trenches, survey for active nests (February 15 through August 15), and to otherwise ensure that no special-status animals could be harmed when workers arrive. The qualified biologist shall also survey the access road to the Project site on the morning of the first day of Project construction and equipment mobilization. If a special-status animal is found, visible markers such as pinflags or flagging shall be used to show avoidance areas and workers shall be informed of prohibited activities near the animal until it moves away on its own.

As part of Environmental Awareness Training (see APM B-1), workers shall be instructed to check under and around vehicles, equipment, and materials, including inside of piping, prior to moving at any times to ensure that no wildlife or nests are present. If wildlife or nests are identified, the qualified biologist shall be notified immediately. As determined by the qualified biologist, work may need to be halted to ensure animal safety. However, it is assumed that during nesting season, any non-special status birds establishing nests in the vicinity during the construction week will be habituated to ongoing construction activities. To reduce potential impacts to California red-legged frog, the qualified biologist shall install avoidance fencing along both sides of the access road within 100 feet of the crossing of Cascade Creek. The qualified biologist shall inspect the fencing regularly and make any necessary repairs.

For each site visit, the qualified biologist shall create and complete a monitoring form describing activities and any relevant violations, incidents, or sightings, including steps taken to resolve violations or problems. These forms shall be compiled into a final report to show compliance with regulations. The qualified biologist shall also ensure the following:

- Trenches or holes left unfilled overnight shall be entirely covered and secured to prevent wildlife from falling in or becoming trapped. If trenches or holes cannot be covered, escape ramps shall be provided allowing animals to escape.
- Staging and parking areas shall be sited in previously disturbed areas to avoid natural areas, sensitive habitats, and jurisdictional areas.
- Small-mammal burrows, debris piles, logs, boards, rock piles, and dense vegetation shall be avoided to the maximum extent possible. Burrows that must be destroyed for construction shall be hand excavated or mechanically excavated under the supervision of an agency-approved biologist.
- There shall be no food-related trash, or any other trash, left on site at the end of each workday. This includes food wrappers, drink cans or bottles, bread crusts, orange or banana peels, etc. Human trash, especially food-related trash, attracts predators.
- No one shall capture and/or relocate California red-legged frogs or other listed species within the proposed Project site or along the access road.
- All sightings of special-status species shall be reported to the California Natural Diversity Database. Observations of listed species shall be reported directly to the USFWS and CDFW, as applicable.

APM B-3 **Special-status Bird Avoidance and Minimization.** To avoid or minimize potential impacts to marbled murrelet, golden eagle, long-eared owl, and other migratory birds from construction, during the nesting season (February 15 through August 15), a nesting bird survey shall be conducted by a qualified avian biologist prior to initiating construction activities. No more than 10 days prior to project initiation, a survey shall be conducted by a qualified avian biologist in the area within 500 feet of the project footprint. The survey area shall be based on the full project footprint, including the active construction site, staging areas, and equipment. Throughout the nesting season, weekly nesting sweeps shall also be conducted by the qualified biologist. No restrictions would be necessary for activities that take place outside the nesting season.

If an active nest is found, a visible no-disturbance buffer zone shall be established around it. Currently accepted CDFW and USFWS nesting-bird buffer distances are 250 feet for passerines and 500 feet for raptors. A qualified avian biologist shall be authorized to reduce these buffers to ensure that the nesting birds are not impacted but also to allow construction to proceed, when feasible, and shall notify CDFW and USFWS of all buffer reductions. For non-special-status bird species, it is assumed that the bird has habituated to the work activity and no buffer would be required, but efforts will be made to minimize noise and vibration, and no direct disturbance of the nest shall occur.

No project-related activities shall take place withing the buffer zones, with the exception of vehicle passage (no stopping, idling, or other noise generation allowed), or until the qualified biologist determines that the nest is no longer active. For project-related activities taking place outside the nesting season, no precautions for nesting birds are necessary.

APM B-4 **Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas.** In addition to SWPPP requirements, the following Best Management Practices (BMPs) shall be implemented during construction to prevent potential impacts to drainages, waters, and wetlands:

- Vehicles and equipment shall not operate in ponded or flowing water.
- Water containing mud, silt, or other pollutants from grading or other activities shall be prevented from entering drainages.
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances resulting from Project-related activities and that could be hazardous to vegetation or wildlife resources shall not be allowed to contaminate soil or enter drainages.
- No equipment maintenance or refueling shall occur outside of developed areas or within 150 feet of any streambeds or drainages.
- No vehicle or equipment shall be parked or idle within 100 feet of Cascade Creek.
- Any erosion control material used to prevent erosion shall be certified weed free and shall not contain monofilament plastic.

C.3.4 Environmental Impacts of the Proposed Project

C.3.4.1 Impact Analysis Approach

The analysis of potential impacts was based on the information collected in preparation of the Biological Resources Technical Report, including a site visit, information collected as part of the data base review,

and a post-wildfire site visit. This information was used to determine what resources could be affected by the proposed Project and to identify any measures that might be required to reduce the impact of the project on biological resources. The APMs in Section C.3.3 are considered part of the Project and would be implemented during construction to avoid or reduce impacts. The impact significance criteria in the CEQA Checklist were used to determine how resources might be affected and the level of such impact, should one occur.

C.3.4.2 Impact Significance Criteria

Would the proposed Project:

- BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
- BIO-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

C.3.4.3 Impacts

BIO-1 Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Less than Significant)

Pre-wildfire information identified that eight special-status animals, including two listed species and one candidate species, have a potential to be present in the proposed Project site or along the access road. In addition, one listed plant and several CRPR rank 1B plants have a potential to be present in the proposed Project site or along the access road. Impacts and proposed APMs are addressed below.

Special-Status Plants

Butano Ridge cypress was the only listed threatened or endangered plant that has a potential to be present in the proposed Project site. Anderson's manzanita, Kings Mountain manzanita, Santa Cruz Mountains beardtongue, and Santa Cruz microseris are all ranked as CRPR 1B and had at least a moderate potential to be present. Coast rock cress also had a potential to be present; however, CRPR rank 4 species have a limited range and are not considered rare or special-status. Direct impacts to special-status plants

may include the temporary or permanent removal, vegetation trimming, or by trampling or crushing during construction. Indirect impacts may include dust, hazardous materials, or invasive species.

Figures C.3-1a&b (Views at the Project Site) provide photographs of the site and its surroundings taken in July 2021. Most of the vegetation surrounding the site burned, although scattered pockets of trees survived, as did some shrub vegetation. Nearly a year after the fire, a few manzanita seedlings were beginning to appear on the slopes below the site. It is expected that the forest cover will take several decades to be restored to its previous state of maturity.

Construction of the proposed Project would occur within the footprint of the existing communications facility, which was graded for development of the existing facility and is largely devoid of vegetation. Access to the site is by way of Chalks Road, which is a maintained unpaved road. Dead trees along the route have been removed by the State for safety and to ensure the road does not become inaccessible as a result of tree falls.

As a result of the wildfire and because the site has been disturbed previously and is largely free of vegetation, impacts to special-status plants would be less than significant.

Special-Status Animals

Marbled murrelet is both federally listed as a threatened species and State listed as an endangered species. California red-legged frog is federally listed as a threatened species and is a State species of special concern. San Francisco garter snake is both federally and State listed as an endangered species. Foothill yellow-legged frog is State listed as an endangered species. Santa Cruz black salamander, California giant salamander, golden eagle, long-eared owl, and pallid bat are all State species of special concern.

Direct impacts to special-status animals in the proposed Project site and along the access road could include crushing by vehicles during construction activities, or other direct cause of mortality. Indirect impacts may include noise, visual disturbance, dust, or hazardous materials. APM B-1 (Personnel Environmental Awareness Training) would ensure that construction personnel are aware of these resources, their locations, and that they are to be protected. APM B-2 (Pre-construction Surveys and Construction Monitoring) would reduce potential impacts to these species by requiring a survey of the proposed Project site for special-status wildlife and habitats. This APM requires that if these animals or habitats are found during the survey they shall be flagged and avoided during the Project. APM B-2 also requires avoidance fencing along the access road at Cascade Creek to ensure that, should it be present, California red-legged frog is not harassed or harmed. APM B-3 (Special-status Bird Avoidance and Minimization) would avoid or minimize impacts to special-status birds that may nest in or adjacent to the proposed Project site and access road. This measure would also avoid impacts to nesting birds. APM B-4 (Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas) would further reduce potential impacts to aquatic species by ensuring that the Project does not impact nearby aquatic resources.

However, impacts to special-status species could still occur including direct impacts to California red-legged frog during use of the access road, especially during wet conditions, and indirect impacts to the marbled murrelet as a result of construction and vehicle noise during nesting season. Both of these species are federally listed threatened species and have a high potential to occur along the proposed Project access road. The federally and State endangered San Francisco garter snake also has a moderate potential to occur along the access road. The APMs have been designed to avoid or minimize any potential take of these species. In February 2020 prior to the CZU August Complex fire, the EIR team solicited input from the CDFW about concerns regarding potential impacts to the marbled murrelet and its recommended monitoring to ensure the species would be addressed in the APMs. It is not expected that formal

consultation with the USFWS would be required. In addition, the marbled murrelet and San Francisco garter snake are State endangered species and the APMs are also expected to avoid or minimize any potential take of these species. For this reason, it is not expected that an Incidental Take Permit from CDFW would be required.

BIO-2 Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (Less than Significant)

LESS THAN SIGNIFICANT. The pre-wildfire vegetation present within the proposed Project area included knobcone pine forest (*Pinus attenuata* Forest Alliance) and previously developed areas. These are not sensitive natural communities or riparian vegetation types identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. The access road to the proposed Project site crosses through a riparian corridor; however, no Project activities are proposed in these areas and impacts to the riparian habitat is not expected.

The Project site and access road are within designated critical habitat for marbled murrelet. Primary constituent elements (PCEs) for the marbled murrelet include individual trees with potential nesting platforms and forested areas within 0.5 miles of individual trees with potential nesting platforms, and with a canopy height of at least one-half the site-potential tree height. This includes all such forest, regardless of contiguity. The recent wildfire may have removed or damaged the habitat and it may no longer provide the PCEs for marbled murrelet. Regardless, the access road is likely to cross through designated critical habitat that may provide the PCEs. Impacts to critical habitat will be avoided with APMs B-2 (Pre-construction Survey of Project Site and Access Road) and B-4 (Pre-construction Surveys and Construction Monitoring) by clearly defining the limits of the critical habitat and ensuring that these areas are not impacted by the proposed Project. Construction traffic would be allowed to travel through the critical habitat but not to stop, refuel, or modify the habitat. With the implementation of these APMs, impacts to marbled murrelet critical habitat would be avoided and the impact would be reduced to a level of less-than-significant.

BIO-3 Would the project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means? (Less than Significant)

The Project site is mostly barren at the top of the Chalk Mountain ridge. A delineation of Waters of U.S. and Waters of State was not completed for the proposed Project; however, a baseline biological survey of the proposed Project site was completed and several potential non-wetland Waters of U.S./Waters of State, federally regulated wetlands, or CDFW-regulated streambed, were identified along the access road. The proposed Project is not expected to impact these jurisdictional features. To ensure that these features are not impacted, several APMs have been included to ensure avoidance. These measures include APMs B-2 (Pre-construction Survey of Project Site and Access Road), B-3 (Personnel Environmental Awareness Training), B-4 (Pre-construction Surveys and Construction Monitoring), and B-5 (Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas). With the implementation of these APMs, the features will be clearly delineated in the field for avoidance, sediment and other contaminants will be prevented from entering these areas, construction personnel will be made aware of these areas and the measures to protect them. With the implementation of these APMs, Project impacts to wetlands would be reduced to a level of less-than-significant.

BIO-4 Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites? (Less than Significant)

The Migratory Bird Treaty Act (MBTA) affords protection to all native and some naturalized birds, including active nests of such birds. The pre-wildfire vegetation in and around the proposed Project area provided suitable habitat for nesting birds. The structures within the proposed Project area may also provide suitable habitat for nesting birds. With implementation of APM B-3 (Special-status Bird Avoidance and Minimization), impacts to nesting birds during construction would be reduced to a less-than-significant level. The proposed Project includes installation of a communications tower with potential guy wires. As proposed, the communications tower would not pose an electrocution threat to migratory birds; however, if guy wires are used, they could pose a threat of bird strike. However, guy wires are used on the existing wood pole, so there would be minimal added risk.

BIO-5 Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (No Impact)

Title 16 (Environmental and Resource Protection) of the Santa Cruz County Code identifies several ordinances and regulation to protect environmental resources within the County. Several of these apply to the proposed Project site and access road including Chapter 16.30 (Riparian Corridor and Wetlands Protection), 16.32 (Sensitive Habitat Protection), and 16.34 (Significant Trees Protection). San Mateo County also has a Significant Tree Ordinance that protects native trees and requires a removal permit. The proposed Project is not expected to impact riparian corridors, sensitive habitats as identified in Chapter 16.32, or trees and therefore no impacts would occur.

BIO-6 Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan? (No Impact)

The proposed Project site is not within any adopted or proposed Habitat Conservation Plan. The access road to the proposed Project site is, however, within an adopted Habitat Conservation Plan because it is within San Mateo County. Pacific Gas and Electric (PG&E) Operations and Maintenance Habitat Conservation Plan covers a large portion of the Bay Area, including all of San Mateo County. This HCP applies only to PG&E and therefore no impacts would occur.

C.4 Land Use and Planning

This section addresses land use and planning in Santa Cruz County as it applies to the proposed Project and Project site. The discussion herein provides an overview of the environmental setting (Section C.4.1) and applicable regulations, policies, and standards (Section C.4.2), followed by identification of applicable impact significance criteria (Section C.4.3). The section then identifies the environmental impacts of the proposed Project (Section C.4.4).

C.4.1 Environmental Setting

C.4.1.1 Regional Setting

The site for the proposed Chalk Mountain Communications Tower and Facilities Replacement Project is an existing CAL FIRE communications facility in the Santa Cruz Mountains 3 miles east of the Pacific Ocean. (See Figure B-1 Project Location, in Appendix A.) The parcel on which the facility is located (APN # 057-05-101) is in the 18,000-acre Big Basin Redwood State Park and in Santa Cruz County's designated Coastal Zone. The area is within the county's North Coast planning area, which includes coastal agricultural areas and rural communities, such as Bonny Doon and Davenport, along with isolated industrial areas, such as the former Davenport Cement Plant. The area surrounding the Project site is largely undeveloped forest with steep slopes descending from the site. Much of the area, including the project site, burned in the CZU Lightning Complex Fire in August 2020.

C.4.1.2 Environmental Setting

In the Santa Cruz County General Plan (Santa Cruz County, 1994a), the Project site and surrounding area are designated as O-R (Existing Parks and Recreation) and are in a PR (Parks, Recreation, and Open Space) zoning district. The nearest residences are in Whitehouse Canyon approximately 0.75 miles northeast of the Project site at a lower elevation than the site and on the opposite side of the ridge where the site is found. From the west, access to the site is off of Highway 1 through Cascade Ranch in San Mateo County to unpaved and gated Chalks Road, which serves as a fire access route and trail. From the east, various unimproved State Park roads connect to Chalks Road. Access to the site and vicinity is limited by locked gates on Chalks Road and roads in the State Park.

C.4.2 Applicable Regulations, Policies, and Standards

C.4.2.1 Federal Regulations, Policies and Standards

There are no federal regulations related to land use and planning applicable to the proposed Project.

C.4.2.2 State Regulations, Policies and Standards

Big Basin Redwood State Park General Plan. Chapter 4 of the Big Basin Redwoods State Park General Plan puts forth area-specific guidelines (CA Parks, 2013). The management guidelines/policies applicable to this project include:

- ***Aesthetics Goal****: Identify and protect positive aesthetic values to preserve the fundamental character of the park for future generations.*
  - ***Aesthetics Guidelines Aesthetics 1****: Preserve and enhance positive aesthetic resources and remove or screen elements that have negative aesthetic qualities to preserve the parks scenic and recreation values.*

- ***State Wilderness Goal:*** *Preserve the natural landscape and wilderness characteristics and manage for primitive visitor experiences.*
  - ***State Wilderness Guidelines Wilderness 1:*** *Preserve and protect the integrity and character of the Waddell Creek watershed through effective management of resources and visitor use. Identify and monitor environmental conditions and use patterns, and implement adaptive management actions to reduce adverse impacts to less than significant levels.*
- ***Backcountry Goal:*** *Preserve and protect the wild and remote natural landscape and provide opportunities for backcountry visitor experiences.*
  - ***Backcountry Guidelines Backcountry 1:*** *Preserve the remote natural forested mountain character of the backcountry.*
- ***Public Safety Goal:*** *Ensure that current and future facility developments are planned and appropriately designed for safe public access and use, including the routes into and out of the park. Public Safety Guidelines:*
  - ***Safety Guideline 1****: Establish goals for interoperable radio communications within the park and with surrounding agencies, with considerations for changes in technology, expanding boundaries etc.*

C.4.2.3 Local Regulations, Policies and Standards

When the State is conducting a sovereign activity, it is immune from local building and zoning regulations, unless the State consents to such regulation. Sovereign activities such as the construction and maintenance of State facilities is not subject to local regulations unless the State Constitution says it is or the Legislature has consented to such regulations. (*Hall v. City of Taft,* supra, 47 Cal.2d 177, 183; *County of Los Angeles v. City of Los Angeles,* supra, 212 Cal.App.2d 160, 165.) The Legislature made the State subject to the California Coastal Act of 1976, requiring public agencies to obtain a Coastal Development Permit for development in the Coastal Zone. Although exempt from other local regulations, the State is required to obtain a Coastal Development Permit for the Project.

Santa Cruz County Planning Department Policy/Ordinance Interpretation – Wireless Communications Facilities Ordinance, Revised. This guidance applies to Ordinance Sections 13.10.510(D)(2) and 13.10.663(B)(6) and identifies allowable heights in various zoning districts for freestanding wireless communication facilities with a Level 4 Exemption. The applicable height for the project in zone PR would be 78 feet**.** Exceptions in other zoning districts range from 67 feet to 90 feet.

Santa Cruz County General Plan/Local Coastal Program. Land use in the County is governed by the Santa Cruz County General Plan/Local Coastal Program (LCP) Land Use Plan in the Land Use Element and the Parks, Recreation, and Public Facilities Element (Santa Cruz County, 1994a). LCP Implementation Plan sections that apply to the proposed Project are implemented by the County Code and include the following Code sections:

- ***Section 13.10.510(D)(2). Height Exceptions****. Chimneys, church spires and steeples, water tanks, cooling towers, elevators, flagpoles, monuments, noncommercial radio and television antennas, fire towers, and similar structures not used for human habitation and not covering more than 10 percent of the ground area covered by the structure may be erected to a height of not more than 25 feet above the height limit allowed in any district. … Noncommercial radio and television towers or freestanding antennas may exceed the height limits above by 25 feet with the approval of a Level IV use approval.*

- ***Section 13.10.660(E). Exemptions****. The following types of wireless communication facilities, devices, and activities that are exempt from the provisions of SCCC 13.10.660 through 13.10.668: "wireless communication facilities and/or components of such facilities to be used solely for public safety purposes, installed and operation by authorized public safety agencies (e.g., County 911 emergency services, police, sheriff, and/or fire departments, first responder medical services, hospitals, etc.). However, "if the facility, device and/or activities requires a coastal development permit" Sections 13.10.663(A)(1) through (A)(8) shall continue to apply.*

- ***Section 13.10.663. General development/performance standards for wireless communication facilities.***

  (A) "Site Location. The following criteria shall govern appropriate locations and designs for wireless communication facilities, including dish antennas and multi-channel, multi-point distribution services (MMDS)/wireless cable antennas, and may require the applicant to select an alternative site other than the site shown on an initial permit application for a wireless facility:

  (1) "Visual Character of Site. Site location and development of wireless communication facilities shall preserve the visual character, native vegetation and aesthetic values of the parcel on which such facilities are proposed, the surrounding parcels and road right-of-way, and the surrounding land uses to the greatest extent that is technically feasible, and shall minimize visual impacts on surrounding land and land uses to the greatest extent feasible. Facilities shall be integrated to the maximum extent feasible to the existing characteristics of the site, and every effort shall be made to avoid, or minimize to the maximum extent feasible, visibility of a wireless communication facility within significant public viewsheds. Utilization of camouflaging and/or stealth techniques shall be encouraged where appropriate. Support facilities shall be integrated to the existing characteristics of the site, so as to minimize visual impact.

  (2) "Co-Location. Co-location is generally encouraged in situations where it is the least visually obtrusive option, such as when increasing the height/bulk of an existing tower would result in less visual impact than constructing a new separate tower in a nearby location. However, proposed new wireless communication facilities at co-location/multi-carrier sites that would result in more than nine total individual antennas, and/or more than three above-ground equipment enclosures/shelters, located on the same parcel are considered to result in significant visual impacts and are prohibited, unless the applicant can prove that the proposed additional antennas/equipment will be camouflaged or otherwise made inconspicuous such that additional visual impacts are not created. Existing legal co-location/multi-carrier WCF sites that exceed these limits are allowed to retain their current number of antennas and equipment shelters/enclosures.

  (3) "Ridgeline Visual Impacts. Wireless communication facilities proposed for visually prominent ridgeline, hillside or hilltop locations shall be sited and designed to be as visually unobtrusive as possible. Consistent with General Plan/LCP Policy 8.6.6, wireless communication facilities should be sited so the top of the proposed tower/facilities is below any ridgeline when viewed from public roads in the vicinity. If the tower must extend above a ridgeline the applicant must camouflage the tower by utilizing stealth techniques and hiding it among surrounding vegetation.

  (4) "Site Disturbance. Disturbance of existing topography and on-site vegetation shall be minimized, unless such disturbance would substantially reduce the visual impacts of the facility.

  (5) "Exterior Lighting. Any exterior lighting, except as required for FAA regulations for airport safety, shall be manually operated and used only during night maintenance checks or in emergencies. The lighting shall be constructed or located so that only the intended area is illuminated and off-site glare is fully controlled.

(6) *"Aviation Safety. No wireless communication facility shall be installed within the safety zone or runway protection zone of any airport, airstrip or helipad within Santa Cruz County unless the airport owner/operator indicates that it will not adversely affect the operation of the airport, airstrip or helipad. In addition, no wireless communication facility shall be installed at a location where special painting or lighting will be required by the FAA regulations unless the applicant has demonstrated to the Planning Director that the proposed location is the only technically feasible location for the provision of personal wireless services as required by the FCC,*

(7) *"Coastal Zone Considerations. New wireless communication facilities in any portion of the Coastal Zone shall be consistent with applicable policies of the County Local Coastal Program (LCP) and the California Coastal Act.…*

(8) *"Consistency with Other County Land Use Regulations. All proposed wireless communication facilities shall comply with the policies of the County General Plan/Local Coastal Plan and all applicable development standards for the zoning district in which the facility is to be located, particularly policies for protection of visual resources (i.e., General Plan/LCP Section 5.10). Public vistas from scenic roads, as designated in the General Plan Section 5.10.10, shall be afforded the highest level of protection."*

- ***Section 13.20.122 Coastal Commission appeals.*** *Approval of projects in a "sensitive coastal resource area as defined in SCCC 13.20.040" may be appealed to the California Coastal Commission. Sensitive coastal resource areas are defined as all "local, State, and Federal parks, open space, and recreation areas."*

- ***Section 13.20.130(B) Design criteria for Coastal Zone developments. Entire Coastal Zone.*** *The following design criteria shall apply to projects located in the Coastal Zone:*

  (1) Visual Compatibility. All development shall be sited, designed and landscaped to be visually compatible and integrated with the character of surrounding neighborhoods or areas. …

  (2) Minimum Site Disturbance. Grading, earth moving, and removal of major vegetation shall be minimized....

  (3) Ridgeline Development. Hilltop and hillside development shall be integrated into the silhouette of the existing backdrop such as the terrain, landscaping, natural vegetation, and other structures.…

  (7) Development shall be sited and designed so that it does not block or significantly adversely impact significant public views and scenic character….

Other General Plan/LCP policies include:

- ***5.10.2 Development Within Visual Resource Areas (LCP).*** *Recognize that visual resources of Santa Cruz County possess diverse characteristics and that the resources worthy of protection may include, but are not limited to, ocean views, agricultural fields, wooded forests. open meadows, and mountain hillside views. Require projects to be evaluated against the context of their unique environment and regulate structure height. setbacks and design to protect these resources consistent with the objectives and policies of this section. Require discretionary review for all development within the visual resource area of Highway One, outside of the Urban/Rural boundary, as designated on the GP/LCP Visual Resources Map and apply the design criteria of Section 13.20.130 of the County's zoning ordinance to such development.*

- ***5.10.3 Protection of Public Vistas (LCP).*** *Protect significant public vistas as described in policy 5.10.2 from all publicly used roads and vista points by minimizing disruption of landform and aesthetic character caused by grading operations, timber harvests, utility wires and poles, signs, inappropriate landscaping and structure design. Provide necessary landscaping to screen development which is unavoidably sited within these vistas.*
- ***5.10.10 Designation of Scenic Roads (LCP).*** *The following roads and highways are valued for their vistas. The public vistas from these roads shall be afforded the highest level of protection.*
  - *State Highway Route 1 – from San Mateo County to Monterey County*

San Mateo County. The Project site is in Santa Cruz County; however, San Mateo County extends along the Highway 1 corridor west of the Project site. San Mateo County has designated the corridor along the highway as a Scenic Corridor. The county has determined that "Public views within and from Scenic Corridors shall be protected and enhanced, and development shall not be allowed to significantly obscure, detract from, or negatively affect the quality of these views. …. Development visible from Scenic Corridors shall be so located and designed as to minimize interference with ridgeline silhouettes." (San Mateo County, 2021)

C.4.3 Environmental Impacts of the Proposed Project

C.4.3.1 Impact Analysis Approach

The analysis of impacts to Land Use and Planning is based on the physical setting of the Project relative to its surroundings and its consistency with applicable plans, policies, and regulations.

C.4.3.2 Impact Significance Criteria

The impact significance criteria for Land Use and Planning are derived from CEQA Guidelines Appendix G, which pose the following questions. Would the proposed Project:

- LU-1: Physically divide an established community?
- LU-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

These criteria apply to both construction and operation of the Project.

C.4.3.3 Impacts and Mitigation Measures

Impact LU-1 Would the project physically divide an established community? (No Impact)

The Project site is a remote area with not established community nearby. The nearest residences are approximately 0.75 miles to the northeast. All construction-related disturbance would be within the existing CAL FIRE Chalk Mountain communication site and the access road to the site. Direct site access would occur via existing roads where CAL FIRE has access and maintenance rights in place. There would be no closures of public roads. The proposed Project involves upgrades to an existing communications facility, including the construction of a replacement telecommunications tower, vault, propone tank, and solar panels. These proposed facilities would be within the existing site and would not divide an established community. In addition, the objective of the proposed Project is to improve communication abilities in the area by upgrading/supplementing CAL FIRE's telecommunications infrastructure with a new telecommunications tower to support the State's Public Safety Microwave Network (PSMN) and continue to provide an essential emergency communications linkage for CAL FIRE's fire protection and emergency

response command and control throughout the area. Overall, no aspect of the proposed Project would physically divide an established community during construction or operation.

Impact LU-2	**Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (Less than Significant)**

The existing CAL FIRE telecommunications site where replacement facilities would be installed is located along a ridgeline in Big Basin Redwoods State Park. The area surrounding the site is undeveloped steep terrain. The site is surrounded by forestland that burned in 2020. The proposed Project involves upgrades to the existing facility, including the replacement of an existing 60-foot pole tower with a new 80-foot lattice steel tower. The new tower could be visible from a portion of Highway 1, a local coastal plan (LCP)-designated scenic road. As noted in Santa Cruz County Code (SCCC) Section 13.10.660(E), a wireless communication facility to be used solely for public safety purposes and installed and operated by authorized public safety agencies is exempt from County code requirements. However, the Project is within the designated Coastal Zone; therefore, it requires a Coastal Development Permit, which requires compliance with the requirements of SCCC Sections 13.10.663(A)(1) through (A)(8). The of parts of Section 13.10.663 germane to the proposed Project relate to its location; specifically, these are concerns with the visual character of the site, co-location, ridgeline visual impacts, site disturbance, lighting, and consistency with policies and plans.

Visual Character. The visual character of the site and visual impacts are described in EIR Section 3.1 Aesthetics. The proposed Project site (elevation 1,585 feet) supports an existing CAL FIRE telecommunications facility. The site is previously disturbed, relatively flat, and largely free of vegetation. The facility is approximately 3 miles east of the Pacific Ocean. At its closest, the site is approximately 1.7 miles northeast of Highway 1 in San Mateo County. The area surrounding the site is undeveloped steep terrain. Originally surrounded by mature mixed forest vegetation, the site and vicinity were burned in the CZU Lightning Complex Fire in August 2020. The site supports an existing 60-foot-high wooden communications pole, an equipment building (vault), and solar panels. The existing pole is out of commission since the fire; a temporary portable communications tower is being used in the interim. The proposed Project would replace the existing facilities, as shown in Figure B-2 Preliminary Site Plan in Appendix A and described in detail in Section 3.1 Aesthetics. The only change visible from Highway 1 would be the replacement of a solid dark colored wooden pole with a grey steel lattice tower 20 feet taller than the existing pole. The new vault would be similar in height to the existing vault, and set back farther from the edge of the site. The new tower would be erected in the interior of the site, approximately 60 feet north of the existing wood pole and 120 feet north of the top of slope, which defines the edge of the site. Depending on final engineering, the other facilities to be installed would be either not visible or only partially visible from Highway 1. If visible, they would be viewed against the mountain backdrop and not the sky.

Co-Location. The new tower would support public agency communication needs. By consolidating the needs of multiple agencies at the Project site, the agencies (e.g., CHP, CDFG, State Parks, Santa Cruz and San Mateo sheriff departments and emergency responders) can improve their communications capabilities in the region and avoid the need to establish separate communications towers nearby.

Ridgeline Visual Impacts. The new tower would be lattice steel and set back 60 feet from the existing wood communications pole location and 120 feet north of the top of slope. The new tower would be 20 feet taller than the existing pole, which is dark wood, similar to a telephone pole, and extends partially above the ridgeline. The new 80-foot tower would be approximately 2 feet taller than what would be allowed under the county Zoning Ordinance, were it to apply. The County would allow a 78-foot tower.

The new tower would be visible but would be set back from the location of the current pole and would present less contrast with the sky owing to its lighter color (galvanized steel) and less solid appearance (lattice structure) as compared to the existing pole. The nearest residences to the site are in Whitehouse Canyon approximately 0.75 miles northeast of and approximately 930 feet lower in elevation than site. The tower would not be visible from that location owing to the intervening topography and vegetation. The most frequent potential viewers of the Project would be motorists on portions of Highway 1 and visitors at the Cascade Creek and South Whitehouse Creek trail heads adjacent to the highway, where unobstructed views of the Chalk Mountain ridgeline occur. The tower would be visible in the distance from along approximately 2 miles along Highway 1 in San Mateo County, from a point just north of Whitehouse Canyon Road to approximately 0.35 miles south of Cascade Ranch Historic Farm. Otherwise, views are obstructed by vegetation and topography.

Site Disturbance. The site was previously disturbed to construct the existing communications facility and is largely free of vegetation. The new facility equipment and structures would be located within the existing facility site. Site disturbance would be limited to that needed for the construction of foundations for the tower, vault building, and propane fuel tank. Solar panels would be mounted on piles. Limited grading may be required to ensure proper site drainage.

Lighting. No lighting would be required at the site. The tower would not require aviation safety lighting, as it is less than 200 feet above ground level.

Compliance with policies and plans. The proposed Project would be consistent with the County Code and Coastal Development Permit requirements, with the exception that the replacement tower would be 2 feet taller than the height limit of 78 feet. To reduce impacts, the new facilities would be setback further from the edge of the site than the existing facilities, and, while 20 feet taller, the new tower would be less visually apparent against the skyline than the existing wood pole because of the tower's lighter color and lattice structure would provide less contrast where it is seen against the sky above the ridge top.

As a publicly built and operated communications facility, the project is exempt from County regulations except for the need to obtain a Coastal Development Permit.

The communication facility is within a State Park and is considered an existing use. The Project would continue the existing use and would also enhance park staff communications ability, consistent with the park plan's goal of having interoperable radio communications within the park and with surrounding agencies, with considerations for changes in technology, expanding boundaries etc.

Based on the conditions cited above, the proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The impact would be less than significant. No mitigation measures would apply.

D. Project Alternatives

D.1 Alternatives Development Process

CEQA Guidelines Section 15126.6 (a) states that:

> *An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.* (Emphasis added)

The CEQA Guidelines require an EIR to evaluate the comparative merits of the alternatives it has selected for analysis and provide sufficient information about each alternative to compare it with the proposed Project. An EIR should explain how the project alternatives were selected for analysis as well as identifying the alternatives that were rejected as infeasible and briefly explaining why they were rejected (CEQA Guidelines Section 15126.6(a), (c), (d)). The CEQA Guidelines state that the discussion of alternatives shall focus on alternatives capable of eliminating or reducing significant adverse environmental effects of a project, even if these alternatives would impede to some degree the attainment of the project objectives or would be more costly. However, the CEQA Guidelines provide that an EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative.

Alternatives are intended to reduce significant impacts. In the case of the proposed Project, no significant adverse environmental impacts were identified. Nevertheless, alternatives were considered that might have the potential to further reduce identified less than significant effects, while still providing an adequate level of areal coverage and meeting required microwave communications capability. Potential alternatives include both alternative sites for the facility and potential design alternatives to address visibility.

Requirements for alternatives comparison are provided CEQA Guidelines Section 15126.6(d):

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison.*

If the environmentally superior alternative is the No Project Alternative, CEQA Guidelines Section 15126.6(e)(2) requires identification of an environmentally superior alternative among the other alternatives.

Viable alternatives include those that offer an overall environmental advantage with regard to significant impacts while meeting most of a project's objectives. Infeasible alternatives and alternatives that did not offer any overall environmental advantage were removed from further consideration and analysis.

D.2 Alternatives Screening Methodology

Potential alternatives were selected based on their potential to provide the required geographic coverage and to potentially reduce visual impacts. A CAL FIRE communications facility that covers the coastal area of northern Santa Cruz and southern San Mateo Counties is essential for maintaining command and control during an emergency in the area and for providing a communication link between personnel. The microwave technology proposed to be deployed would integrate the facility into the statewide microwave network. To meet these objectives, the facility must provide adequate geographic coverage in the area while maintaining its line of site connection to other microwave towers in the statewide system. Therefore, elevated locations that do not provide line of sight to another tower in the State network were

not considered. The site must also be accessible year-round for maintenance and repair, as needed. Elevated locations that do not have existing access were not considered, as those sites would require construction of an access road and development of the facility site at an undisturbed site, which would result in greater impacts than the proposed Project, which has existing access and has been previously disturbed during development of the existing facility.

Based on these criteria, two sites were identified as potential feasible alternatives, the Chalk Mountain DRP and Eagle Rock sites.

D.2.1 Project Objectives Use in Screening Alternatives

The Chalk Mountain facility supports CAL FIRE radio communications in portions of coastal Santa Cruz and San Mateo Counties, serving approximately 40 miles of the Highway 1 corridor from Davenport in the south to Montara in the north. Inland, the coverage includes Big Basin, Swanton, Gazos, and Whitehouse Canyon watersheds.

The objectives of the Project are to upgrade/supplement CAL FIRE's essential emergency communications for fire protection and emergency response command and control throughout the area, and to support the State's Public Safety Microwave Network (PSMN) with new microwave technology. Currently, California Office of Emergency Services (CalOES) Public Safety Communications (PSC) does not have microwave service into the existing Chalk Mountain facility. The site supports two CAL FIRE VHF radio channels but has no microwave capability. In addition to supporting CAL FIRE needs, an upgraded facility would be capable of supporting the communication needs of other public agencies. California Highway Patrol (CHP), California Department of Transportation (Caltrans), Department of Parks and Recreation (DPR), California Department of Fish and Wildlife (CDFW), and other State and local agencies have requested microwave communication connectivity. Upgrading the Chalk Mountain facility would enable CalOES-PSC to meet these agencies' needs in addition to those of CAL FIRE.

To support its mission, a new communications tower in this region must (1) be located on a mountain peak or ridge that provides an adequate line of sight to corresponding towers elsewhere in the communications network with sufficient signal strength, (2) be accessible year-round for maintenance, (3) have a reliable power source for year-round operation, and (4) be capable of adequately covering the coastal areas along Highway 1 and nearby valleys in northwestern Santa Cruz County and southwestern San Mateo County. A site with previous ground disturbance is preferred so as to reduce environmental impacts.

D.2.2 Feasibility

The CEQA Guidelines (Section 15364) define feasible as "...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." The alternatives screening analysis is governed by what CEQA terms the "rule of reason," meaning that the analysis should remain focused, not on every possible eventuality, but rather on the alternatives necessary to permit a reasoned choice. Those alternatives that are potentially feasible, meet most of the project objectives, and would reduce significant impacts of the proposed Project are considered in the EIR.

According to CEQA Guidelines Section 15126.6(f)(1), among the factors that may be considered when addressing the potential feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or other regulatory limitations, jurisdictional boundaries, and the project proponent's control over alternative sites. For the screening analysis, the potential feasibility of alternatives took the following factors into consideration:

- **Legal Feasibility.** Does the alternative have the potential to avoid lands that have legal protection that may prohibit or substantially limit the feasibility of permitting the proposed Project?
- **Regulatory Feasibility.** Do regulatory restrictions substantially limit the likelihood of successful permitting the alternative?
- **Technical Feasibility.** Is the alternative potentially feasible from a technological perspective, considering available technology? Are there any construction, operation, or maintenance constraints that cannot be overcome?
- **Social Feasibility.** Is the alternative inconsistent with an adopted goal or policy of the DGS or other applicable agency?
- **Economic Feasibility.** Is the alternative so costly that implementation would be prohibitive?
- **Environmental Feasibility.** Would implementation of the alternative cause substantially greater environmental damage than the Proposed Project, thereby making the alternative clearly inferior from an environmental standpoint?

D.2.3 Ability to Reduce or Avoid Significant Environmental Impacts

As noted, a key CEQA requirement for an alternative is that it must have the potential to "avoid or substantially lessen any of the significant effects of the project" (Emphasis added) (CEQA Guidelines Section 15126.6(a)). No significant effects from implementation of the proposed Project were identified; consequently, alternatives to the proposed Project are not required to be considered. However, there are less than significant impacts from the proposed Project that could potentially be reduced through adoption of a project alternative. Therefore, an analysis was done to identify both site and design alternatives that might have lesser impacts and still meet project objectives.

D.3 Summary of Screening Results

D.3.1 Site Alternatives Evaluated

The CAL FIRE communications facility must have clear line of sight to at least one other tower in the Statewide communication network in order to perform its function as part of the statewide system. A tower at the existing Chalk Mountain facility site would have line of sight to a tower on Allen Peak near Highway 35 in San Mateo County as well as to the Monterey CDF Emergency Command Center (ECC). A facility site must also provide adequate coverage of the coastal area of Santa Cruz and San Mateo Counties, between Montara on the north and Davenport on the south and inland watersheds along the coast.

The California Office of Emergency Services (Cal OES), Public Safety Communications (PSC) identified and analyzed two alternative sites to the proposed Project, based on their location and elevation, that could potentially provide similar radio frequency (RF) coverage as the current CAL FIRE Chalk Mountain site as well as the required line of site for microwave technology. (See Appendix B, Chalk Mountain Communications Tower Alternatives Screening Analysis.) The sites are the Chalk Mountain DPR Alternative and the Eagle Rock Alternative. Both are located east of the current facility, on Department of Parks and Recreation (DPR) land in Big Basin Redwoods State Park. Figure D-1 (Site Alternative Locations) shows the location of the proposed Project and the two site alternatives. Figure D-2 (CAL FIRE Project Site), Figure D-3 (Chalk Mountain DPR Alternative Site), and Figure D-4 (Eagle Rock Alternative Site), provide aerial views of the existing site and the two alternative sites. (Figures are presented in Appendix A.)

D.3.1.1 Chalk Mountain DPR Alternative

The Chalk Mountain DPR Alternative site is at the western boundary of the West Waddell Creek State Wilderness in Big Basin Redwoods State Park. The site is within the designated Santa Cruz County Coastal Zone and is approximately 0.75 miles east of the existing facility site at an elevation of approximately 1,600 feet. It is accessible by way of an existing spur from Chalks Road. An existing lattice steel tower and small repeater building are on the site. The site and vicinity were burned in the 2020 CZU Lightning Complex Fire.

D.3.1.2 Eagle Rock Alternative

The Eagle Rock Alternative site is in the southern part of the Park and is outside of the Coastal Zone. It is approximately 6 miles east of the existing facility site at an elevation of approximately 2,400 feet and is accessible on a fire road from Empire Grade Road. An existing tower and repeater building are on the site, along with the foundations of an old fire tower. The site was burned in the 2020 wildfire.

D.3.1.3 Comparison of Site Alternatives and the Proposed Project

The proposed site and the two alternative sites are in the Coast Range's Santa Cruz Mountains. Owing to the 2020 wildfire, all three sites have similar existing conditions with regard to surrounding vegetation and habitat. The area around each has been burned and will take many years to recover. All of the sites are in elevated positions to maximize communications in all directions. The ground surface at the sites is nearly level as a result of grading for previous construction. Steep slopes fall away from the site edges. Each sites has an existing access route and an existing tower and building.

The Chalk Mountain DPR alternative site is immediately adjacent to the West Waddell Creek State Wilderness, at a location designated as a "Viewpoint" on Park maps. Once the Park is reopened, a new facility at this location would be more visible to visitors to the wilderness and other areas of the Park, as compared to the proposed Project site, which is 0.75 miles west of the wilderness and the Chalk Mountain DPR alternative. The Chalk Mountain DPR alternative site is smaller than the proposed Project site (approximately 0.06 acres compared to approximately 0.2 acres). The ridge here is narrow, so the tower and vault facilities could not be set back from the site edge, as they would be at the proposed Project site.

The Eagle Rock alternative site is south of the core area of the Park, where visitorship would be greatest. This alternative site is within 0.7 miles of the Little Basin group campground. Eagle Rock Trail connects the alternative site and the campground. A private residence is 0.35 miles south of the site, off Park property. The site at Eagle Rock is smaller than the proposed Project site (approximately 0.09 acres compared to approximately 0.2 acres), so the tower and vault facilities could not be set back from the site edge, as they would be at the proposed Project site. The alternative site is also closer to camping locations, vehicle roads, and trails in the Park than the proposed Project site.

All three sites burned during the 2020 wildfire, so have similar existing conditions with regard to vegetation and wildlife. Unlike the proposed Project site, both alternative sites may need to be enlarged somewhat to accommodate the new tower, vault, solar PV system, and fuel tank. This would require grading that would extend bare rock cover over the upper reaches of the slopes around the sites, increasing their visibility as compared to existing conditions at the proposed Project site, which would not be enlarged.

Based on the radio frequency coverage analyses of the alternatives (see Appendix B), it was concluded that the Chalk Mountain DPR and Eagle Rock site alternatives have a microwave line of sight to Allen Peak, but they would not provide adequate radio coverage for areas along Highway 1, as compared to the proposed Project. Figures D-5, D-6, and D-7 show the radio coverage area for the proposed Project, the

Chalk Mountain DRP alternative, and the Eagle Rock alternative, respectively. The proposed Chalk Mountain site and the alternative Chalk Mountain DPR site lie on the same mountain ridge and are within 0.75 miles of each other. However, the proposed Project site is closer to the Pacific Ocean and has somewhat better coverage along the coast and Highway 1. The Eagle Rock site is further inland from both of the sites on the Chalk Mountain ridge and provides even less coverage of the target area. Table D-1 (Radio Coverage Service Area Results) summarizes the findings.

Table D-1. Radio Coverage Service Area Results

Service Areas	Chalk Mountain Proposed Site	Chalk Mountain DPR Alternative Site	Eagle Rock Alternative Site
Davenport	**Partial Coverage**	**Partial Coverage**	**No Coverage**
Highway 1, north of Davenport	**Coverage**	**Partial Coverage**	**Partial Coverage**
Highway 1, south of Pescadero	**Coverage**	**Coverage**	**No Coverage**
Pescadero	**Coverage**	**Coverage**	**Partial Coverage**

D.3.2 Site Alternatives Considered but Eliminated

South Butano State Park Repeater Alternative Site. This site is on the South Butano Truck Trail. It is the site of an existing State Park repeater serving a portion of Butano State Park and is at 1,693 feet elevation. The site is accessed by 5.5 miles of dirt road (seasonal truck trail), crossing numerous private and State Parks-owned parcels. The site is not accessible during winter. This site is not served by power or phone, so existing facilities are a stand-alone small area (local) repeater on the end of a UHF link and powered by solar panels. There is a 40-foot metallic tower holding the antennas.

This alternative site is located on the northern boundary of the desired coverage area and does not provide the coverage needed to serve the southern coastal section of San Mateo and northern Santa Cruz County. The site is higher elevation than the proposed Chalk Mountain site, but several major ridges block coverage to key areas, especially the Highway 1 corridor, Big Basin State Park and the Swanton area. This alternative was eliminated from further consideration because it would not meet the radio coverage objectives of the proposed Project.

Ano Nuevo Point Alternative Site. This site is located west of Highway 1 on the southern San Mateo Coast and would be constructed on either State Park or private agricultural land at approximately 40 feet elevation. There are no existing structures or existing telecommunication facilities at this location. Major upgrades for year-round access would be required to the 1.25 miles of dirt agricultural roads that currently access the site.

This alternative location would cover a small portion of the Highway 1 corridor. Due to its low elevation, radio coverage would likely be limited to about an 18-mile stretch with no coverage inland into Big Basin State Park, Pescadero, Gazos or Swanton areas. There would be no potential for microwave access without constructing additional telecommunication sites in the area which would greatly increase potential ground disturbance impacts. In addition, the Ano Nuevo Point Alternative Site would require a much taller tower due to its low elevation and would be three times closer to Highway 1 than the proposed site, making it highly visible. In addition, the alternative site would have greater ground disturbance and potential impacts to red-legged frog and San Francisco garter snake habitat. This site was eliminated from further consideration because it would not meet the radio coverage objectives of the proposed Project and would have greater environmental impacts.

Last Chance Road–South Pines Road Alternative Site. This site is approximately 4 miles east of Highway 1 between Swanton and Big Basin State Park. The site is accessed by approximately 8 miles of private road and would be within 0.25 miles of several permanent residences. The alternative site is at approximately 1,650-foot elevation on State Park land.

The site is undeveloped and would require extensive clearing and grading for construction of a new telecommunications facility. Access to the site is not certain, as a new road, including access rights, would be needed across private land. This site would provide communications coverage to Big Basin and the Swanton Drainage, but there would be little coverage along the Highway 1 corridor or through much of southern San Mateo County. Coverage to the east is also questionable as there is a high ridge in that direction. This alternative was eliminated from further consideration because it would not meet the communications coverage objectives of the proposed Project and it have greater environmental impacts due to development on a previously undisturbed site and would be near several existing residences.

Other Inland Alternative Sites. Cal OES, Public Safety Communications (PSC) performed site reconnaissance identifying highpoints along Chalks Road between the existing Chalk Mountain site and the Chalk Mountain DPR alternative site and determined in the field that there are no other potential sites that would be feasible from a microwave facility in the immediate Project area. In addition, Cal OES considered site alternatives farther inland and determined that the microwave paths at inland locations would be unusable or unreliable. In general, the ridges to the east of Highway 1 average approximately 1,000 feet elevation and effectively block all coverage more than 1 mile east of the Highway 1 corridor, thereby eliminating potential alternative sites farther inland. In addition to severely degrading the VHF coverage, microwave coverage would be affected in the following ways:

- The microwave path to Allen Peak is encroached upon by the ridgeline near the Butano Airport and the ridgeline near La Honda.
- The microwave path to Mount Umunhum approximately 22.3 miles east of the proposed Project site would be blocked by the hills near Skyline Boulevard and Bear Creek Road.
- The microwave path to Monterey CDF Emergency Command Center (ECC) would be obstructed by the hills inland from the Davenport/Bonny Doon area.

No other alternative sites were identified within the Project area that would meet the communications coverage objectives of the proposed Project.

D.3.3 Design Alternatives

CAL FIRE considered a number of design alternatives to reduce potential visual impacts at the existing Chalk Mountain site, particularly as seen from Highway 1. These focused on the visibility of the tower. All of the design alternatives were eliminated from further consideration for the reasons noted for each alternative. The design alternatives include the following:

- **Tower Camouflage**. Under this design option, the communications tower would be camouflaged as a simulated tree. The Project's radio systems and antennas use omnidirectional antennas to communicate with mobile and portable radios, and antennas for point-to-point communication with the statewide public safety network, 911 call centers, and other dispatch facilities. A fake tree design for the proposed Project tower would require arms that stick out beyond the fake foliage to allow the antennas to be omnidirectional, thus eliminating any potential visual benefits. Also, materials used to create a faux tree appearance would increase wind resistance and would increase the visual bulk of the tower. For these reasons this design option was eliminated from further consideration.

- **Steel Monopole**. Under this design option, a steel monopole would be erected at the Project site instead of the proposed 3-legged tube steel braced tower. However, a 3-legged Rohn tower provides greater structural support than a steel monopole structure and has less wind resistance, letting the wind pass through it. In order to transmit microwave signals over long distances, the tower cannot move (e.g., during strong winds across the mountaintop). Therefore, construction of a steel monopole is not technically feasible and was eliminated from further consideration.
- **Grid Dishes**. Under this design option, grid dishes (similar in appearance to curved grills) would be used instead of panel type antennas. Grid dishes are used with lower microwave frequencies and would not be technically feasible for use on the Project, which uses higher (shorter) microwave frequencies that would not be captured by the grid dishes. A grid dish also would likely have greater visibility than the MIMO antennae technology. Therefore, this option has been eliminated from further consideration.
- **Tower Color**. Under this design option, the color of the structure would be matched to the surrounding vegetation and sky to reduce visibility of the replacement structure. At present, the existing Chalk Mountain communications site is generally devoid of vegetation and most public views would be from a lower elevation, namely along Highway 1, with the sky as the primary backdrop behind the tower. Therefore, matching the tower to the surrounding (existing or future) foliage would not reduce visual impacts and would instead make it potentially more prominent against the sky. The proposed tower would be galvanized steel, which would blend with the sky and cloud cover to minimize structural sky lining. Color treatment of the lattice structure would not reduce visual impacts, and therefore, was eliminated from further consideration.
- **Berm and/or Vegetation Screening.** Under this design option, the lower portion of the tower would be screened with vegetation and/or a berm. In general, the existing telecommunications facility tower site is maintained to be devoid of vegetation that could interfere with operations. In addition, CAL FIRE must maintain 100 feet of defensible space for wildfire in accordance Public Resources Code 4291, which would make substantial vegetation screening infeasible.[1] Because line of sight must be maintained for the microwave antennas, construction of a berm or vegetation screening of sufficient height to block views of the tower from the surrounding area (e.g., distant views from lower elevation near Highway 1) would also not be technically feasible.
- **Collocation.** Under this design option, the proposed Project would be collocated with other public and private users to minimize the overall number of towers in the region. The Project proposes tower collocation with other State agencies. However, the site is restricted to State users only, so it would not be feasible to collocate or sublet the tower to other non-State agency users.
- **Upgrade the Existing VHF System.** Under this design option, CAL FIRE would replace the existing 60-foot wooden pole with a steel pole or tower and would continue as a VHF-only system. This option would not meet the stated primary Project objective to supplement the State's PSMN, and therefore, was eliminated from further consideration.

[1] Public Resources Code 4291 provides that a person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line.

D.3.4 No Project Alternative

CEQA Guidelines Section 15126.6(e) requires evaluation of the effects of not implementing the proposed Project, known as the No Project Alternative. In addition to the Project not being implemented as proposed, the No Project Alternative considers outcomes or actions that likely would take place without the Project.

Currently, and at the time of the publication of the Notice of Preparation, the CAL FIRE Chalk Mountain facility was operating using a portable VHF repeater tower as a temporary replacement of the wooden antenna pole damaged in the CZU Lightning Complex fire that burned through the Project site and surrounding area in August and September 2020. If the proposed Project were not approved, upgraded communications in the project area would not occur and the area would not be connected via microwave to the statewide communications network. CAL FIRE's two channels of VHF radio communications would continue to be used. Enhanced communication capability for other agencies, including CHP, DPR, Caltrans, and other State and county public safety agencies would not occur.

Under the No Project Alternative, changes at the Project site or an alternative site would not be implemented. No new tower, antennas, equipment vault, solar panels, or fuel system would be installed. Project objectives for enhance VHF radio coverage, microwave connectivity, or communications system access by other public agencies would not be realized. In terms of environmental impact, the No Project Alternative would result in no new impacts beyond those associated with ongoing periodic maintenance of the existing communication facility and access road. However, the temporary repeater located at the site subsequent would likely be replaced by a new tower supporting existing VHF technology.

The No Project Alternative is environmentally superior to the Project because it would result in little to no change at the communications site, but it would not meet any of the project objectives. It is superior to the two site alternatives because no new construction would occur at those sites.

If the No Project Alternative is the environmentally superior alternative, the CEQA Guidelines (15126.6(e)(2) require that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative.

D.3.5 Environmentally Superior Alternative

In the absence of the No Project Alternative, the Environmentally Superior Alternative would be the proposed Project. The existing Chalk Mountain communications site is preferred to the two alternatives for both environmental and technical reasons.

In terms of environmental impacts, the alternative sites to the proposed Project do not exhibit any significantly better outcomes as compared to the proposed Project. All three sites have similar post-wildfire vegetation and habitat conditions. Each site has an existing access road and each site has been disturbed by prior development. The two alternative sites are smaller than the proposed Project site, resulting in facilities and associated construction and O&M activities being closer to the site edge than would be the case at the proposed Project site.

The visibility of a new facility at the Chalk Mountain DPR site alternative as seen from Highway 1 would be nominally less than the visibility of the proposed Project site because this alternative is 0.75 miles more distant from the highway. However, the alternative site is immediately adjacent to and would be more visible from the West Waddell Creek State Wilderness and would be potentially more visible from areas within the more highly frequented core areas of Big Basin Redwoods State Park, which lie to the east of the wilderness. A facility at the Eagle Rock site would not be visible from Highway 1 but would be more

visible to a larger population of Park visitors than would be the case with a facility at the proposed Project site, which is 4.5 miles west of the core of the Park.

Compared to the proposed Project site, a facility at either alternative site would affect a larger number of Park visitors, who anticipate having a rustic and wilderness experience when visiting the Park. Motorists on Highway 1 already have distant views of the existing Chalk Mountain facility over a distance of approximately 1.7 miles. The view is fleeting for motorists and is seen in the context of the existing electric and telephone poles, residences, and businesses along the highway.

In terms of technical feasibility, neither of the two site alternatives achieve all or most of the Project's objectives, particularly with regard to communications coverage of the area along the Highway 1 corridor and the coastal watersheds. The existing Chalk Mountain site is the only communications site identified in the Project area that accesses most of this section of Highway 1 and several State Parks as well as the Lower Bonny Doon Road corridor and the Last Chance, Swanton Road, Whitehouse, and Old Woman's Canyon communities. The Chalk Mountain DPR alternative site provides somewhat less robust coverage than the existing Chalk Mountain site. (Compare Figures D-5 and D-6.) The Eagle Rock site provides a more robust coverage of the core Park area but provides little to no coverage for the Highway 1 corridor and the reaches of the coastal watersheds near the highway. (Compare Figures D-5 and D-7.)

Relocating the telecommunications site would degrade radio coverage of the area for CAL FIRE and other State agencies, such as Caltrans and CHP, by shadowing and blocking radio signals up and down the coast and into the local coastal communities.

Therefore, the existing Chalk Mountain site is the superior site for meeting both VHF and microwave communication objectives. Additionally, the Chalk Mountain site is a disturbed site that would not need to be expanded, therefore minimizing ground disturbance-related impacts. Visual changes at the site would be nominal compared to existing conditions. The principal visible difference as seen from Highway 1 would be replacement of the existing 60-foot dark wood pole with an 80-foot lighter-color lattice steel tower. Views of the site from Highway 1 are over a great distance and are fleeting to a motorist or passenger looking in the direction of the Chalk Mountain ridge. The existing site is the site furthest from the main visitor areas of the Park and would be less visible to Park visitors than a facility at either of the two alternative locations.

E. Cumulative Scenario and Cumulative Impacts Analysis

E.1 Introduction

Under CEQA, "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts" (CEQA Guidelines §15130(a)(1)). Cumulative impacts can result from "individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines §15355). An EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects is "cumulatively considerable" (CEQA Guidelines §15130(a)). Such incremental effects are to be "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines §15164(b)(1)). Together, these projects comprise the cumulative scenario for the cumulative analysis.

E.2 Cumulative Projects and Projections

The Chalk Mountain communications site is in a remote location within Big Basin Redwoods State Park. Access to the site is by way of gated Chalks Road, an existing dirt road entered at Cascade Ranch off Highway 1. The road is maintained by CAL FIRE. There are no known projects proposed near the communication site or the access road on int the vicinity in either San Mateo or Santa Cruz Counties. It is possible that unknown future projects could emerge that would overlap with construction of the proposed Project, but this is speculative and not a consideration. Maintenance operations at the communications facility would be similar to those currently occurring and would involve infrequent vehicle trips to the site. Maintenance of Chalks Road is an ongoing activity, and not part of the proposed Project beyond post-construction restoration as needed.

Currently closed, Big Basin Redwoods State Park is undertaking the "Reimagining Big Basin" planning project. This effort is in the early planning stages. California Department of Parks and Recreation (DPR) is engaging stakeholders and the public in an effort to reimagine the future of Big Basin Redwoods State Park following the CZU Lightning Complex Fire. The process for reestablishing the Park includes immediate recovery efforts, planning processes to renew the vision for the Park's future, and long-term planning and project implementation. There's no specific timeline for potential project implementation actions to be undertaken. It is expected that the proposed Chalk Mountain Communications Tower and Facilities Replacement Project would be completed before significant projects would be undertaken in the Park. Should any Park construction be undertaken contemporaneous with implementation of the proposed Project, cumulatively considerable impacts would not occur because the core are of the Park where most projects would be expected to be undertaken is over 4 miles east of the Chalk Mountain site and access to the core area would be from the east, while access to the proposed Project would be from the west.

E.3 Cumulative Effects of the Proposed Project

E.3.1 Introduction

The following sections (Section E.3.2 through E.3.4) present the cumulative effects analysis for each resource area in the same order as presented for the impact analysis for the proposed Project in Section C.

E.3.2 Aesthetics

Much of the land in the Project vicinity and visible from Highway 1 is open space, with agricultural lands predominating along the highway and much of the remaining land in either Big Basin Redwoods State Park or Año Nuevo State Park. Numerous agricultural operations and a few residences are found along the highway in the area. In the absence of any known proposed projects in this area of Santa Cruz and San Mateo Counties and given the extensive public land, there is anticipated to be little alteration of visual resources in the area due to new or future projects. Construction of the replacement facilities at the Chalk Mountain site would increase slightly the visibility of facilities at the site, including a tower replacing an existing wood pole and of a new equipment vault replacing an existing vault. These changes would be seen as nominal changes by viewers looking toward the site from the highway and adjacent lands. The contribution of the proposed Project on cumulative effects on Aesthetics would be less than considerable.

E.3.3 Biological Resources

The Biological Resources at the Project site and along the access road to the site have been affected by the 2020 CZU Lightning Complex wildfire. No known projects are planned along the access route or near the Project site that would contribute to a cumulative impact to these resources. Construction of the proposed Project would occur within the existing Chalk Mountain communication site with little or no impact to vegetation or wildlife that may be found at or near the site. The Project would be unmanned, so there would be no ongoing daily activity by CAL FIRE staff at the site. After construction, the facility would generate occasional visits for maintenance activities. Given the remoteness of the site, the minimal level of post-construction activity, and the lack of other known projects that could contribute to a cumulative effect, the cumulative effect on Biological Resources would be less than considerable.

E.3.4 Land Use and Planning

The Project site is an existing remote communications facility. The proposed Project would replace existing facilities in the site and remove the no longer needed existing facilities. Because of its location within the Coastal Zone, it would require a Coastal Development Permit from Santa Cruz County. The Project is consistent with the general plan and zoning designations for the site. In the absence of any other known projects in the vicinity, the cumulative impact of the Project on Land Use and Planning would be less than considerable.

E.4 Cumulative Effects of Alternatives

Two alternative sites for the proposed Project were considered. Both sites are within Big Basin Redwood Park. The Chalk Mountain DPR alternative, located on Chalks Road 0.75 miles east of the Project site, would have similar environmental effects as the proposed Project and would have a similar contribution to cumulative effects as the Project. The Eagle Rock site is closer to the core area of Big Basin Redwood State Park and would be accessed from the south via Empire Grade. There would be the potential for development of the communications facility at this site to overlap with projects in the Park core area, but the likelihood is considered slight given the ongoing Park planning process and the timing of the Chalk Mountain communications facility's development. Even in the event of projects overlapping, the cumulative effect would be less than significant.

F. Initial Study Conclusions and Other CEQA Requirements

California Environmental Quality Act (CEQA) Guidelines Section 15126 requires a discussion of growth-inducing impacts of the proposed Project, significant irreversible environmental changes that would result if the proposed Project is implemented, and significant environmental effects that cannot be avoided if the proposed Project is implemented. Additionally, State CEQA Guidelines Section 15128 requires a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, do not need to be discussed in detail in the EIR. The following sections provide these discussions.

F.1 Growth-Inducing Effects

CEQA requires a discussion of the ways in which a proposed project could induce growth and the impacts of such growth. State CEQA Guidelines Section 15126.2(d) identify a project to be growth-inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Other examples of projects that are growth-inducing are the expansion of urban services into a previously un-served or under-served area, the creation or extension of transportation links, or the removal of major obstacles to growth.

It is important to note that these direct forms of growth have secondary effects of expanding the size of local markets and attracting additional economic activity to the area. Typically, the growth-inducing potential of a project would be considered significant if it fosters growth or a concentration of population above what is assumed in local and regional land use plans, or in projections made by regional planning authorities, and such growth would result in significant impacts to other resources. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies.

F.1.1 Direct Growth-Inducing Impacts

Construction of the proposed Project would occur over approximately 2 years, requiring an estimated 20 workers on any given day. Construction activity would be intermittent over this period. The short-term construction employees are expected to be mostly, if not completely, derived from the local labor pool. Because of the existing sizable local and regional labor pool, no influx of workers into the local communities is anticipated. Thus, no increase in population and housing resulting from construction of the proposed Project would occur.

During operation of the proposed Project, no new permanent staff would be required. O&M activities for the new tower would be performed by existing CAL FIRE personnel and would remain similar to that occurring for the existing site facilities. As no permanent staff would be required, increases in population and housing would not occur as a result of operation of the proposed Project, and no economic impacts on the region would occur. Therefore, the proposed Project would not generate significant direct growth-inducing impacts.

F.1.2 Indirect Growth-Inducing Impacts

A project would indirectly induce growth if it would trigger the construction of new community service facilities that could increase the capacity of infrastructure in an area that currently meets the demands (e.g., an increase in the capacity of a sewage treatment plant or the construction or widening of a roadway beyond that which is needed to meet existing demand).

The proposed Project is being constructed to support the State's PSMN and continue to provide an essential emergency communications linkage for CAL FIRE's fire protection and emergency response command and control throughout the area. The improved telecommunications would also support CHP, DPR, and other public agencies, including local fire/sheriff operations. Continued and improved reliability of emergency response communications would not indirectly induce growth in the surrounding area.

The short-term indirect effects from construction could possibly incrementally increase activity in nearby retail establishments resulting from some construction workers patronizing establishments in the general vicinity. However, there would be no long-term effects from the Project Therefore, the Project would not generate indirect growth-inducing impacts.

F.2 Significant Irreversible Environmental Changes

Pursuant to State CEQA Guidelines Section 15126.2(c), an EIR must address significant irreversible environmental changes and irretrievable commitments of resources that would be caused by the proposed Project. These changes include uses of non-renewable resources during construction and operation, long-term or permanent access to previously inaccessible areas, and irreversible damages that may result from project-related accidents.

The proposed Project would replace an existing, now destroyed, telecommunications tower, as well as install upgraded support facilities, including a new vault for equipment and a backup generator, a fuel tank, and a new solar PV system. Construction of the proposed Project would require an irretrievable commitment of natural resources from direct consumption of fossil fuels, construction materials, and energy required to produce these materials. However, the proposed Project does not represent an uncommon construction project that uses an extraordinary amount of raw materials in comparison to other similar development projects.

Resources that are committed irreversibly and irretrievably are those that would be used by a project on a long-term or permanent basis. Water would be used as needed for dust control during construction and for making concrete. During operation, minimal water would be required. Fossil fuels and energy would be consumed in the form of diesel, oil, and gasoline used for equipment and vehicles during construction and operation activities. During operations, diesel, oil, and gasoline would be used by vehicles driven by maintenance crews as well as for operation of the backup generator when needed. It is anticipated that maintenance of the facility would be performed by existing CAL FIRE personnel and would be similar to that occurring under past use of the site. Electrical energy would be consumed during construction and operations. With installation of the new solar PV system with back-up solar batteries, it is anticipated fuel for the generators and electrical use for operation of the new telecommunications tower would be reduced from past operations.

These energy resources would be irretrievable and irreversible. The amounts of irretrievable resources needed for the proposed Project would be easily accommodated by existing supplies and offset by the new solar PV system and a more efficient generator. Although the increase in the amount of materials and energy used would be insignificant, they would nevertheless be unavailable for other uses.

CEQA Guidelines Section 15126.2(c) also requires that an EIR evaluate the irretrievable commitments of resources to assure that current consumption is justified. The irretrievable commitment of resources required by the proposed Project is justified by the objectives of the Project, which are to upgrade and supplement CAL FIRE's existing telecommunications infrastructure, continue to provide an essential emergency communications linkage for CAL FIRE's fire protection and emergency response command and control throughout the area, and support CHP, DPR, and local fire and sheriff emergency communication operations. No increases in inefficiencies or unnecessary energy consumption are expected to occur as a

direct or indirect consequence of the Project. Therefore, no mitigation measures are proposed beyond the policies and procedures set by other entities that already exist.

F.3 Significant Effects that Cannot be Avoided

State CEQA Guidelines Section 15126.2(b) requires an EIR to identify significant environmental effects which cannot be avoided by a project, even with implementation of mitigation measures. The environmental impacts of the proposed Project were evaluated in an Initial Study that was published along with the Notice of Preparation in October 2021 and identified that there could be potentially significant impacts to Aesthetics, Biological Resources, and Land Use and Planning. Therefore, these topics were further evaluated in Section C of this focused EIR.

Impacts that are significant and cannot be reduced to less-than-significant levels through the application of feasible mitigation measures are characterized as significant and unavoidable impacts. Based on the additional analysis provided in this EIR, no significant and unavoidable impacts were identified.

F.4 Effects Not Found to be Significant in the Initial Study

State CEQA Guidelines Section 15128 requires a brief statement of the reasons why various possible significant effects of a project have been determined not to be significant and, therefore, do not need to be discussed in detail in the EIR. The following provides a discussion regarding the effects of the proposed Project that were found not to be significant.

The analysis in the Initial Study determined that the proposed Project would result in either no impacts or less-than-significant impacts related to the following resources and issues:

- Agriculture & Forestry Resources
- Air Quality
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology and Water Quality
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The following subsections summarize the Project-specific impacts for each of the above listed issue areas based on the Initial Study analysis. The reasons why various possible significant effects of the proposed Project were determined not to be significant are described. Because these effects are not significant, they are not discussed in detail in this EIR.

F.4.1 Agriculture and Forestry Resources

The proposed Project area is located in the Santa Cruz County's North Coast Planning area in the Existing Parks and Recreation Land Use Designation (O-R) and is in an area zoned as Parks, Recreation, and Open Space (PR). The Project area is designated as "Other Land" under the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), and not designated Farmland and therefore is not under a Williamson Act contract (DOC, 2019). As such, construction and operation and maintenance of the proposed Project would not result in the conversion of Farmland to non-agricultural use or conflict with a Williamson Act contract. No impact would occur. The proposed site zoning would allow for timber harvesting; however, the Project site has no timber harvesting uses or forest land and was previously developed with an existing telecommunications facility. Therefore, the proposed Project would not conflict with zoning for forest land, timberland, or timber production, or result in the loss of forest land or conversion of forest land to non-forest use, resulting in less-than-significant impacts.

F.4.2 Air Quality

Generally, a project could be inconsistent with an applicable air quality management plan or an attainment plan if it causes population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in attainment projections. The proposed Project would not result in any population growth or new permanent full-time employment; therefore, the proposed Project would have no potential to conflict with or obstruct implementation of any applicable air quality plan, and no impact would occur. Construction activities would cause intermittent emissions of air pollutants over approximately 2 years. All construction activities must comply with the Monterey Bay Unified Air Pollution Control District rules regarding controlling visible emissions (Rule 400) and avoiding nuisances (Rule 402). These one-time project-level construction emissions would not result in a cumulatively considerable net increase of any criteria pollutants, including ozone precursor emissions (NOx or VOC) or exhaust emissions of particulate matter (PM10 and PM2.5), and the air quality impact of construction would be less than significant. O&M emissions would be comparable to operations of the existing Chalk Mountain communications facilities resulting in less than significant impacts related to increases in criteria pollutants.

Short-term emissions associated with construction would occur sporadically over a period of approximately 2 years from mobile sources traveling on the access road and staging and work areas. Construction contractors would control dust to avoid creating nuisance conditions and take steps to control diesel exhaust, limit idling times, and requiring proper registration of portable equipment pursuant to regulations. These steps would reduce the construction emissions of diesel particulate matter and other toxic air contaminants to ensure that sensitive receptors would not be exposed to substantial concentrations. Pollutant emission impacts to sensitive receptors would be less than significant. Furthermore, construction emissions would be intermittent, result in minor odors, and would not affect a substantial number of people. O&M emissions would be comparable to existing operations. Impacts from other emissions would be less than significant.

F.4.3 Cultural Resources

No sensitive historical resources or unique archaeological resources have been identified within the Project area. However, previously unknown buried historical, archaeological, or tribal cultural resources could be discovered and damaged, or destroyed, during ground disturbing work. Implementation of APMs CR-1 and CR-2 (see Table B-2) would ensure that construction personnel understand the procedures to be followed upon the discovery of cultural materials and would evaluate and protect unanticipated discoveries, thereby reducing cultural resources impacts to less than significant. There is no indication that human remains are present within the Project area. The limited nature of the proposed ground disturbance in an already disturbed area makes it unlikely that human remains would be unearthed during construction. Implementation of APM CR-3 (see Table B-2 in Section B), which requires evaluation, protection, and appropriate disposition of human remains, would ensure that this potential impact would be less than significant.

F.4.4 Energy

While construction would consume energy through fuel use and production and transport of construction materials, fuel use would be temporary. CAL FIRE also has a strong financial incentive to use recycled materials or products sourced from nearby areas in order to reduce the costs of transporting the construction materials. It is also reasonable to assume that production of construction materials would employ energy conservation practices in the interest of minimizing the costs of creating the construction materials. The new facility would use an improved solar array for operational energy and lighting, and

include backup solar batteries or propane generators, and would not require additional personnel compared to the existing Chalk Mountain facility. This would ensure no increase in long-term energy consumption at the Project site. As such, construction and O&M would not use energy in an inefficient, wasteful, or unnecessary manner and energy impacts would be less than significant. Additionally, the proposed Project activities would not conflict with or obstruct State or local renewable energy or energy efficiency plans.

F.4.5 Geology and Soils

No active or potentially active faults cross or are near the Project site, although the site is in an area of California generally characterized as having high seismicity. All Project infrastructure replaced and constructed within the existing telecommunications facility would be designed consistent with California Building Code and all other requirements related to seismic events; therefore, the potential impact from surface fault rupture or strong seismic ground shaking is less than significant. The Project site is not mapped within a liquefaction zone by the California Department of Conservation Geologic Survey (CGS), so no impact from landslides would occur. The Project site is also not mapped within a landslide hazard zone by CGS; however, the County of Santa Cruz indicates landslide hazard areas are located on the southeaster slope of Chalks Mountain (Santa Cruz County, 1994b). While no evidence of landside movement was observed during field reconnaissance (DGS, 2018), the Project has been designed to place the tower and vault structure foundations at least 25 feet from the top of the slope. With the inclusion of this design feature, potential impacts due to landslides, liquefaction, liquefaction-related phenomena, seismically induced landslides, and construction-triggered landslides are less than significant. With respect to expansive soils, no evidence of expansive soil was discovered during the subsurface exploration for the site (i.e., soils with a liquid limit greater than 50 or a plasticity index greater than 25) (DGS, 2018). Soils underlying the Project site have low to moderate shrink-swell, and with the anticipated construction techniques the potential impact from expansive soils is less than significant. The proposed Project does not include any wastewater disposal facilities, such as septic tanks, so no impacts related to wastewater disposal systems would occur. Additionally, the Project site itself is underlain by igneous and metamorphic bedrock, which have low potential to contain fossils, and a desktop review of paleontological resources identified no paleontological fossil sites. Therefore, the potential to encounter an unidentified paleontological resource during excavation would be low such that paleontological resource impacts are less than significant.

F.4.6 Greenhouse Gas Emissions

Construction activities would cause greenhouse gas (GHG) emissions due to fuels used by diesel and gasoline-powered construction vehicles and off-road equipment sporadically over the approximately 2-year construction period. These one-time project-level GHG emissions would not occur in quantities that could have a significant impact on the environment due to the limited number of construction workers and equipment involved. O&M activities would cause no increase in GHG emissions, as no new crews would be added as a result of the proposed Project. Accordingly, proposed Project GHG emissions be less than significant. Because the project-related GHG emissions, including construction emissions, would be "covered" by the fuel suppliers subject to California's Cap-and-Trade requirements, these emissions would not conflict with California's progress towards achieving GHG reductions. Additionally, solar panels would be installed to reduce dependence on the use of the propane generator. As such, the proposed Project would not conflict with any applicable GHG management plan, policy, or regulation and this impact would be less than significant.

F.4.7 Hazards and Hazardous Materials

Only small amounts of hazardous materials, such as vehicle fuels, hydraulic fluid, and other vehicle and equipment maintenance fluids may be stored at the construction staging area and in construction vehicles during construction. No acutely hazardous materials would be used. O&M would result in increased volumes of propane stored and used at the Chalk Mountain site. With implementation of APMs HAZ-1 and HAZ-2 (see Table B-2), a Hazardous Materials and Waste Management Plan and Hazardous Materials Business Plan would be prepared and implemented, which would reduce potential impacts to the public or environment from the routine transport, use, or disposal of hazardous materials during construction and O&M to a less-than-significant level. APMs HAZ-1 and HAZ-2 would also reduce impacts related to the accidental release of hazardous materials into the environment to less than significant.

No schools are within one-quarter mile of the Project site, therefore no impacts to schools from the accidental release of hazardous materials would occur. Furthermore, the Project site and surrounding area (up to 0.5 miles) is not listed as a hazardous waste site within the California Department of Toxic Substances Control EnviroStor Database (DTSC, 2020), and therefore would not cause disruption of an identified hazardous material site. The site is not within an airport land use plan and the proposed communications tower is not recommended to include lights for air navigation safety based on Federal Aviation Administration Advisory Circular 70/7460-1; therefore, the proposed Project would not result in a safety hazard related to airports.

Construction activities may require brief temporary roadway or lane disruptions on local roads providing access to the site; however, flagmen would be present to regulate traffic flow. Emergency vehicle flow through the area, and access to any nearby residences or areas, would not be impacted. Once operational, the proposed Project is intended to facilitate emergency communications and would have no impact on access or movement to emergency service providers.

The Project area falls within a high fire hazard severity zone within the State Responsibility Area (CAL FIRE, 2007). Construction activities could increase the risk of wildland fires, especially due to the undeveloped terrain surrounding the Project site. To reduce the wildfire risk, CAL FIRE would implement standard fire prevention protocols and follow a fire prevention plan. Therefore, impacts related to exposing people or structures to a risk of loss, injury, or death involving wildland fires would be less than significant. Project O&M activities would be similar to that of the existing telecommunications facilities, if not reduced due to upgraded generator and fuel system. CAL FIRE would comply with all current federal and State laws related to vegetation clearance, if needed, and fire prevention, including implementation of an approved Hazardous Materials Business Plan (per APM HAZ-2) reducing O&M impacts to less than significant. Furthermore, the proposed Project is intended to upgrade/supplement emergency communication linkage for CAL FIRE's fire protection and emergency response command and control throughout the area; therefore, implementation of the proposed Project would improve wildland fire response.

F.4.8 Hydrology and Water Quality

Use of construction vehicles and equipment would increase the potential for spills of oil, grease, or other water contaminants, as well as the potential for increased erosion and sedimentation associated with soil disturbance. Spills would be immediately addressed in accordance with all applicable Regional Water Quality Control Board (RWQCB) and Santa Cruz County permits and regulations. Implementation of APMs B-1 and HAZ-1 (see Table B-2) would require personnel to receive Environmental Awareness Training and require implementation of a Hazardous Materials and Waste Management Plan, which would reduce potential water contamination impacts to less than significant.

During construction a water truck would deliver water to the work area for dust control and general construction needs. Upon completion, the proposed Project would not generate any demand for water and would result in only a nominal increase of impervious surface area within the site. As such, the proposed Project would not affect existing water supplies, would not decrease groundwater supplies or interfere with groundwater recharge, and would not conflict with or obstruct any plans or policies pertaining to groundwater management. Groundwater impacts would be less than significant.

Construction involves minor earthwork and grading, which would be completed to enable water flow in the natural drainage direction and be designed to prevent ponding and erosion that could cause damage to the proposed facilities. As such, the proposed Project would not substantially alter the existing drainage pattern of the site or area, the new facilities would not impede water or flood flows, and minor grading would not create or contribute runoff water leading to the exceedance of the capacity of existing or planned stormwater drainage systems. Furthermore, to control soil erosion, erosion control measures and Best Management Practices (BMPs) would be implemented, as well as adherence with all applicable RWQCB (National Pollutant Discharge Elimination System [NPDES]) and Santa Cruz County water quality permits and regulations to reduce surface runoff, erosion, and transport of soil on- or off-site. Impacts related to erosion or siltation, and surface runoff would be less than significant. Implementation of BMPs, water quality permits, and regulations, as well as APM HAZ-1 (see Table B-2), which requires implementation of a Hazardous Materials and Waste Management Plan, would also reduce potential water quality impacts and ensure compliance with the Central Coast Regional Water Quality Control Basin Plan.

There are no lakes that could produce a seiche, and while the Pacific Ocean is 3 miles west of the Project site, the site is located at an elevation of 1,585 feet, such that there is no risk of seiche or tsunami.

F.4.9 Mineral Resources

There are no active or past mines located within or directly adjacent to the proposed Project site. As such, construction and O&M would not result in the loss of availability of a known mineral resource, or a locally important mineral resource recovery site. No mineral resources impacts would occur.

F.4.10 Noise

Construction activities would result in temporary increases in noise levels in the Project vicinity. However, the intermittent and variable nature of construction noise limits the potential for adverse effects, such as annoyance, to be experienced for any single location, and sleep interference would not be a concern because activities would be limited to daylight hours. Construction would primarily occur Monday through Saturday between 7:00 a.m. and 6:00 p.m. The duration of this temporary noise increase would be limited to sporadic periods of work over approximately 2 years. An equivalent continuous noise levels near active work was estimated to range up to about 84 dBA (decibels, A-weighted). As specified in Santa Cruz County Code, Chapter 8.30 (Noise), Project construction would exceed the noise ordinance's daytime threshold of 75 dB near the site. With implementation of APM N-1 (see Table B-2), which limits the hours of construction activities and limits the noisiest activities to weekdays, impacts related to temporary ambient noise level increases would be reduced to less than significant.

Operational activities would not differ much from operation of the existing communications facility. A new generator would be housed in the new replacement vault, which would reduce the long-term noise potential. Vehicles traveling to the site would occur occasionally as is done for the existing facility; however, it is anticipated these trips would occur less due to the more efficient operation of the generator, fuel system, solar PV system, and solar batteries. As such permanent ambient noise level increases would be less than significant.

Construction activities, such as use of the rock hammer or jack hammer for site preparation and tower installation, would produce groundborne vibration. Blasting would not occur. Construction-related groundborne vibration would be short-term and confined to only the immediate area around activities (within about 25 feet), where there are no residences, homes, or other buildings that would be exposed to excessive vibration, resulting in a less-than-significant impact.

The Project site is not located in the vicinity of a private airstrip or airport; the closest is approximately 5 miles south (Las Trancas Airport, a private airport). The Project requires no permanent staffing, and therefore would not expose people to noise from the airport. Similarly, no excessive noise would result from Project operations that could impact noise levels experienced by people presently residing or working near an airport. As such, people would not be exposed to excessive aircraft noise, and there would be no impact.

F.4.11 Population and Housing

The proposed Project would not create new housing, displace housing, or introduce any new permanent personnel. The approximately 20 project construction personnel are expected to be mostly, if not completely, derived from the local labor pool. Additionally, continued and improved reliability of emergency response communications would not indirectly induce growth in the surrounding area. As such, the proposed Project would not directly or indirectly induce population growth. No population and housing impacts would occur.

F.4.12 Public Services

While the Project site is located within a high fire hazard severity zone as designated by CAL FIRE, it was previously developed with an existing CAL FIRE telecommunication facility. Construction activities would temporarily result in an increased risk of fire ignition; however, all work would be conducted within the existing site, which has been cleared of vegetation fuels, would include implementation of BMPs for fire prevention, and all construction workers would be trained for fire prevention and suppression techniques/ protocols. The temporary increase in fire risk during construction would not create the need for new or physically altered fire protection facilities or affect response times. Additionally, O&M would not affect the ability of fire personnel to respond to fires but rather enhance CAL FIRE communications regarding fire response and abatement throughout the region. Impacts to fire protection services would be less than significant.

Construction activities associated with the proposed Project would be temporary and the Project site is remote. Once constructed, the proposed Project would not require police services beyond routine patrols and response at the level provided for the existing CAL FIRE telecommunications facility. As with fire protection services discussed above, the improved telecommunication facilities could also improve public safety communications throughout the region. Any potential impacts to police protection services would be less than significant.

With respect to schools, parks, and other public facilities, such as medical, post office, and libraries, the proposed Project would not directly or indirectly induce growth (see Section F.4.11). Any use of such facilities by the anticipated 20 construction personnel, would be temporary during the 2-year construction period, limited, and would not contribute substantially to the physical deterioration of existing facilities. Impacts would be less than significant.

F.4.13 Recreation

The Project site and surrounding area is within Big Basin Redwoods State Park, which burned in the CZU Lightning Complex Fire in August 2020 and is closed until further notice. The Park has more than 80 miles

of trails, including trails that link Big Basin to Castle Rock State Park and the eastern reaches of the Santa Cruz range. As previously discussed, the proposed Project would not directly or indirectly induce growth (see Section F.4.11). Any use of recreational facilities by the anticipated 20 construction personnel, would be temporary during the 2-year construction period, limited, and would not contribute substantially to the physical deterioration of existing facilities resulting in a less-than-significant impact. The proposed Project would not require the construction or expansion of recreational facilities; no impact would occur.

F.4.14 Transportation

The proposed Project would result in temporary traffic trips during construction associated with the 20 construction workers (assumed to come from the greater Santa Cruz area) and material deliveries (some expected to originate from the Port of San Francisco), which would occur on regional and local roadways. These trips would not generate traffic volumes that would significantly diminish the performance of the circulation system. O&M activities would be similar to that for the existing telecommunications facility, if not reduced due to upgraded facilities. Therefore, temporary and permanent traffic volumes associated with the proposed Project would not conflict with any program pertaining to performance of the circulation system, resulting in less than significant impacts. Construction truck trips and associated vehicle miles travelled to access the Project site may be high but would be temporary and in limited volumes necessary to deliver specialized equipment and materials to the site. Upon completion of construction, all worker commute-trips and truck trips would cease. Long-term O&M activities would generate very few vehicle trips, most coming from within the local area. Therefore, the proposed Project would not affect existing transit uses or corridors. The Project does not include modifications to any public roadways or driveways. During construction, oversize truck trips are expected to deliver large pieces of construction equipment and materials to the site; all oversized truck trips would obtain permits from Caltrans and local jurisdictions, as needed. Impacts associated with increased hazards due to a geometric design feature or incompatible use would be less than significant. As noted above in Section F.4.7, Hazards and Hazardous Materials, during construction, emergency vehicle flow through the area and access to any nearby residences or areas would not be impacted. Emergency access impacts would be less than significant. Once operational, the proposed Project is intended to facilitate emergency communications and would have no impact on access or movement to emergency service providers.

F.4.15 Tribal Cultural Resources

There are no known Tribal Cultural Resources (TCRs) listed in, or known to be eligible for listing in, the California Register of Historical Resources (CRHR) or local register of historical resources within the proposed Project site or within 0.25 miles of the Project site. Additionally, no Native American tribes requested notification of projects pursuant to Assembly Bill 52, and none requested government-to-government consultation to identify if TCRs are present. As such, it is possible that previously unidentified TCRs that may be eligible for inclusion in the National Register of Historic Places, CRHR, or local registers could be discovered and damaged, or destroyed, during ground disturbance. Implementation of APM CR-2 (see Table B-2) requires evaluation and protection of unanticipated TCR discoveries; thereby, ensuring that any potential impact to listed or eligible TCRs would be less than significant.

F.4.16 Utilities and Service Systems

The proposed Project involves the replacement of an existing telecommunications tower and other facilities at a previously disturbed site. The proposed Project does not require and would not result in the relocation or construction of any new or expanded water, wastewater treatment or stormwater drainage, electric power, or natural gas facilities. The Project does include development of a new larger solar PV

installation; however, this facility would provide power only to the proposed Project. Overall, the proposed Project would have less than significant impact on utility facilities.

Water would be used as needed for dust control during construction and for concrete and would be obtained from offsite water purveyors. Restroom facilities would be provided by portable units to be serviced by licensed providers. Operations would not generate any demand for water or generate wastewater. The proposed Project does not require a permanent, long-term water source. As such, the proposed Project would have sufficient water supplies and would not exceed the capacity of wastewater treatment providers. Impacts would be less than significant. Solid waste generated during construction would include materials packaging and the existing telecommunications facilities being decommissioned and removed. Construction spoils would be used as fill at the Project site, and packaging and the old infrastructure would be disassembled and recycled to the extent feasible. As such, a minimal volume of waste materials would be disposed compared to the capacity of the Ben Lomond Transfer Station or other local recycling centers and landfills. Beyond packaging from occasional replacement parts, no solid waste would be generated as a result of O&M activities. Therefore, impacts related to the generation of solid waste would be less than significant and in compliance with federal, State, and local management and reduction statues and regulations related to solid waste reduction.

F.4.17 Wildfire

The proposed Project site and surrounding area were burned by the CZU Lightning Complex Fires in August 2020. CAL FIRE, the project proponent, has responsibility for providing fire protection services for the Chalk Mountain region.

The road providing access to the project site from Highway 1 is not known to be included as part of an officially designated emergency response or evacuation plan. As noted above in Section F.4.7, Hazards and Hazardous Materials, during construction emergency vehicle flow through the area and access to any nearby residences or areas would not be impacted. In addition, any oversized truck trips would require obtaining permits from Caltrans and local jurisdictions, as needed. These permits include assurances for emergency vehicle movements and access ensuring less than significant impacts to emergency evacuation plans. Furthermore, facility operations would facilitate emergency communications and would have no impact or impair an adopted emergency response plan or emergency evacuation plan.

The combined conditions of steep slope, high wind potential at the summit, and the presence and use of fuels and power could lead to a temporary increased risk of wildfire and pollutant concentrations in the event of a wildfire during construction. Subsequent to the 2020 wildfire, little vegetative fuel remains in the site vicinity. To reduce wildfire risk, the State would implement standard CAL FIRE fire prevention protocols and follow a fire prevention plan. Once constructed, the proposed Project would utilize solar energy for power, with secondary power provided by an on-site propane generator, similar to the existing telecommunications facility, such that it would not result in a significant change to the Project site. Therefore, the proposed Project would have a less than significant impact related to exacerbating wildfire risk.

Although the surrounding area has moderate landslide susceptibility, the project site is flat and does not show any evidence of landslide movement. Any earthwork would enable water to flow in the direction of the natural drainage and would be designed to prevent ponding and erosion. The overall goal of post-construction restoration would be to restore natural contours approximately equivalent to pre-construction conditions. Additionally, as discussed in Section F.4.5, Geology and Soils, the proposed Project has been designed to place the tower and vault structure foundations at least 25 feet from the top of the slope. With the inclusion of this design feature, potential impact due to downslope or downstream flooding or landslides are less than significant.

G. Mitigation Monitoring and Reporting Plan

DGS on behalf of CAL FIRE is the CEQA Lead Agency. In that role, if the proposed Project or an alternative is approved, the State will be responsible for ensuring that monitoring and reporting on required mitigation occurs. As the Applicant and project proponent, CAL FIRE would be responsible for implementing the requirements identified in the Mitigation Monitoring and Reporting Plan (MMRP).

No mitigation measures separate from the proposed Applicant Propose Measures (APMs) have been identified as part of the CEQA review. The MMRP will be based on the APMs identified in the EIR (see Table G-1 Applicant Proposed Measures) and any additional measures that may be required by responsible and/or permitting agencies. The MMRP will identify roles and responsibilities, including monitoring procedures, responsible parties, reporting procedures, project change or variance procedures, and dispute resolution.

Table G-1. Applicant Proposed Measures

BIOLOGICAL RESOURCES	
MITIGATION MEASURE	**APM B-1. Personnel Environmental Awareness Training.** An agency-approved biologist shall prepare an environmental-education program to be presented to all personnel assigned to the Project. The program shall be presented in-person immediately prior to the start of construction, and as crew members are added to the project, a video presentation may be used in lieu of an in-person presentation. Participants shall be required to acknowledge in writing that they have participated and understand the content of the training. The program shall describe sensitive resources and associated APMs, mitigation measures, applicable permits and regulatory requirements, and any resource agency requirements.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to beginning work on the project and throughout construction and operations**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM B-2. Pre-construction Surveys and Construction Monitoring**. A qualified biologist shall be present for all Project activities that may impact special-status species habitat or jurisdictional areas. This is likely to include vegetation removal, site grading, and any other ground-disturbing activities. The qualified biologist shall arrive early on the first workday morning of each week or the first day after a construction hiatus of more than two days and conduct a pre-activity survey to check under and around all vehicles or heavy equipment that shall be moved during the day, to check under and around and inside materials at staging areas, to check trenches, survey for active nests (February 15 through August 15), and to otherwise ensure that no special-status animals could be harmed when workers arrive. The qualified biologist shall also survey the access road to the Project site on the morning of the first day of Project construction and equipment mobilization. If a special-status animal is found, visible markers such as pinflags or flagging shall be used to show avoidance areas and workers shall be informed of prohibited activities near the animal until it moves away on its own. As part of Environmental Awareness Training (see APM B-1), workers shall be instructed to check under and around vehicles, equipment and materials, including inside of piping, prior to moving at any times to ensure that no wildlife or nests are present. If wildlife or nests are identified, the qualified biologist shall

Table G-1. Applicant Proposed Measures

	be notified immediately. As determined by the qualified biologist, work may need to be halted to ensure animal safety. However, it is assumed that during nesting season, any non-special status birds establishing nests in the vicinity during the construction week will be habituated to ongoing construction activities. To reduce potential impacts to California red-legged frog, the qualified biologist shall install avoidance fencing along both sides of the access road within 100 feet of the crossing of Cascade Creek. The qualified biologist shall inspect the fencing regularly and make any necessary repairs. For each site visit, the qualified biologist shall create and complete a monitoring form describing activities and any relevant violations, incidents, or sightings, including steps taken to resolve violations or problems. These forms shall be compiled into a final report to show compliance with regulations. The qualified biologist shall also ensure the following: ▪ Trenches or holes left unfilled overnight shall be entirely covered and secured to prevent wildlife from falling in or becoming trapped. If trenches or holes cannot be covered, escape ramps shall be provided allowing animals to escape. ▪ Staging and parking areas shall be sited in previously disturbed areas to avoid natural areas, sensitive habitats, and jurisdictional areas. ▪ Small-mammal burrows, debris piles, logs, boards, rock piles, and dense vegetation shall be avoided to the maximum extent possible. Burrows that must be destroyed for construction shall be hand excavated or mechanically excavated under the supervision of an agency-approved biologist. ▪ There shall be no food-related trash, or any other trash, left on site at the end of each workday. This includes food wrappers, drink cans or bottles, bread crusts, orange or banana peels, etc. Human trash, especially food-related trash, attracts predators. ▪ No one shall capture and/or relocate California red-legged frogs or other listed species within the proposed Project site or along the access road. ▪ All sightings of special-status species shall be reported to the California Natural Diversity Database. Observations of listed species shall be reported directly to the USFWS and CDFW, as applicable.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to and during construction**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM B-3. Special-status Bird Avoidance and Minimization.** To avoid or minimize potential impacts to marbled murrelet, golden eagle, long-eared owl, and other migratory birds from construction, during the nesting season (February 15 through August 15), a nesting bird survey shall be conducted by a qualified avian biologist prior to initiating construction activities. No more than 10 days prior to project initiation, a survey shall be conducted by a qualified avian biologist in the area within 500 feet of the project footprint. The survey area shall be based on the full project footprint, including the active construction site, staging areas, and equipment. Throughout the nesting season, weekly nesting sweeps shall also be conducted by the qualified biologist. If an active nest is found, a visible no-disturbance buffer zone shall be established around it. Currently accepted CDFW and USFWS nesting-bird buffer distances are

Table G-1. Applicant Proposed Measures

	250 feet for passerines and 500 feet for raptors. A qualified avian biologist shall be authorized to reduce these buffers to ensure that the nesting birds are not impacted but also to allow construction to proceed, when feasible, and shall notify CDFW and USFWS of all buffer reductions. For non-special-status bird species, it is assumed that the bird has habituated to the work activity and no buffer would be required, but efforts will be made to minimize noise and vibration, and no direct disturbance of the nest shall occur. No project-related activities shall take place withing the buffer zones, with the exception of vehicle passage (no stopping, idling, or other noise generation allowed), or until the qualified biologist determines that the nest is no longer active. For project-related activities taking place outside the nesting season, no precautions for nesting birds are necessary.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to and during construction during nesting season**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM B-4. Implement Best Management Practices to Minimize Impacts to Jurisdictional Areas.** In addition to SWPPP requirements, the following Best Management Practices (BMPs) shall be implemented during construction to prevent potential impacts to drainages, waters, and wetlands: ▪ Vehicles and equipment shall not operate in ponded or flowing water. ▪ Water containing mud, silt, or other pollutants from grading or other activities shall be prevented from entering drainages. ▪ Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances resulting from Project-related activities and that could be hazardous to vegetation or wildlife resources shall not be allowed to contaminate soil or enter drainages. ▪ No equipment maintenance or refueling shall occur outside of developed areas or within 150 feet of any streambeds or drainages. ▪ No vehicle or equipment shall be parked or idle within 100 feet of Cascade Creek. ▪ Any erosion control material used to prevent erosion shall be certified weed free and shall not contain monofilament plastic.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**During construction**
Verification Approval Party	**CAL FIRE and DGS**
CULTURAL AND TRIBAL CULTURAL RESOURCES	
MITIGATION MEASURE	**APM CR-1**. **Train Construction Personnel.** Prior to the initiation of construction, all construction personnel shall be trained, by a qualified archaeologist, regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. This training may be in person or video and may be combined with APM B-1. Participants shall be required to acknowledge in writing that they have participated and understand the content of the training. Training shall inform all construction personnel of the procedures to be followed

Table G-1. Applicant Proposed Measures

	upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits. The State shall provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources and anticipated procedures to treat unexpected discoveries.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to and during construction**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM CR-2**. **Inadvertent Discovery of Historical Resources, Unique Archaeological Resources or Tribal Cultural Resources.** If previously unidentified cultural resources are identified during construction activities, construction work within 50 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist assesses the significance of the resource. The archaeologist, in consultation with the State, the State Historic Preservation Officer, any interested Tribes, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under California Environmental Quality Act Section 21083.2, or are determined to be tribal cultural resource as defined in Section 21074. If previously unidentified cultural resources or tribal cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with the State, SHPO, any interested Tribes, and any other responsible public agency, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the National or California Registers, qualify as a unique archaeological resource under CEQA Section 21083.2 or determined to be tribal cultural resource as defined in Section 21074.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**During grading or other construction or operation activities**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM CR-3**. **Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. If the remains are located on federal lands, federal land managers, federal law enforcement, and the federal archaeologist must be

Table G-1. Applicant Proposed Measures

	informed as well, due to complementary jurisdiction issues. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions. After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours from the time they are given access to the site to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours from the time they are given access to the site, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**During grading or other construction or operation activities**
Verification Approval Party	**CAL FIRE and DGS**
HAZARDS AND HAZARDOUS MATERIALS	
MITIGATION MEASURE	**APM HAZ-1**. **Prepare and Implement a Hazardous Materials and Waste Management Plan**. Prior to approval of the final construction plans for the proposed Project, an existing CAL FIRE–approved hazardous materials and waste management plan, or if no such plan is in place, a project-specific Hazardous Materials and Waste Management Plan for the construction phase of the proposed Project shall be prepared and submitted to the CAL FIRE for approval. The Plan shall be prepared to ensure compliance with all applicable federal, State, and local regulations. The Hazardous Materials and Waste Management Plan shall reduce or avoid the use of potentially hazardous materials for the purposes of worker safety; protection from soil, groundwater, and surface water contamination; and proper disposal of hazardous materials. The plan shall include the following information related to hazardous materials and waste, as applicable: ▪ A list of the hazardous materials that shall be present on site and in the construction yard during construction, including information regarding their storage, use, and transportation. ▪ Any secondary containment and countermeasures that shall be required for onsite and construction yard hazardous materials, as well as the required responses for different quantities of potential spills.

Table G-1. Applicant Proposed Measures

	▪ A list of spill response materials and the locations of such materials at the proposed Project site and in the construction yard during construction. ▪ Procedure for Fueling and Maintenance of Construction Vehicles and Equipment: Written procedures for fueling and maintenance of construction equipment would be prepared prior to construction. The Plan shall include the following procedures: – Onsite refueling of construction equipment shall follow specified procedures to prevent leaks or spills. Procedures shall require refueling be located a minimum of 150 feet from a stream channel and the use of spill mats, drop cloths made of plastic, drip pans, or trays to be placed under refueling areas to ensure that fuels do not come into contact with the ground. Spill cleanup materials shall be kept readily available on the refueling vehicles. – Drip pans or other collection devices shall be placed under equipment, such as motors, pumps, generators, and welders, during operation and at night to capture drips or spills. Equipment shall be inspected and maintained daily for potential leakage or failures. ▪ A list of the adequate safety and fire suppression devices for construction activities involving toxic, flammable, or exposure materials; ▪ A description of the waste-specific management and disposal procedures that shall be conducted for any hazardous materials that will be used or are discovered during construction of the proposed Project; and ▪ A project specific Worker Environmental Awareness Program (WEAP) to be conducted prior to construction to train all site personnel of the Hazardous Materials and Waste Management Plan requirements prior to the commencement of work. This may be combined with APM B-1.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to and during grading or other construction or operation activities**
Verification Approval Party	**CAL FIRE and DGS**
MITIGATION MEASURE	**APM HAZ-2**. **Prepare and Implement a Hazardous Materials Management Business Plan.** Prior to operations of project propane storage and generator facilities, an existing CAL FIRE–approved hazardous materials management plan, or if no such plan is in place, a project-specific Hazardous Materials Business Plan for the operation phase of the proposed Project shall be prepared and submitted to the CAL FIRE for approval prior. The Plan shall be prepared to ensure compliance with State and federal regulations contained within the Resource Conservation and Recovery Act policies. The Business Plan shall specify hazardous liquid and other hazardous waste handling procedures for personnel responsible for handling or hauling hazardous materials and wastes to/from the Project site.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**Prior to and during grading or other construction or operation activities**
Verification Approval Party	**CAL FIRE and DGS**

Table G-1. Applicant Proposed Measures

NOISE	
MITIGATION MEASURE	**APM N-1. Reduce Construction Noise.** To avoid creating a substantial temporary noise increase for receptors within the Big Basin Redwood State Park and the road that provides access to the site, construction contractors shall: ▪ Limit construction activities and construction traffic to daytime hours. ▪ Heavy equipment operation and use of impact tools, such as a hydraulic rock hammer or jackhammer, shall be restricted to weekdays (Monday through Friday). ▪ Haul truck engines and other engines powering fixed or mobile construction equipment shall be equipped with adequate mufflers. ▪ Haul trucks shall be operated in accordance with posted speed limits. ▪ Truck engine exhaust brake use shall be limited to emergencies.
Responsible Party	**Project Owner**
Responsible Monitoring Party	**CAL FIRE**
Monitoring Phase/Timing	**During construction**
Verification Approval Party	**CAL FIRE and DGS**

H. Preparers

A consultant team headed by Aspen Environmental Group prepared this EIR under the direction of the State. The preparers and technical reviewers of this document are presented below.

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Appendix A

Figures

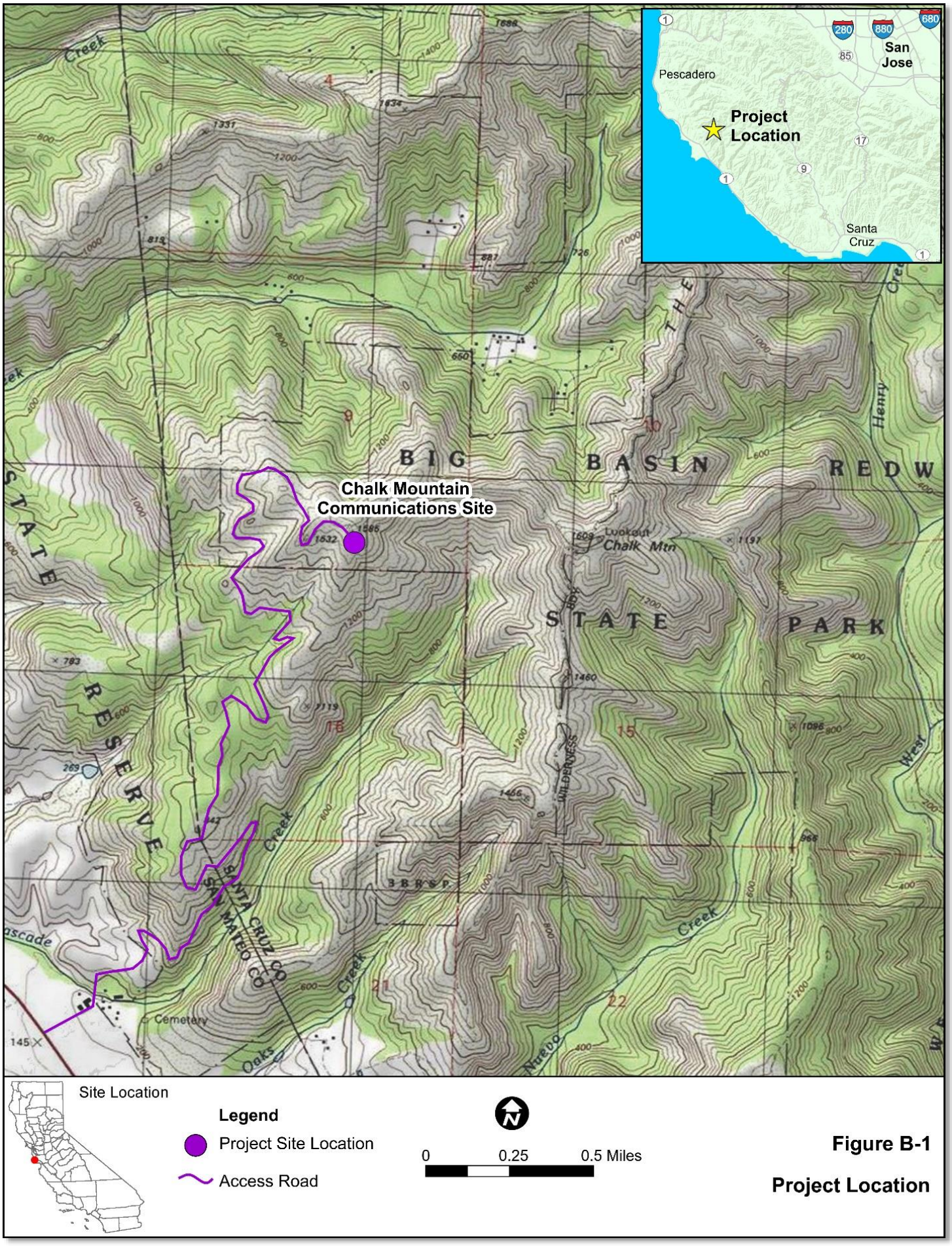


Figure B-1

Project Location

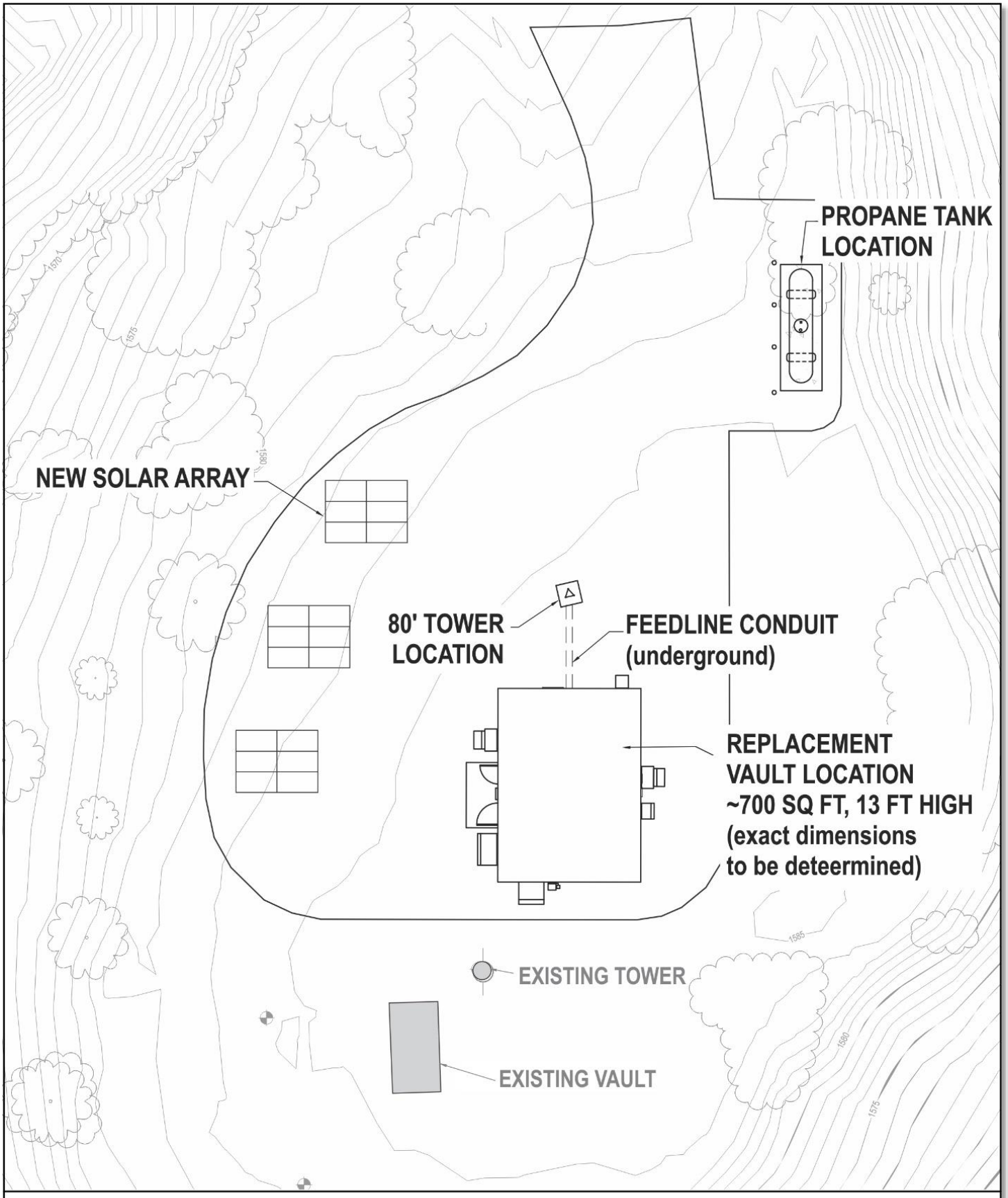
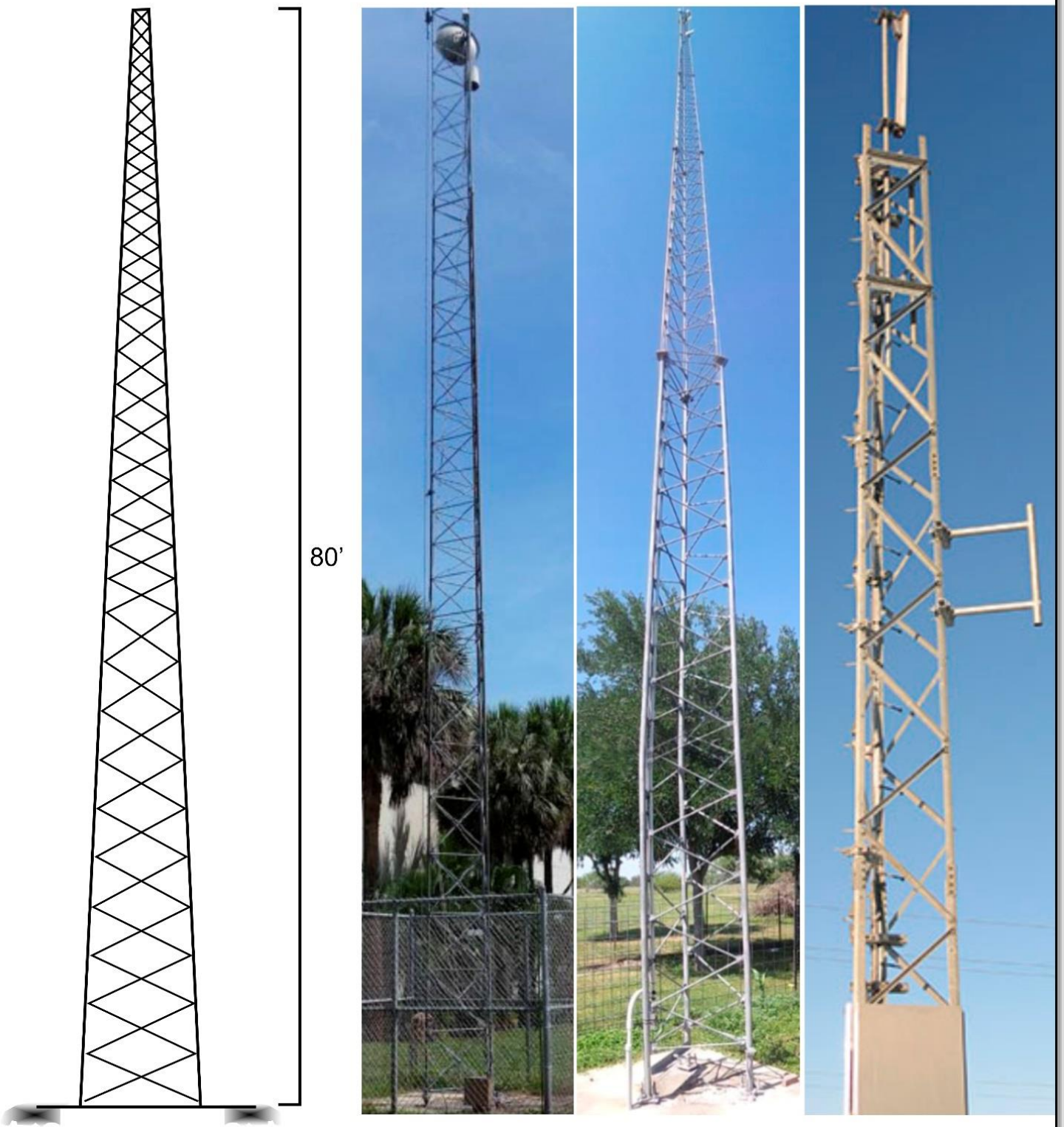


Figure B-2

Preliminary Site Plan



Note: Chalk Mountain communication tower is proposed to be a modified Rohn heavy duty structure that would be designed based on site specific conditions.

Figure B-3
Typical 3-Legged Tube Braced Communication Structure

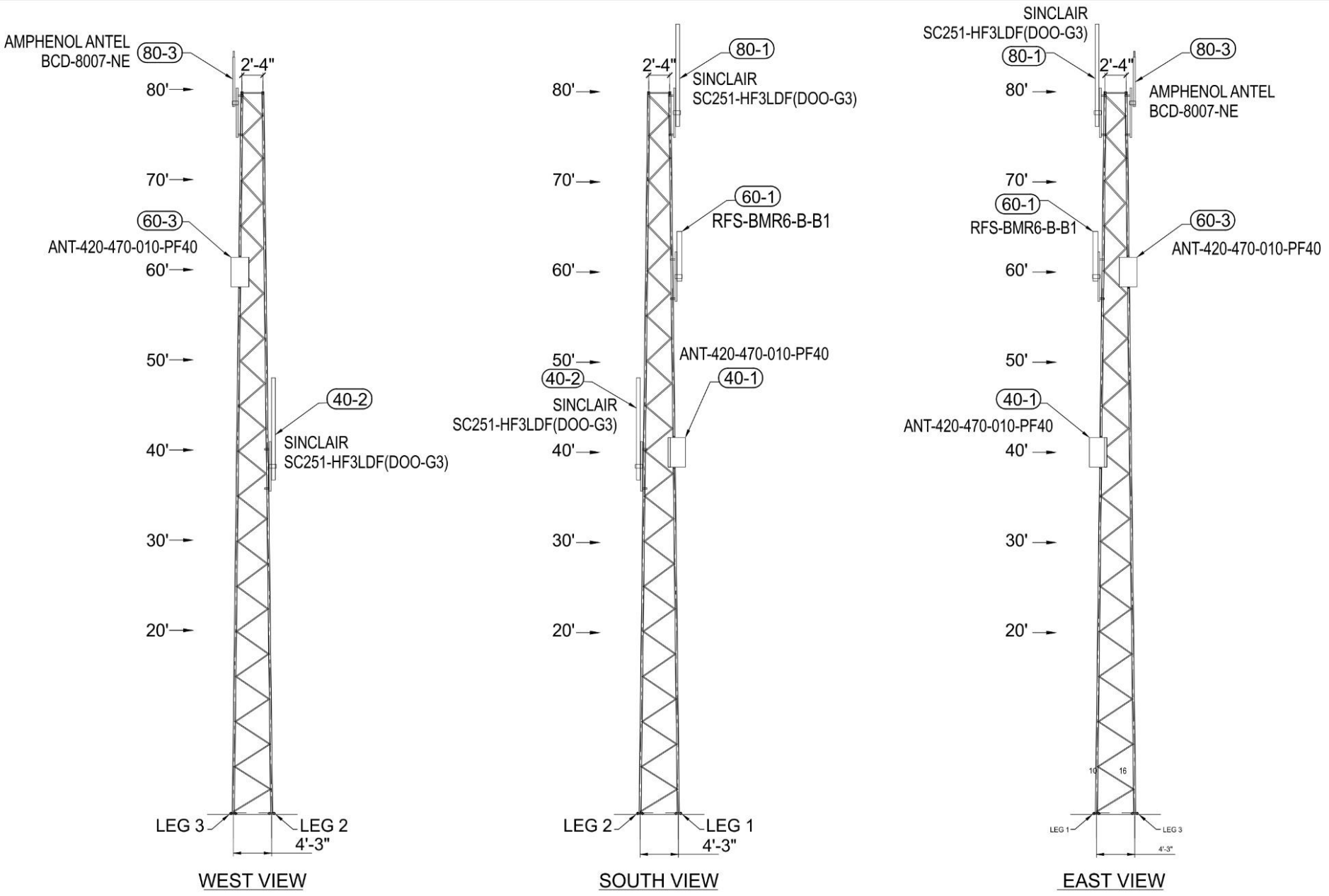


Figure C.2-1

Preliminary Tower Elevations with Antennas

Source: GoogleEarth, 9/2021.

0 25 50 100 Feet

Figure C.2-2

Aerial View of Project Site

Source: Chalk Mountain Overlook Roadside Secrets

Photo of Project Site from Overlook .75 miles East of Project Site (Pre-fire)

Figure C.2-3

View from Chalk Mountain Overlook

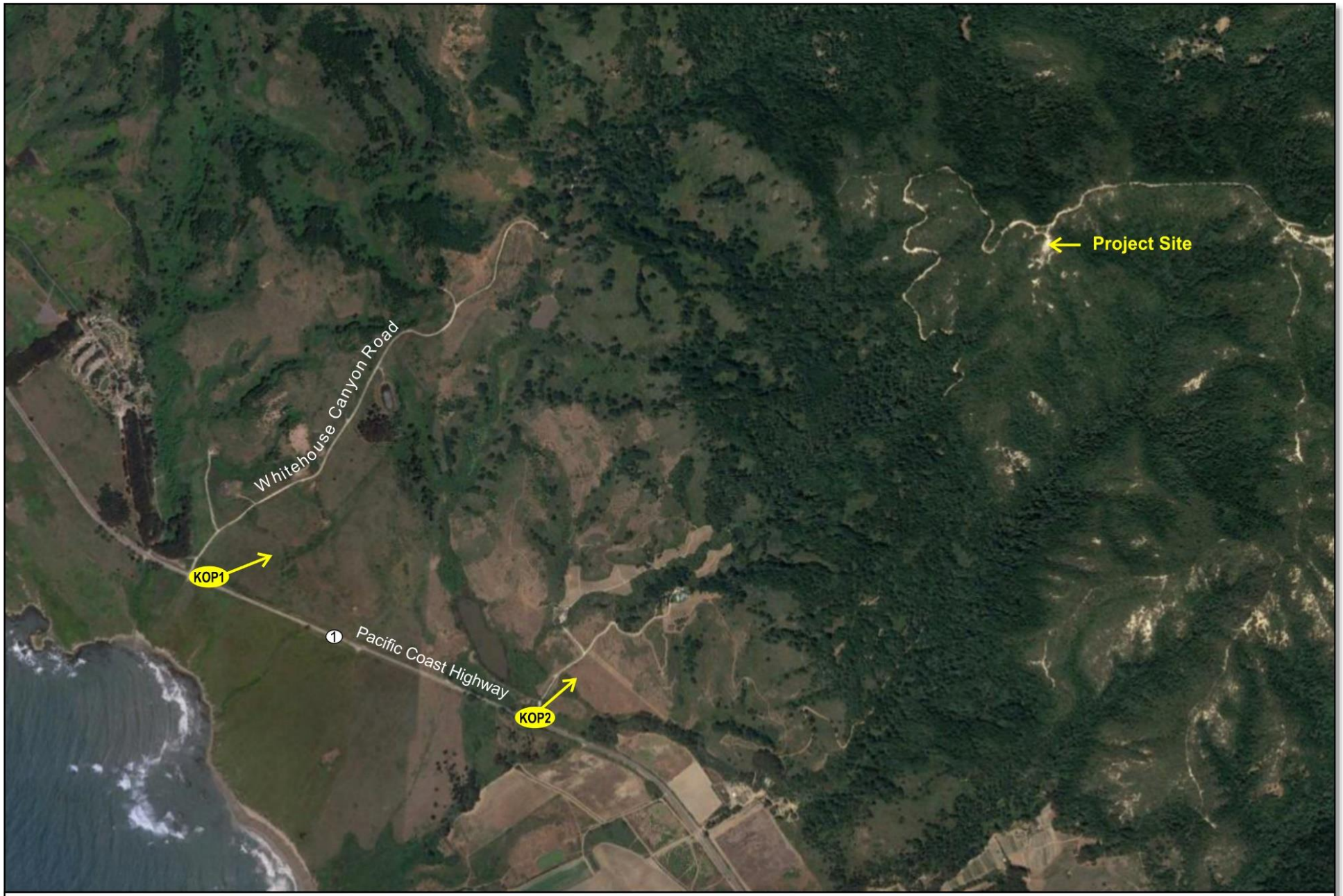


Figure C.2-4
Key Observation Points

Figure C.2-5

KOP-1

View East from Highway 1 at Whitehouse Creek Road

Figure C.2-6
KOP-2
View East from Highway 1 at K&S Ranch

View from Project Site looking East

View from Project Site looking West

Figure C.3-1a

Views of the Project Vicinity (a)

View looking west of slope below Project site.

View of Existing Facilities at Project Site looking South

Figure C.3-1b

Views of the Project Vicinity (b)

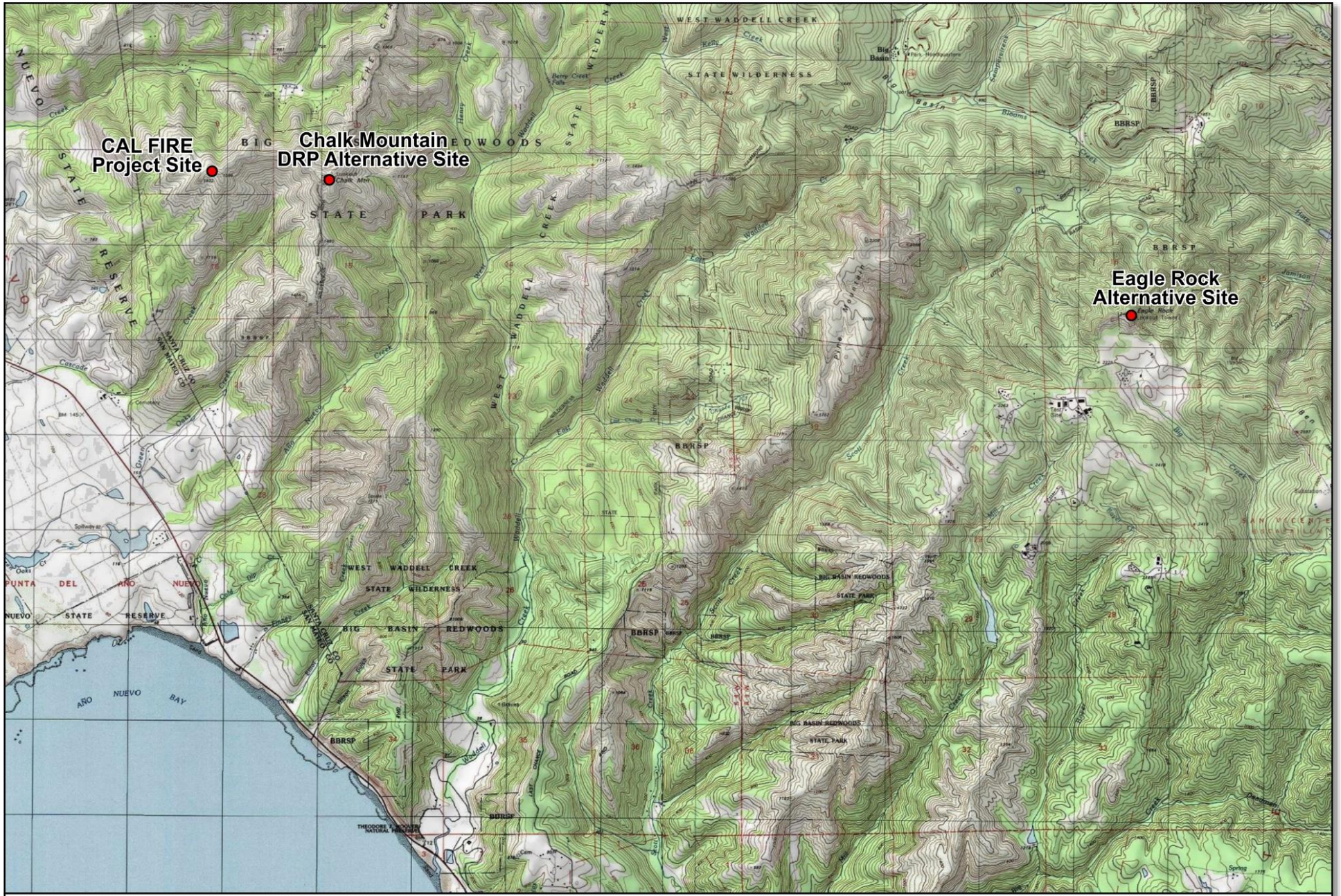


Figure D-1

Site Alternative Locations

Source: GoogleEarth, 9/27/2021.

Figure D-2

CAL FIRE Project Site

Source: GoogleEarth, 9/27/2021.

Figure D-3

Chalk Mountain DRP Alternative Site

Source: GoogleEarth, 9/27/2021.

Figure D-4

Eagle Rock Alternative Site

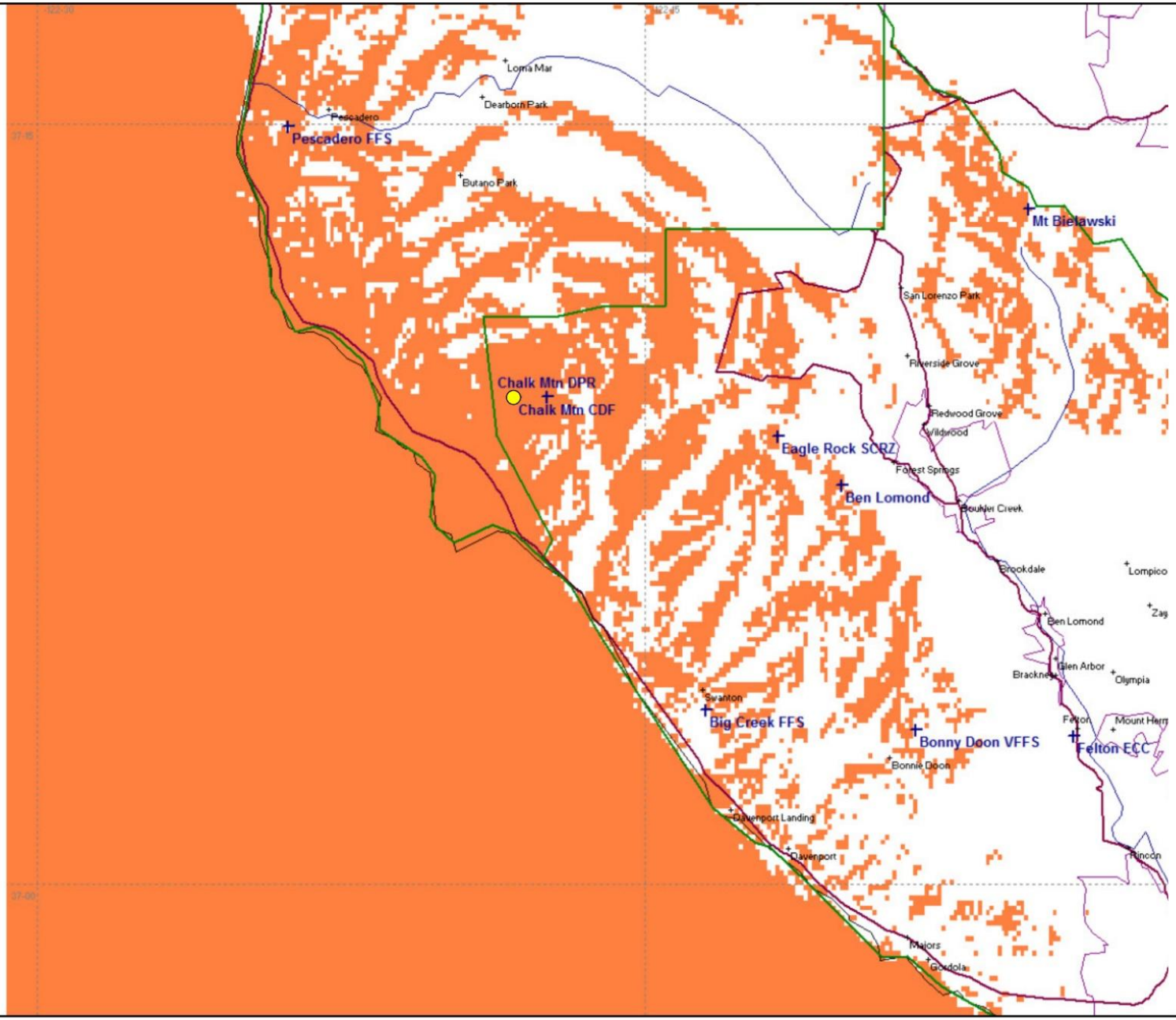


Figure D-5

Proposed Project Radio Coverage Area

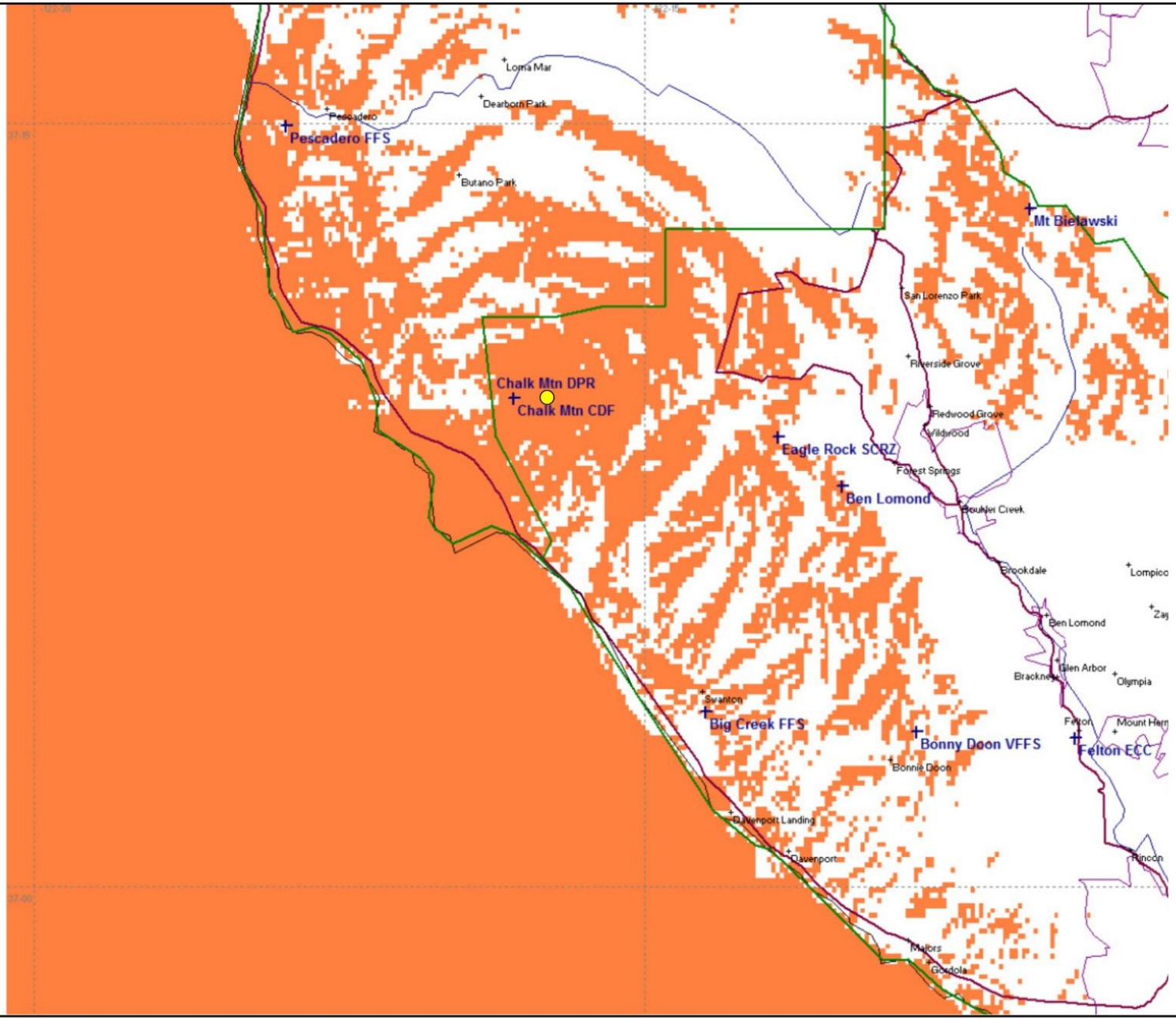


Figure D-6

Chalk Mountain DRP Alt. Radio Coverage Area

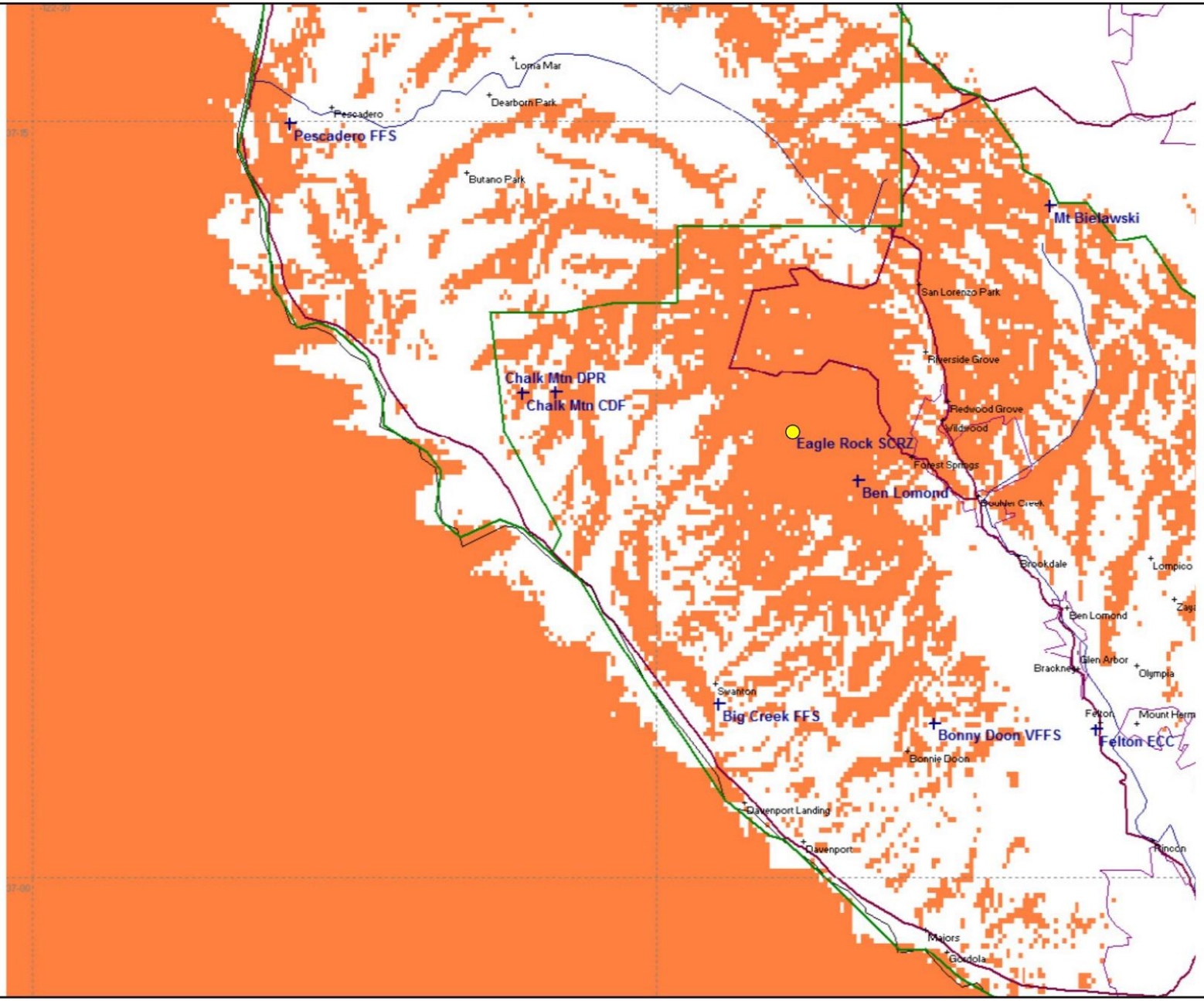


Figure D-7

Eagle Rock Alt. Radio Coverage Area

Appendix B

Alternatives Screening Analysis

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Alternatives Screening Analysis

A. Introduction

The California Department of Forestry and Fire Protection (CAL FIRE, also noted as CDF) proposes to construct and operate the Chalk Mountain Communication Tower and Facilities Replacement Project (proposed Project or Project), which would install a new 80-foot 4-legged lattice replacement telecommunication tower with microwave dishes at the existing CAL FIRE Chalk Mountain CDF communications facility to support current microwave technology and decrease dependency and overloading of an existing communication tower at the site. Figure 1 shows the location of the proposed Project and Figure 2 shows a diagram of the proposed telecommunications structure.

The Chalk Mountain CDF project site is located in the Santa Cruz Mountains on an open, bare ridge that supports existing telecommunication facilities, approximately 0.7 mile west of the actual Chalk Mountain and approximately three miles east of the Pacific Ocean. The proposed Project area (within the CAL FIRE lease hold area) is in the Big Basin Redwood State Park and within the designated Coastal Zone in Santa Cruz County.

On behalf of CAL FIRE, the California Department of General Services (DGS) is the lead agency under the California Environmental Quality Act (CEQA) and responsible for preparation of the application for Coastal Consistency Determination and a Level 5 development permit from Santa Cruz County.

CAL FIRE and DGS have prepared this alternatives screening analysis, which considers alternative sites and designs to the proposed Project, as well as visual resources mitigation. Due to its high elevation and western location, the analysis concludes that the proposed Chalk Mountain CDF site is the only feasible site that would meet the stated project objectives discussed in Section A.2.

In addition, the Chalk Mountain CDF site would minimize potential environmental impacts because the Project would be located at an existing, disturbed telecommunications site and would utilize existing access roads.

A.1 Project History and Background

CAL FIRE operates and manages communications equipment at 192 telecommunications sites throughout California, including at the Chalk Mountain CDF site. CAL FIRE mountaintop communications facilities are remote facilities that essentially consist of a telecommunications tower and a securable radio communications building (vault) that is environmentally controlled to house sensitive radio transmission equipment. These facilities also include back-up generators that enable the sites to remain operational during power outages. Depending on site limitations, these generators are housed either within the vault, in a separate room, or in a stand-alone securable building. Where electrical power is not available at the site, facilities are powered by diesel/propane generators or solar panels for primary power.

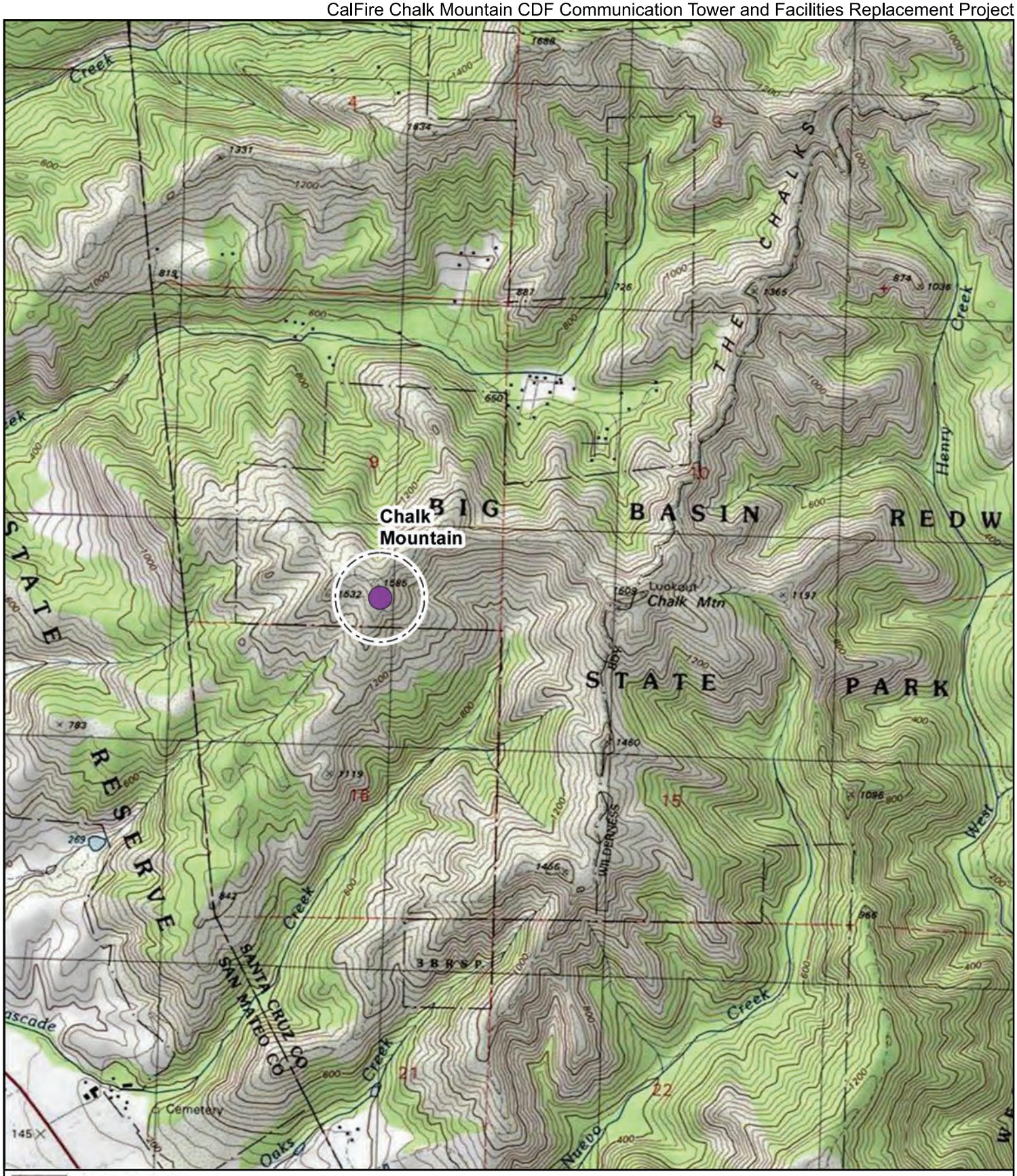
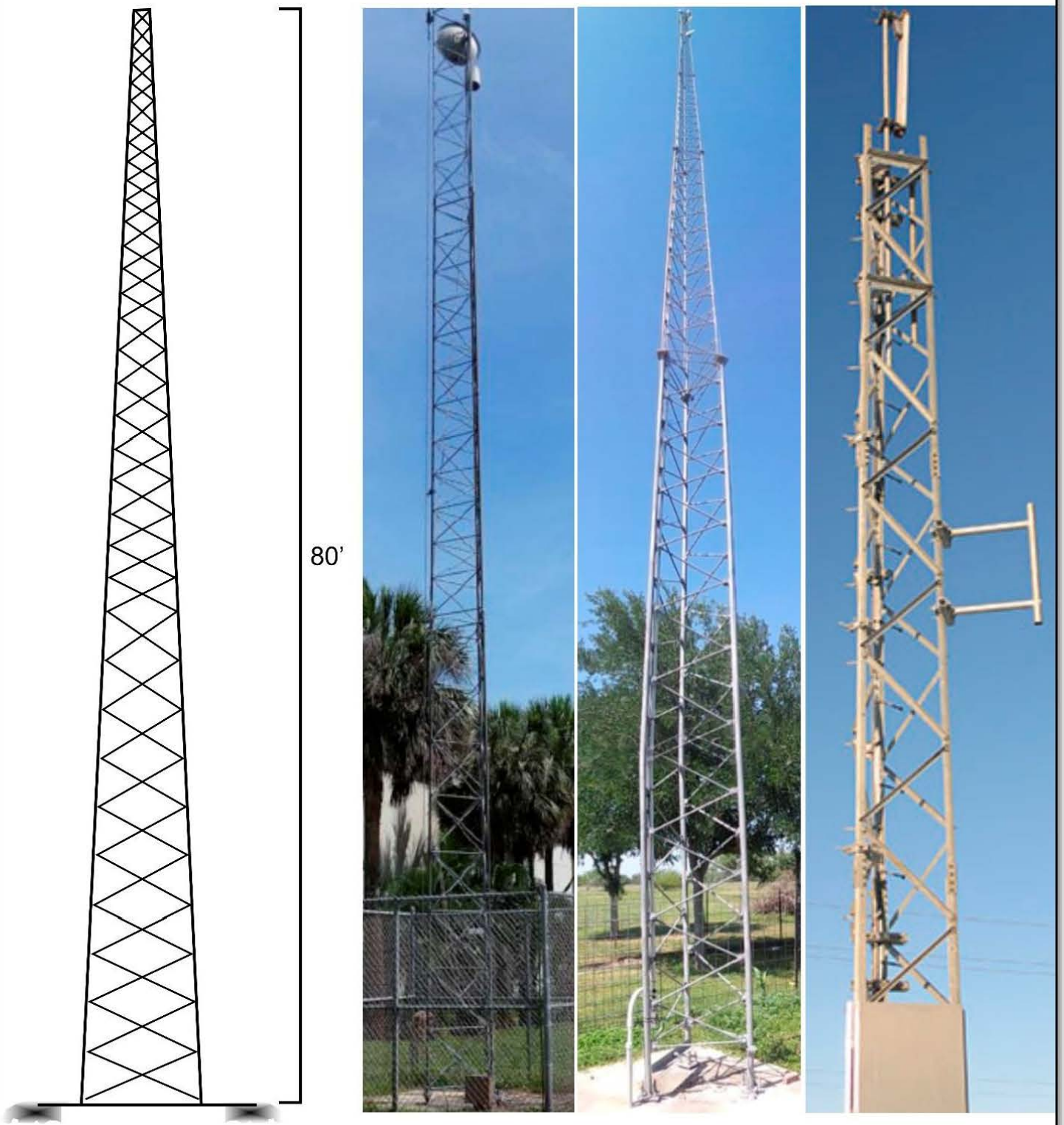


Figure 1.
Location of Chalk Mountain Communication Tower and Facilities



Note: Chalk Mountain communication tower is proposed to be a modified Rohn heavy duty structure that would be designed based on site specific conditions.

Figure 2
Typical 3-Legged Tube Braced Communication Structure

CAL FIRE'S Chalk Mountain CDF communication site provides an essential emergency communications linkage for CAL FIRE'S fire protection and emergency response command and control throughout the State. Although the Chalk Mountain CDF site is small, it serves a large portion of the San Mateo/Santa Cruz coast and it is the only site that covers that area. For instance, the Chalk Mountain CDF site was the only site that provided radio coverage for the 2007 Martin Fire that threatened the old growth redwoods. Routinely CAL FIRE personnel are the only resource who respond to water rescues and major vehicle accidents in this corridor. Failure at this site would completely shut down radio communications along the coast where many traffic accidents and medical aides are reported.

Currently, California Technology Agency's Public Safety Communications Office (CalOES-PSC) does not have microwave service into Chalk Mountain CDF due to the present condition of the facilities. California Highway Patrol (CHP), California Department of Transportation (Caltrans), Department of Parks and Recreation (DPR), California Department of Fish and Wildlife (CDFW), and other site users have requested microwave connectivity. Upgrading Chalk Mountain CDF would enable CalOES-PSC to meet these agencies' needs as well.

A.2 Project Objectives and Need

The objective of the Project is to upgrade/supplement CAL FIRE's telecommunications infrastructure with a new telecommunication tower to support the State's Public Safety Microwave Network (PSMN) and continue to provide an essential emergency communications linkage for CAL FIRE'S fire protection and emergency response command and control throughout the area.

The new communications tower must (1) be located on a mountain peak to provide an adequate line-of-sight with sufficient signal strength, (2) be accessible year-round for maintenance purposes, and (3) have a reliable power source for year-round operation. In addition, a site with previous ground disturbance is preferred as to reduce potential environmental impacts, namely to biological and cultural resources.

As discussed above, the Chalk Mountain CDF site is vital for CALFIRE because it provides public safety radio communications to the western part of Santa Cruz County area, serving the area from the town of Davenport and north along Highway 1 to the town Pescadero. CAL FIRE has two forest fire stations, Big Creek and Pescadero, which provide fire protection and emergency medical services to the aforementioned areas. CAL FIRE routinely responds to water rescues and major vehicle accidents in this corridor where CAL FIRE personnel are the only resource. Currently the site condition does not allow the State terrestrial microwave network to be located there, but the proposed Project would add microwave access when the new vault and tower are constructed at the site.

Other State agencies would also use the upgraded tower and facilities, including CHP and Caltrans which have similar constraints and require a similar communications coverage area.

B. Site Alternatives Screening

B.1 Background on Proposed Chalk Mountain CDF Telecommunications Site

The existing Chalk Mountain CDF telecommunications site has an aging 60-foot tall tower with guy wires and a cinderblock repeater vault, along with two solar panel arrays. The existing 60-foot antenna supporting wood pole and supporting facilities at the site were determined to be inadequate for current communication needs. Subsequent to this determination, the 2020 CZU Lightning Complex Fire burned through the site and its surroundings, damaging the existing wood pole and antenna. CAL FIRE installed

an emergency portable repeater as a temporary replacement for the pole and antenna. The temporary repeater will remain in operation until the proposed Project is constructed and operational.

The site is located at approximately 1,580 feet elevation with no vegetation or topographic barriers to its communications coverage, which currently encompasses approximately 40 miles of the Highway 1 corridor from Davenport in the south to Montara in the north. The site has coverage inland for the Big Basin, Swanton, Gazos, Whitehouse Canyon watersheds. The telecommunications site does not have phone or power and currently relies on solar power. Access to the site is via an approximately 4-mile seasonal road controlled by State Parks and maintained by CAL FIRE. The site is located on State Park land that is previously disturbed due to existing operations, and there are no residences within 1 mile of the site. No archaeological resources were encountered during a pedestrian survey of the site in October 2018.

When radiographic surveys were conducted in the early-mid 1990s, the current location on Chalk Mountain CDF was determined to provide the best coverage for first responders and public safety communications. Surveys of area coverage were conducted on low-band VHF, high-band VHF, 800 MHz, and most recently, 6 GHz microwave. Chalk Mountain CDF is on a "highpoint" very close (west) to Highway 1; therefore, it was identified by CAL FIRE as the only site in that area that has coverage north and south along the Highway 1 corridor between Half Moon Bay and Santa Cruz. Its elevation and western geographical location also provide primary radio coverage to the Big Sur coastline between Carmel and Big Sur for the San Benito-Monterey Unit (BEU) operations. Other highpoints in the area are farther east from Highway 1 and would be out of alignment for acceptable coverage.

In addition, the Chalk Mountain CDF site is also one of the few locations in this area where the highpoint has an existing access road. Other highpoint locations are either on State Park land, roadless, or both and do not have the potential for new access road development (i.e., State Wilderness Area).

B.2 Site Alternatives Considered

Cal OES, Public Safety Communications (PSC) identified and analyzed two additional sites in the area that could potentially provide similar radio frequency (RF) coverage as the CAL FIRE Chalk Mountain CDF site. The two alternative sites considered were: **Chalk Mountain DPR** and **Eagle Rock**, both sites owned by DPR (see Figure 3). For all three sites, Cal OES performed a RF radio coverage analysis and also evaluated path profiles (microwave access) to Allen Peak, a State microwave site to the north. Adequate road access and commercial power availability were also considered in the site selection criteria.

B.2.1 Radio Coverage Methodology

Radio coverage indicates the likelihood of a radio being able to communicate in the area with other radios and with dispatch. Radio propagation software was used to generate coverage plots along with radio coverage site surveys to validate the results. This metric is independent of microwave access, but both are required to support public safety radio communications. Radio coverage evaluation was performed at the three sites in order to determine the location(s) that could provide coverage equal to the existing Chalk Mountain CDF site.

Cal OES, PSC staff utilized software called Radio Soft ComStudy version 2.2.15.58 for the RF coverage plots and path profiles. The analysis primarily uses the Longley-Rice algorithm to calculate interference, signal strength measurements and vertical path profiles. The State used these computer-generated coverage plots and path profiles to map radio propagation characteristics to determine how effectively a radio would be able to communicate with other radios and the dispatch centers.

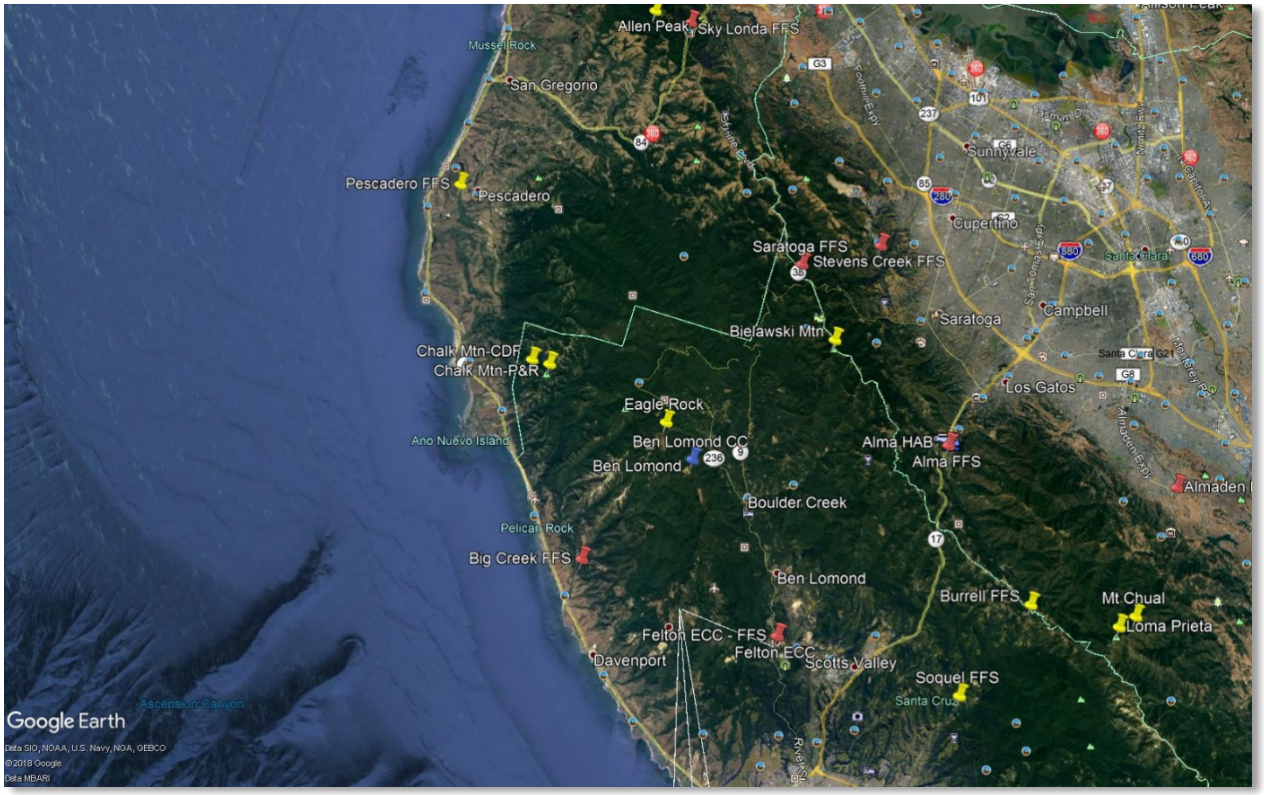


Figure 3. Google Earth Project Area Map

In addition, the State engineers visited and conducted radio coverage surveys at the sites to validate the coverage plots. The RF coverage plots represent the minimum acceptable radio coverage that would be needed to provide adequate radio communications to public safety agencies. The Path Profiles reflect the microwave line-of-sight analysis.

The following criteria were used as common parameters to all sites evaluated.

Profile Information

- The orange color shown on the RF coverage maps (Figures 4 through 9) represents the radio signal available is set at –100 dBm power level. The orange coloration indicates there is a radio signal with at least –100 dBm signal strength.
- Calculations used the Longley Rice propagation model and a 75% confidence level.
- Frequency 150 MHz
- # of data points = 200
- K value = 1.333

B.2.2 Radio Coverage and Path Profile Results

The following figures illustrate the results of the coverage analysis and path profiles:

- **Figure 4.** RF coverage from Chalk Mountain CDF
- **Figure 5.** Path Profile from Chalk Mountain CDF to Allen Peak
- **Figure 6.** RF Coverage from Chalk Mountain DPR
- **Figure 7.** Path Profile from Chalk Mountain DPR to Allen Peak
- **Figure 8.** RF Coverage from Eagle Rock DPR
- **Figure 9.** Path Profile from Eagle Rock DPR to Allen Peak

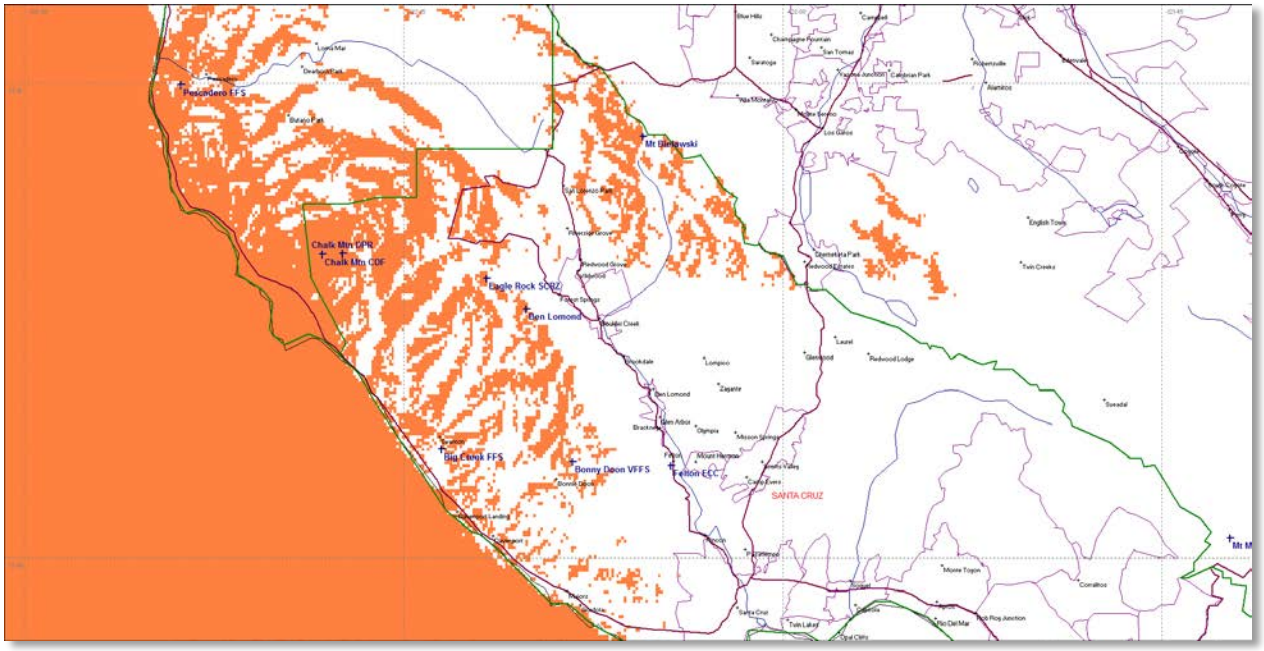


Figure 4. Chalk Mountain CDF RF Coverage

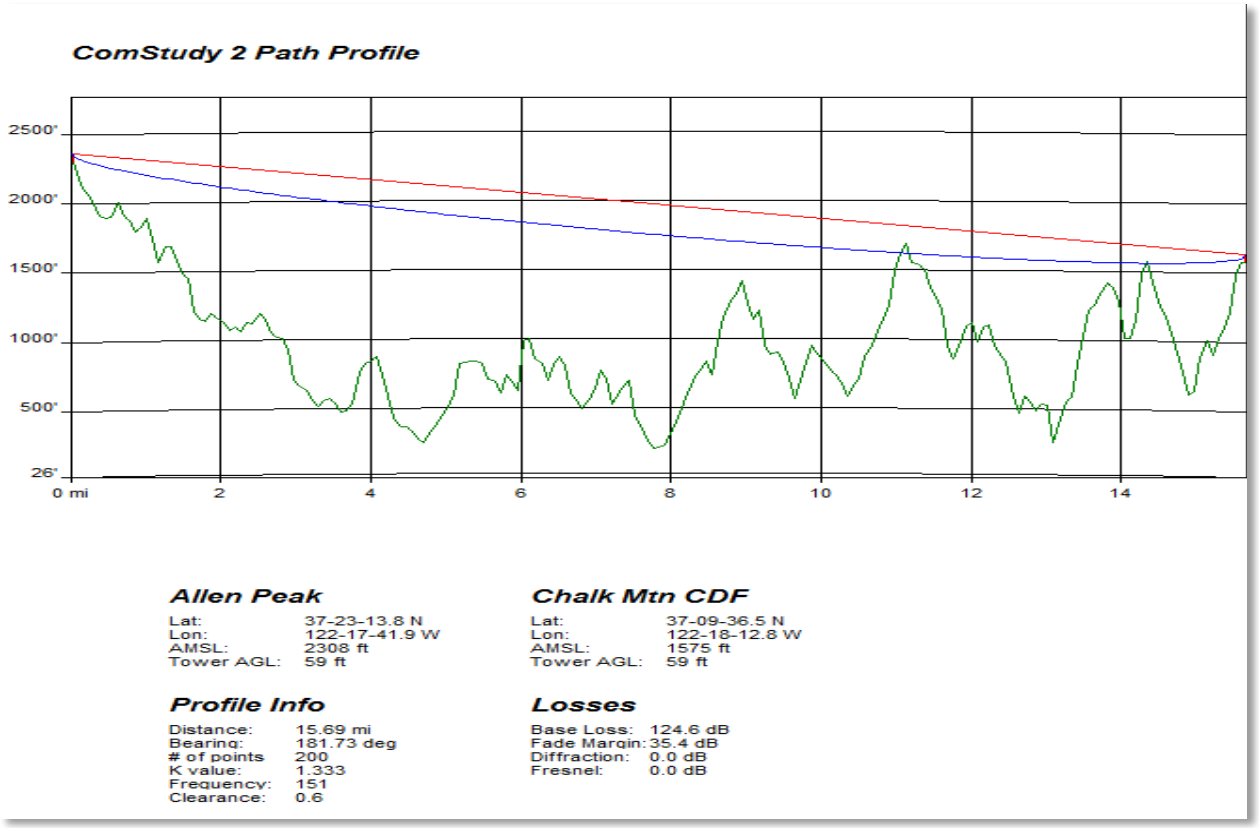


Figure 5. Chalk Mountain CDF to Allen Peak Path Profile

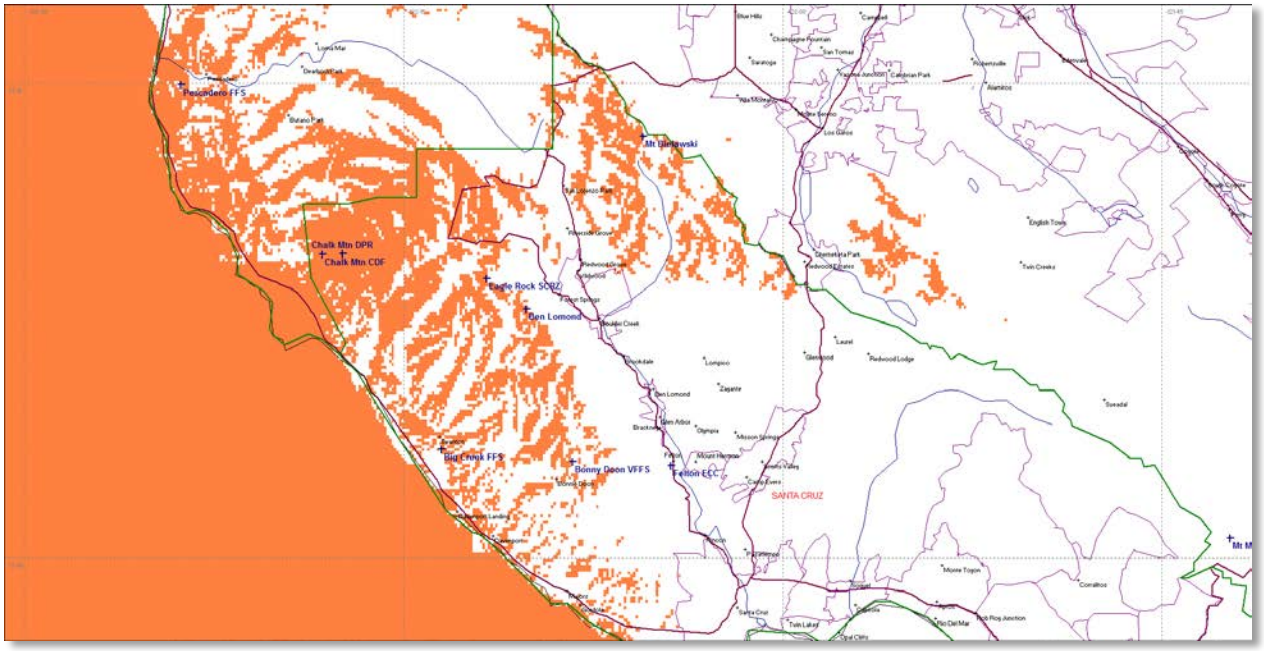


Figure 6. Chalk Mountain DPR Radio Coverage

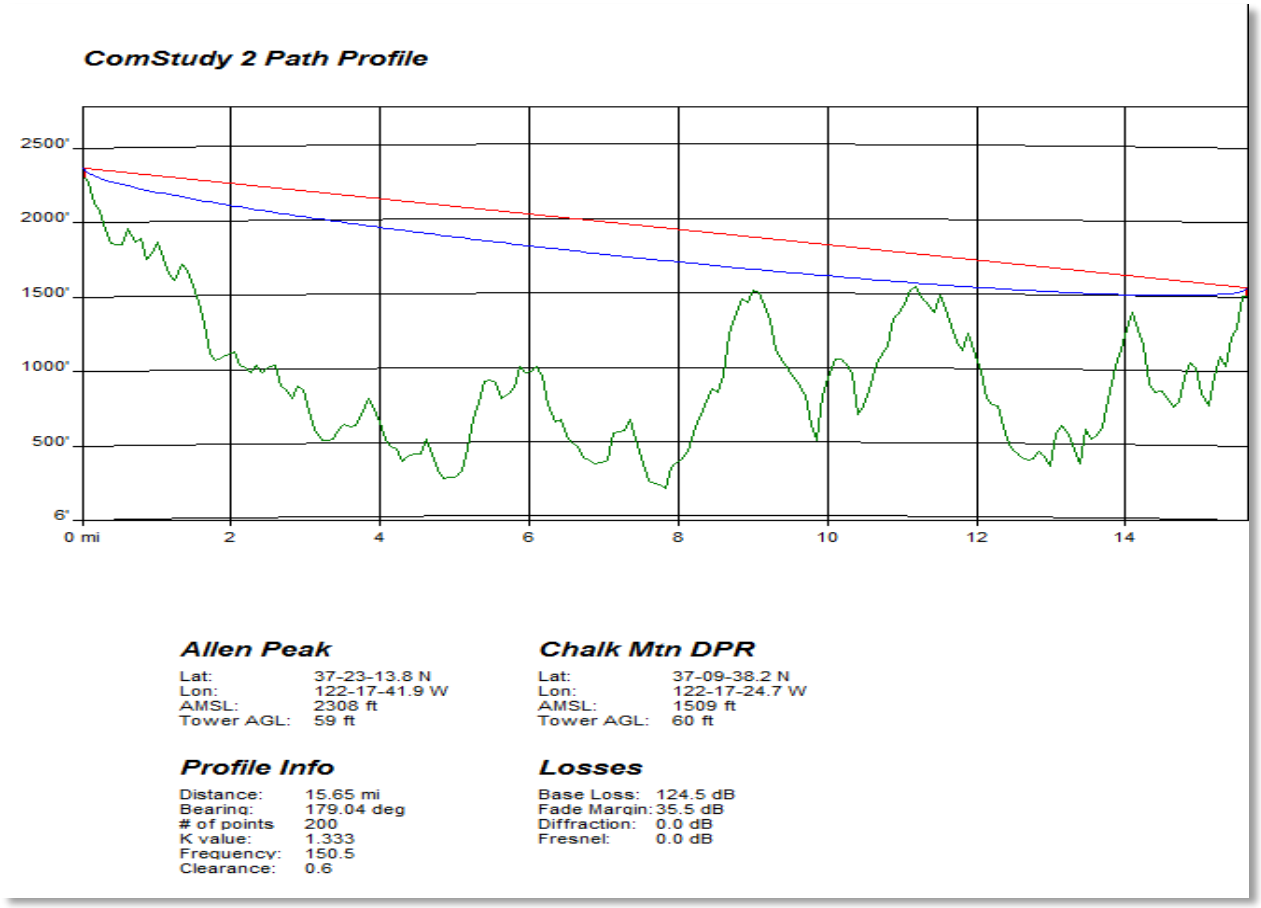


Figure 7. Chalk Mountain DPR to Allen Peak Path Profile

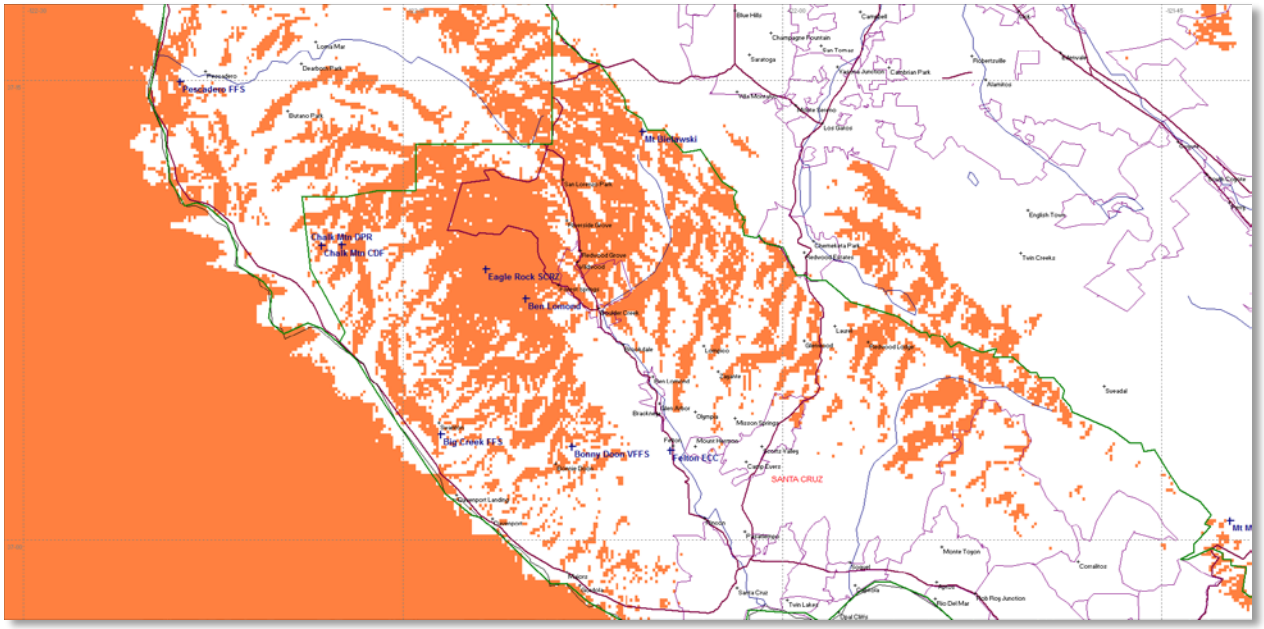


Figure 8. Eagle Rock Radio Coverage

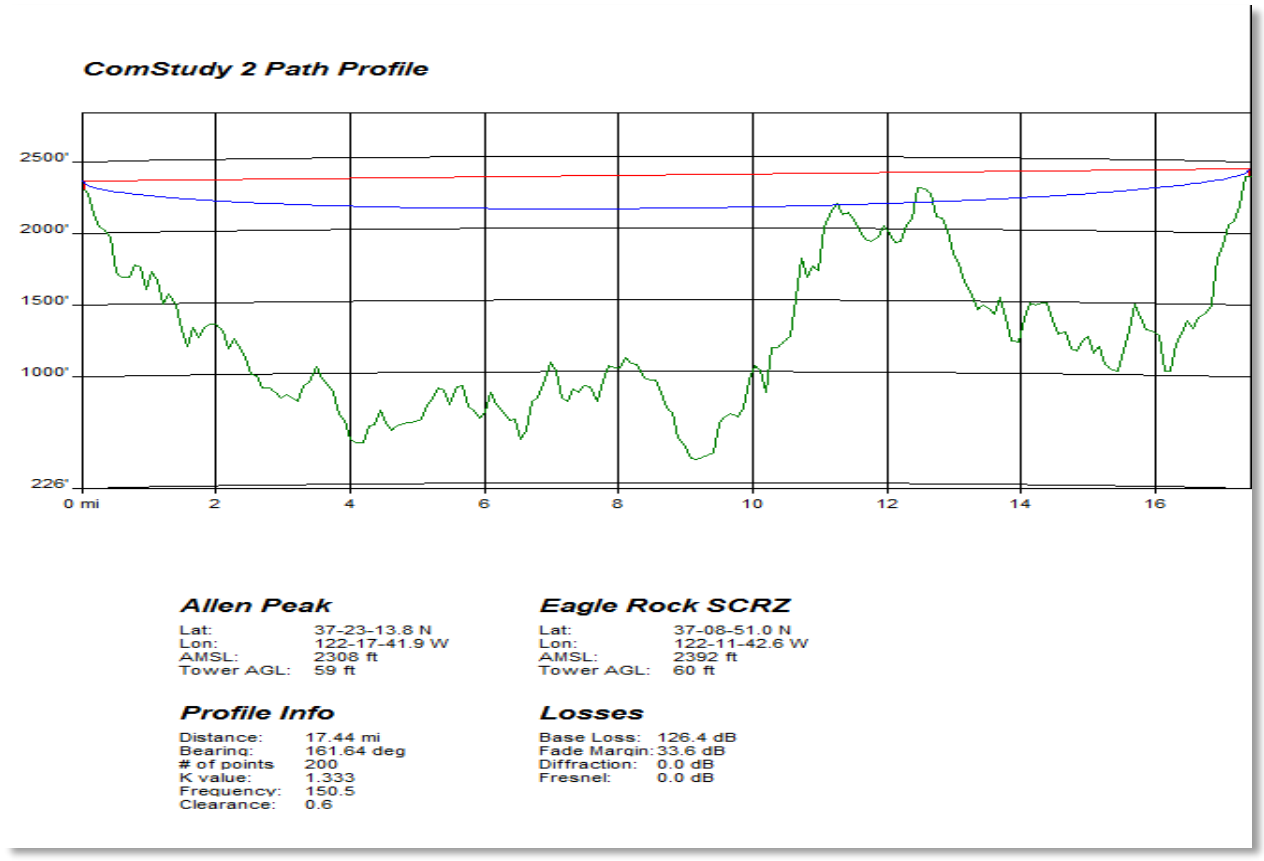


Figure 9. Eagle Rock to Allen Peak Path Profile

B.2.3 Site Alternatives Conclusions

Following the RF coverage and path profile analyses, it was determined that both the Chalk Mountain DPR and Eagle Rock sites do not meet one of the essential communications objectives for the proposed Project: RF coverage to State-serviced areas. The results are summarized below.

- **Chalk Mountain DPR:** The site has a microwave line-of-sight to Allen Peak, but it does not provide adequate radio coverage to areas mostly along Highway 1 (see Figures 6 and 7).
- **Eagle Rock:** The site has a microwave line-of-sight to Allen Peak, but it does not provide adequate radio coverage to many areas (see Figures 8 and 9).

Table 1 below shows the comparison of service areas between the proposed Project site and the two alternative sites.

Table 1. Radio Coverage Service Area Results

Service Areas	Chalk Mountain CDF (Proposed)	Chalk Mountain DPR	Eagle Rock
Davenport, Town of	XP	XP	N
Highway 1, north of Davenport	X	XP	XP
Highway 1, south of Pescadero	X	X	N
Pescadero, town of	X	X	XP

X=Coverage, XP=Partial Coverage, N=No Coverage

The Chalk Mountain CDF site and the Chalk Mountain DPR site lie on the same mountain ridge and are within 0.7 miles from each other. However, the proposed Project site is closer to the Pacific Ocean and has a better line-of-sight to Highway 1. Therefore, the proposed site would provide better public safety communications coverage than the Chalk Mountain DPR site to that section of Highway 1.

B.3 Site Alternatives Eliminated from Consideration

B.3.1 South Butano State Park Repeater Alternative Site

The South Butano State Park Repeater Alternative Site is on the South Butano Truck Trail on the north end of an old landing strip constructed on State Park land in the early 1950s. It is the site of an existing State Park repeater serving a portion of Butano State Park and is at 1,693 feet elevation. The site is accessed by 5.5 miles of dirt road (seasonal truck trail), across numerous private and State Parks-owned parcels. The site is not accessible during winter. This site is not served by power or phone, so existing facilities are a stand-alone small area (local) repeater on the end of a UHF link and powered by solar panels. There is a 40-foot metallic tower holding the antennas.

This alternative site is located on the northern boundary of the desired coverage area; therefore, it does not provide the coverage needed to serve the southern coastal section of San Mateo and northern Santa Cruz County. The site is higher elevation than the proposed Chalk Mountain CDF site, but it has several major ridges blocking coverage to key areas, especially the Highway 1 corridor, Big Basin State Park and the Swanton area. In addition, as it is farther inland (6 miles east of Highway 1) and has dense stands of Douglas fir (80 to 100 feet tall), coverage into the coastal plane is further degraded. Construction of a much taller tower would be required to clear the forest canopy, or the forest would need to be removed to allow microwave access to the site, which would result in potentially greater visual impacts. Due to its

northern location, the surrounding area may be better served by the existing Allen Tower (Local 12). Additionally, the marbled murrelet and a manzanita species are present in the area , so the alternative site may have greater potential impacts to biological resources.

The South Butano State Park Repeater Alternative Site has been eliminated from further consideration, because it would not meet the radio coverage objectives of the proposed Project and would have greater environmental impacts.

B.3.2 Ano Nuevo Point Alternative Site

The Ano Nuevo Point Alternative Site is located west of Highway 1 on the southern San Mateo Coast and would be constructed on either State Park or private agricultural land at approximately 40 feet elevation. There are no existing structures or existing telecommunication facilities at this location. Major upgrades for year-round access would be required to the 1.25 miles of dirt agricultural roads that currently access the site.

This alternative location would cover a small portion of the Highway 1 corridor. Due to its low elevation, radio coverage would likely be limited to about an 18-mile stretch with no coverage inland into Big Basin State Park, Pescadero, Gazos or Swanton areas. Therefore, there would be no potential for microwave access without constructing additional telecommunication sites, at the proposed site or another alternative site, which would greatly increase potential ground disturbance impacts.

In addition, the Ano Nuevo Point Alternative Site would require a much taller tower due to its low elevation and would be three times closer to Highway 1 than the proposed site. Therefore, this alternative site would be very visible from Highway 1 and in Ano Nuevo State Park. In addition, the alternative site would have greater ground disturbance and resulting potential impacts to red-legged frog and San Francisco garter snake habitat.

The Ano Nuevo Point Alternative Site has been eliminated from further consideration, because it would not meet the radio coverage objectives of the proposed Project and it would have greater environmental impacts, namely to visual and biological resources.

B.3.3 Last Chance Road – South Pines Road Alternative Site

The Last Chance Road–South Pines Road Alternative Site is located approximately 4 miles east of Highway 1 between Swanton and Big Basin State Park. The site is accessed by approximately 8 miles of private road and would be within 0.25 mile of several permanent residences.

The alternative site is at approximately 1,650-foot elevation on State Park lands. The site is undeveloped and would require extensive clearing and grading of undisturbed State Park land for construction of a new telecommunications site. Access to the site is questionable as a new road, including access rights, would be needed from private land onto State Park land. There is no power at the alternative site, but an old buried copper-wire phone line is located nearby.

This site would provide communications coverage to Big Basin and the Swanton Drainage, but similar to the other potential alternative sites that are well east of Highway 1, there would be little coverage along the Highway 1 corridor or through much of southern San Mateo County. Coverage to the east is also questionable as there is a high ridge blocking that direction.

The Last Change Road Alternative site has been eliminated from further consideration, because it would not meet the communications coverage objectives of the proposed Project and it would have greater

environmental impacts due to development of a new telecommunications facility on a previously undisturbed site, nearby to several existing residences.

B.3.4 Other Inland Alternative Sites

Cal OES, Public Safety Communications (PSC) performed site reconnaissance identifying highpoints along the road between Chalk Mountain CDF and Chalk Mountain DPR sites, and determined in the field that there are no other potential sites that would be feasible from a microwave standpoint in the immediate Project area.

In addition, Cal OES considered site alternatives farther inland and determined that the microwave paths at inland locations would become unusable or unreliable. In general, the ridges to the east of Highway 1 average approximately 1,000 feet elevation and effectively block all coverage more than 1 mile east of the Highway 1 corridor, thereby eliminating potential alternative sites farther inland. In addition to severely degrading the VHF coverage, microwave coverage would be affected in the following ways:

- The microwave path to Allen Peak is encroached upon moving inland by the ridgeline near the Butano Airport and the ridgeline near La Honda.
- The microwave path to Mount Umunhum would be blocked by the hills near Skyline Boulevard and Bear Creek Road.
- The microwave path to Monterey CDF Emergency Command Center (ECC) would be obstructed by the hills inland from the Davenport/Bonny Doon area.
- Additionally, any potential alternative site with lower elevation and inland would likely result in tall trees affecting Fresnel zone[1] clearance.

No other alternative sites within the Project area have been identified that would meet the communications coverage objectives of the proposed Project.

B.4 Preferred Site Selection Rationale

As described in Sections B.1 through B.3, the Chalks Mountain CDF site is the only communications site identified in the Project area that accesses the Lower Bonny Doon Road corridor, Last Chance community, Swanton Road community, Whitehouse and Old Woman's Canyon communities, in addition to several State Parks along this section of Highway 1. Based on screening, other locations in this area might partially cover this corridor, but not the Big Basin State Park central headquarters and Wilderness area. Therefore, relocating the telecommunications site would severely degrade the area's radio coverage for CAL FIRE and other State agencies, such as Caltrans and CHP, by shadowing and blocking radio signals up and down the coast and into the local coastal communities.

Relocating would also degrade or prohibit microwave connectivity to the California Public Safety Microwave Network (CAPSNET). Microwave paths to Allen Peak, Mt Umunhum and the CAL FIRE Emergency Communications Center (ECC) in Monterey would not be feasible due to topography blocking line-of-sight to these users. Line-of-sight is required for microwave connectivity and for use by 911 dispatchers.

[1] A Fresnel zone , named after physicist Augustin-Jean Fresnel, is a cylindrical ellipse drawn between transmitter and receiver. The size of the ellipse is determined by the frequency of operation and the distance between the two sites.

Therefore, the Chalk Mountain CDF site is the only feasible site that would meet both VHF and microwave communication objectives. Additionally, Chalk Mountain CDF is an existing disturbed site, thereby minimizing ground disturbance-related impacts.

C. Alternative Design Options

C.1 Alternative Design Options Eliminated from Consideration

In addition to site alternatives, CAL FIRE has considered the following alternative design options at the existing Chalk Mountain CDF site that could reduce potential visual impacts of the proposed replacement communications tower and facilities in the Coastal Zone.

- **Tower Camouflage** – Under this design option, the communications tower would be camouflaged as a fake tree, similar to the design method used for cellular towers. This alternative design would not be feasible for the proposed microwave communications tower, because the type of antennas proposed to communicate with vehicles on the ground need to be omnidirectional. Cellular towers are designed to use three antennas, each covering a 120-degree sector. The Project's radio systems and antennas use omnidirectional antennas to communicate with mobile and portable radios, and dish antennas for point-to-point communication with the statewide public safety network, Public Safety Answering Points (911 call centers) and other dispatch facilities. Therefore, to use a fake tree design for the proposed Project would require arms that stick out beyond the fake foliage to allow the antennas to be omnidirectional, thus eliminating any potential visual benefits. This design option has been eliminated from further consideration.
- **Steel Monopole** – Under this design option, a steel monopole would be constructed at the Project site instead of the proposed tube steel braced tower. A 3-legged lattice structure provides greater structural support than a steel monopole structure. In order to transmit microwave signals over such long distances, the tower cannot move (e.g., in the wind on the mountaintop). Therefore, construction of a steel monopole is not technically feasible and has been eliminated from further consideration.
- **Grid Dishes** – Under this design option, grid dishes (open backs with tubing) would be utilized instead of the standard parabolic microwave dishes. Grid dishes are used with lower microwave frequencies, so would not be technically feasible for use on the Project because its higher (shorter) microwave frequencies would not "bounce." Therefore, this option has been eliminated from further consideration.
- **Tower Color** – Under this design option, the proposed lattice structure color would be matched to the surrounding vegetation and sky to reduce visibility of the replacement structure. The existing Chalk Mountain CDF communications site is generally devoid of vegetation and most public views would be from a lower elevation, namely along Highway 1, with the sky as the primary backdrop behind the tower. Therefore, matching the tower to the surrounding foliage would not reduce visual impacts and would instead make it potentially more apparent against the sky. Rather, the proposed tower would be galvanized steel, which would blend with the sky and cloud cover to minimize structural sky lining. Additional color treatment of the lattice structure would not reduce visual impacts, and therefore, has been eliminated from further consideration.
- **Berm and/or Vegetation Screening** – Under this design option, the lower portion of the tower would be screened with vegetation and/or a berm. In general, the existing telecommunications facility tower site is maintained to be devoid of vegetation that could interfere with operations. In addition, CAL FIRE must maintain 100 feet of defensible space for wildfire in accordance Public Resources Code 4291,

which would make substantial vegetation screening infeasible.[2] In addition, because line-of-sight must be maintained for the microwave dishes, construction of a berm or vegetation screening of sufficient height to block views of the tower from the surrounding area (namely distant views from lower elevation near Highway 1) would also not be technically feasible.

- **Collocation** – Under this design option, the proposed Project would be collocated with other public and private users to minimize the overall number of towers in the region. The Project proposes tower collocation with other State agencies. However, the site is restricted to State users only, so it would not be feasible to collocate or sublet the tower to other non-State agency users.
- **Upgrade the Existing VHF System** – Under this design option, CAL FIRE would replace the existing (damaged) 60-foot wooden pole with a steel pole and would retain its existing VHF system. This option would not meet the stated project objective to supplement the State's PSMN, and therefore, has been eliminated from further consideration.

C.2 Incorporated Design Changes

Based on the meeting with DPR, California Coastal Commission (CCC), and Santa Cruz County on March 13, 2018, and follow up communications, including a letter from the CCC (dated May 16, 2019), CAL FIRE has made the following design changes at the existing Chalk Mountain CDF site to minimize visual impacts of the proposed replacement communications tower and facilities in the Coastal Zone:

- **Tower and Antennae Design** – CAL FIRE no longer proposes a 4-legged lattice tower with up to 3 layers of 12-foot diameter microwave dishes. The current design is a much smaller Rohn 3-legged tube steel braced structure with MIMO antennae technology.
- **Tower Height** – The height of the proposed tower has been shortened from 148 feet to 80 feet by removing the upper monopole, mast and lightning rod.
- **Tower Location** – Although the exact location of the replacement tower within the CAL FIRE lease hold area would be determined during final engineering, CAL FIRE has moved the proposed tower location approximately 40 to 80 feet to the east in order to set it back from the site boundary and edge of the mountaintop as far as technically feasible. This revised tower location would minimize visual impacts yet still maintain line of sight in the required coverage area.

These aforementioned design features have been incorporated into the proposed project description for the California Environmental Quality Act and Coastal Development Permit review processes.

[2] Public Resources Code 4291 provides that a person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line.

Appendix C

Biological Resources Technical Report

Biological Resources Technical Report
CAL FIRE's Chalk Mountain Communication Tower and Facilities Replacement Project

Prepared for:

DGS CALIFORNIA DEPARTMENT OF GENERAL SERVICES

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June 2020, revised November 2021

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Biological Resources Technical Report CAL FIRE's Chalk Mountain Communication Tower and Facilities Replacement Project

Aspen Environmental Group
June 2020, revised November 2021

The California Department of General Services (DGS) retained Aspen Environmental Group (Aspen) to complete an assessment of biological resources at and near the California Department of Forestry and Fire Protection's (CAL FIRE's) existing Chalk Mountain communication facility in Santa Cruz County where they propose to replace the existing communication tower and associated facilities. This Biological Resources Technical Report (BRTR) presents the results of biological surveys and literature reviews conducted for the subject site.

Subsequent to preparation of the BRTR in June 2020, the project site and vicinity were burned during the August 2020 CZU August Lightning Complex fire, which consumed 86,509 acres (135 square miles) and took over five weeks to be contained. Much of the vegetation at the site and for several miles around the site was destroyed or damaged by the wildfire and will take several years to reestablish. As a result, the habitats described herein have been altered and will take many years to recover as well. A site visit in July 2021 to the site and its access road confirmed that while some areas within the larger burn area supported undamaged or slightly damaged mature vegetation but much of vegetation in the vicinity of the site and access road was heavily damaged or destroyed.

1.0 Project Description and Location

The project would replace an existing telecommunications tower and supporting facilities at the CAL FIRE Chalk Mountain communication facility to support current microwave technology. New equipment would include replacing an existing telecommunications wood pole (60 feet) with a new 80 foot lattice steel tower, replacing an existing vault and equipment with a new vault to house new equipment, a generator, and electrical storage batteries. A new propane tank would be installed and the solar photovoltaic system would be enlarged. All work would be within the existing site. Equipment and facilities no longer needed would be removed.

The project site is located in northwestern Santa Cruz County within the Big Basin Redwood State Park. It is located in the Santa Cruz Mountains, approximately 20 miles north of the City of Santa Cruz and 8 miles south of the Town of Pescadero. The access road to the project site is also partially located within San Mateo County. The project site appears on the USGS Franklin Point 7½-minute topographic map in Township 9 South, Range 4 West, in the southwest corner of Section 10. The elevation of the project site is approximately 1,610 feet (490 meters) above sea level. Figures 1 and 2 show the project area and project site plan. Photos 1–8 in Attachment 1 show existing structures on site and adjacent habitats.

Construct is expected to start in 2022 and would span approximately two years, incorporating delays that may occur due to weather, material availability, periods of environmental restrictions, or because of construction sequencing to maintain continuity of service. Construction would primarily occur Monday through Saturday (6 days a week) between 7:00 a.m. and 6:00 p.m., in accordance with the local noise ordinance.

2.0 Methods

2.1 Special-status Plants

Aspen Senior Biologist Justin M. Wood reviewed available literature to identify special-status plants known to be in the vicinity of the project site. This review included searches of the California Natural Diversity Database (CNDDB; CDFW, 2020a) for the following USGS 7½ minute topographic quadrangles (quads): Ano Nuevo, Big Basin, Davenport, Felton, Franklin Point, and Pigeon Point (Attachment 2). Wood also reviewed the California Native Plant Society (CNPS) On-line Electronic Inventory (CNPS, 2020) and Consortium of California Herbaria data (CCH, 2020) for special-status plant locations near the site. Attachment 1 lists all special-status plants identified during the literature review and summarizes their habitat, distribution, conservation status, and probability of occurrence on the site. Wood also reviewed the Natural Resources Conservation Service (NRCS) soil web survey to determine what soil types are present at the project site (NRCS, 2020).

2.2 Special-status Wildlife

Background review for special-status wildlife included an evaluation of aerial imagery of the project site in Google Earth, an initial records search of the California Natural Diversity Database (CNDDB) for special-status wildlife known to occur within five miles of the project site, and generation of an informal species list from the U.S. Fish and Wildlife Service IPaC (Information for Planning and Conservation) website (USFWS 2018).

An expanded eight-quad[1] CNDDB records search was conducted on August 22, 2018, for the following U.S. Geological Survey 7.5-minute quadrangles: Franklin Point, La Honda, San Gregorio, Pigeon Point, Ano Nuevo, Davenport, Big Basin, and Mindego Hill (CDFW 2020a). An updated IPaC informal species list from the U.S. Fish and Wildlife Service (USFWS) was generated on August 23, 2018 (USFWS 2018). The CDFW and USFWS species lists are provided at the end of this memo-report. Background review was followed by a site visit by wildlife biologist Anne Wallace on September 6, 2018.

2.3 Regulatory Considerations

For purposes of this BRTR, special-status plants and animals have been defined as those species or taxa that are:

- Listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (FESA);
- Candidates for listing as threatened or endangered under FESA;
- Species that are listed or proposed for listing as threatened or endangered under the California Endangered Species Act (CESA);
- Candidates for listing as threatened or endangered under CESA;
- Identified by California Department of Fish and Wildlife (CDFW) as species of special concern (species not formally protected by CESA or FESA but known to be declining);
- Designated as fully protected by CDFW; and/or
- Protected by California Fish and Game Code or federal statutes such as the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act.

[1] Only eight quads were searched because the ninth quad at this location is entirely open ocean.

Only those special-status species or taxa that (1) fall into one of the above classifications, (2) occur in this geographic area and at this general elevation, (3) could potentially use or be found in habitats found in the project vicinity, or (4) could otherwise be affected by project-related activities, such as fishes or amphibians occurring downstream of the project area that could be affected by water quality degradation at the project site, are considered in this report.

Special-status species found in agency species lists were divided into two groups: those meeting the above criteria for consideration in this report and those not meeting criteria for consideration.

3.0 Results

3.1 Soils and Vegetation

The only soil type mapped at the project site is Maymen-Rock outcrop complex, 50 to 75 percent slopes (h9fd). It is typically found at elevations of 650 to 4,000 feet (200 to 1,220 meters) above sea level. It is made up of soils derived from weathered sandstone and shale and/or from granite. Surface bedrock can be present or can be up to 14 inches deep beneath the overlying soil. This soil complex does not contain serpentinite soils, but clays can be present. No wetland soils or mapped blue-lines streams are present on the project site or in the immediate adjacent habitat.

The project site is located an existing communication facility that is subject to periodic operations and maintenance activities. Vegetation on the project site is limited and composed primarily of native and non-native ruderal species that persist in areas that are frequently disturbed. The undisturbed lands surrounding the project site are vegetated by a coniferous woodland dominated by knobcone pine (*Pinus attenuata*) with other species such as Coulter pine (*Pinus coulteri*) and Douglas fir (*Pseudotsuga menziesii*) also present. The canopy is open with patches several species of manzanita that are likely to include crinite manzanita (*Arctostaphylos crustacea* ssp. *crinite*), glossy leaved manzanita (*Arctostaphylos nummularia*), and others present in the openings. The vegetation surrounding the project site appears to best match the description of knobcone pine forest (*Pinus attenuata* Forest Alliance) in *A Manual of California Vegetation* (Sawyer et al. 2009).

3.2 Special-status Plants

Plants may be ranked as special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). Others have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species of conservation concern appear on lists compiled by resource agencies or private conservation organizations. In this memo, “special-status species” includes all plants listed as threatened or endangered or included in these other compilations. All special-status plants occurring in the region in habitats like pre-wildfire habitats found on the project site are shown in Attachment 2, with brief descriptions of habitat and distribution, conservation status, and probability of pre-fire occurrence on the site.

No special-status plants are known from the project site. More than 57 special-status plants were identified in the literature search (Attachment 2). Six of these have at least a moderate potential to be present and are discussed below.

Butano Ridge cypress. is an evergreen tree that grows along the Butano Ridge in Santa Cruz County. It is federally listed threatened and state listed endangered. It grows on sandstone in a variety of habitats

including closed-cone coniferous forest, lower montane coniferous forest, and chaparral. It is known from within about 2 miles of the project site and has a moderate potential to be present.

Five additional special-status wildlife species could be present in or near the project site: coast rock cress (*Arabis blepharophylla*), Anderson's manzanita (*Arctostaphylos andersonii*), Kings Mountain manzanita (*Arctostaphylos regismontana*), Santa Cruz Mountains beardtongue (*Penstemon rattanii* var. *kleei*), and Santa Cruz microseris (*Stebbinsoseris decipiens*). All of these, except coast rock cress are ranked as CRPR 1B which indicates that they are rare or endangered in California and throughout their range. Coast rock cress has a CRPR of 4.3, which is a "watch list," not an indicator of rarity. Impacts to coast rock cress, should they occur, generally would not be considered significant under the California Environmental Quality Act (CEQA).

3.3 Special-status Wildlife

Attachment 3 presents the special-status species that CDFW and USFWS species lists show could be present at or near the project site. These species meet the criteria outlined under Regulatory Considerations above, i.e., they meet one or more definition of special-status, and they are known to occur in this geographic region at this elevation even if they are not expected to occur in or near the project site.

Species found on agency lists but not given consideration for this project at this location are listed at the bottom of Attachment 3 along with the reasons for their exclusion. They include animals that do not meet our definition of special status as well as animals that may meet one or more of those criteria but occur in habitats not present on or near the site, such as ponds or wetlands.

There are no creeks, ponds, seeps, or other wetland or aquatic resources within 500 or more feet of the project site; however, one unnamed creek arises directly downslope of the project approximately 800 feet to the south, and Cascade Creek arises roughly 2000 feet downslope of the project to the east. Importantly, access-road improvements, not described in this project description, could affect creeks and wetlands.

Attachment 3 shows that Santa Cruz black salamander, California giant salamander, foothill yellow-legged frog, California red-legged frog, golden eagle, long-eared owl, marbled murrelet, pallid bat, and nesting migratory birds could be present and affected by the proposed project. These are discussed below. No other special-status species are expected to occur in this area or in habitats found at the project site. Special-status species with at least a moderate potential to be present and are discussed below.

Santa Cruz Black Salamander and California Giant Salamander. These two California species of special concern require creeks and/or other moist conditions, which are not found at the Chalk Mountain communication site itself. Both could potentially occur wherever creeks or other damp environments such as seeps or springs occur along the coastal access route or at or near sites of equipment laydown or staging (Figure 3).

Foothill Yellow-legged Frog. Breeding and nonbreeding foothill yellow-legged frogs are not likely to be found far from a creek, but nonbreeding individuals, especially metamorphs and juveniles, will use even the smallest drainage with the lowest flow. This frog would therefore not be present at or near the communication site but is considered potentially present in Cascade Creek and the unnamed drainages seen on Figure 3.

California Red-legged Frog. The California red-legged frog typically breeds along the margins of permanent and near-permanent sunlit ponds, lakes, and streams where water is still or slow, shoreline and emergent vegetation is dense and extensive, and water depth is at least 2.1 feet close to the shoreline (Jennings and Hayes 1994, Barry 1999). However, it is also found in habitats quite unlike this description,

including springs, backwaters of streams, shallow edges of large reservoirs, and stock ponds with no vegetation (USFWS 2002, 2005; Rathbun *et al*. 1997).

California red-legged frogs may complete their entire life cycle in a particular habitat, or they may seek multiple habitat types (USFWS 2002). They often forage in uplands within 100 feet of aquatic sites (J Alvarez pers comm), especially at night, and may take shelter in small-mammal burrows and other refugia up to 300 feet from water at any time of the year (USFWS 2005). They have been observed to make long-distance, straight-line, point-to-point migrations of up to several miles without apparent regard for topography or vegetation type (Bulgur 1999, Alvarez pers comm); these movements typically occur during or within 24 hours after a rain.

Ideal habitat elements for California red-legged frogs are aquatic and upland areas where suitable breeding and nonbreeding habitat is interspersed throughout the landscape and is interconnected by dispersal habitat (USFWS 2002). Ideally, suitable habitat would include two or more suitable breeding locations with suitable uplands up to 300 feet from the water's edge, all within 1.25 miles of one another and connected by barrier-free dispersal habitat that is at least 300 feet in width (USFWS 2002).

These conditions are met in the Chalk Mountain project vicinity and this frog is known to occur throughout the Santa Cruz Mountains. The USFWS requires consideration of California red-legged frogs if a project lies within the geographic range of the species and with 1.25 miles of potential aquatic breeding habitat. Moreover, there many CNDDB records for this frog within 5 miles (the nearest is 1.5 miles south); the project lies near but not within designated critical habitat for this frog. Figure 3 shows the location of the project relative to critical habitat and relative to seven ponds and four CNDDB records for this frog, all within 2 miles—only two of these ponds are within 1.25 miles. In addition to two ponds, five creeks lie within 1.25 miles of the project site.

Golden Eagle and Long-eared Owl. Two special-status birds could nest near the project site: golden eagle and long-eared owl. Habitat requirements for each are provided in Attachment 3; both are known from either the general vicinity or the specific area and all have been observed using similar habitats throughout their range (EcoBridges, 2018). Golden eagles could nest in large trees near the project site and long-eared owls could nest in the dense forest cover found within nearby drainages where there is open foraging habitat nearby. Long-eared owl occurrence may be unlikely given a relative scarcity of typical foraging habitat adjacent to suitable nesting cover.

Marbled Murrelet. The marbled murrelet spends the majority of its life on the open ocean feeding in nearshore marine waters on fish and invertebrates, but it comes inland to nest (USFWS 1997). It nests primarily in old-growth forests that include characteristics such as large trees, a multistoried stand, and moderate canopy closure, but they will also use younger forests with an old-growth component (USFWS 1997, 2016). Trees must have large branches or deformities for nest platforms, with the occurrence of suitable platforms being more important than tree size alone.

Figure 4 shows that the project lies within designated critical habitat for marbled murrelet; murrelet critical habitat was finalized in 2016 (USFWS 2016). Figures 5 and 6 show the locations of nearby marbled murrelet CNDDB records. The nearest, shown on Figure 6, lies just downslope of the communication facility and its center is roughly 0.75 miles south in the heavily forested canyon of Cascade Creek. Murrelets were first detected there in 1988 and the record was updated in 1993 with more sightings. Whether murrelets are still there is not known; however, the designation of this general area as critical habitat reflects habitat quality and therefore a greater likelihood of occupation or, at a minimum, a higher potential for future Occupation. The nearest other records are 1.35 northeast (2007) and 2.25 miles east-northeast (1997). The most recent CNDDB records for this area, about 20 records, are dated 2011 and one set is a cluster of records approximately 4 miles east of the project in Big Basin Redwoods State Park.

Pallid Bat. The pallid bat inhabits rocky arid deserts and canyon lands, shrub-steppe grasslands, karst formations, and coniferous forests, occurring from below sea level in Death Valley up to 7000 feet elevation. Day and night roosts include crevices in rocky outcrops and cliffs as well as caves, mines, and trees such as basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating bark of ponderosa pine and valley oak, deciduous trees in riparian areas, and fruit trees in orchards. It will also roost in various human structures such as bridges, barns, porches, bat boxes, and buildings. Roosts are generally high above the ground, but this bat has also been found roosting on or near the ground under burlap sacks, stone piles, rags, and baseboards. It forages on a wide-range of invertebrates and may even take geckos, lizards, skinks, and small rodents.

Migratory Birds. In addition to these species of special concern, California Fish and Game Code protects most nesting birds and their nests, eggs, and chicks during the nesting season, and the federal Migratory Bird Treaty Act protects many of California's migratory birds both within and outside of the nesting season. A number of bird species could use trees, shrubs, grasslands, buildings, and other structures at and near the full project footprint for nesting.

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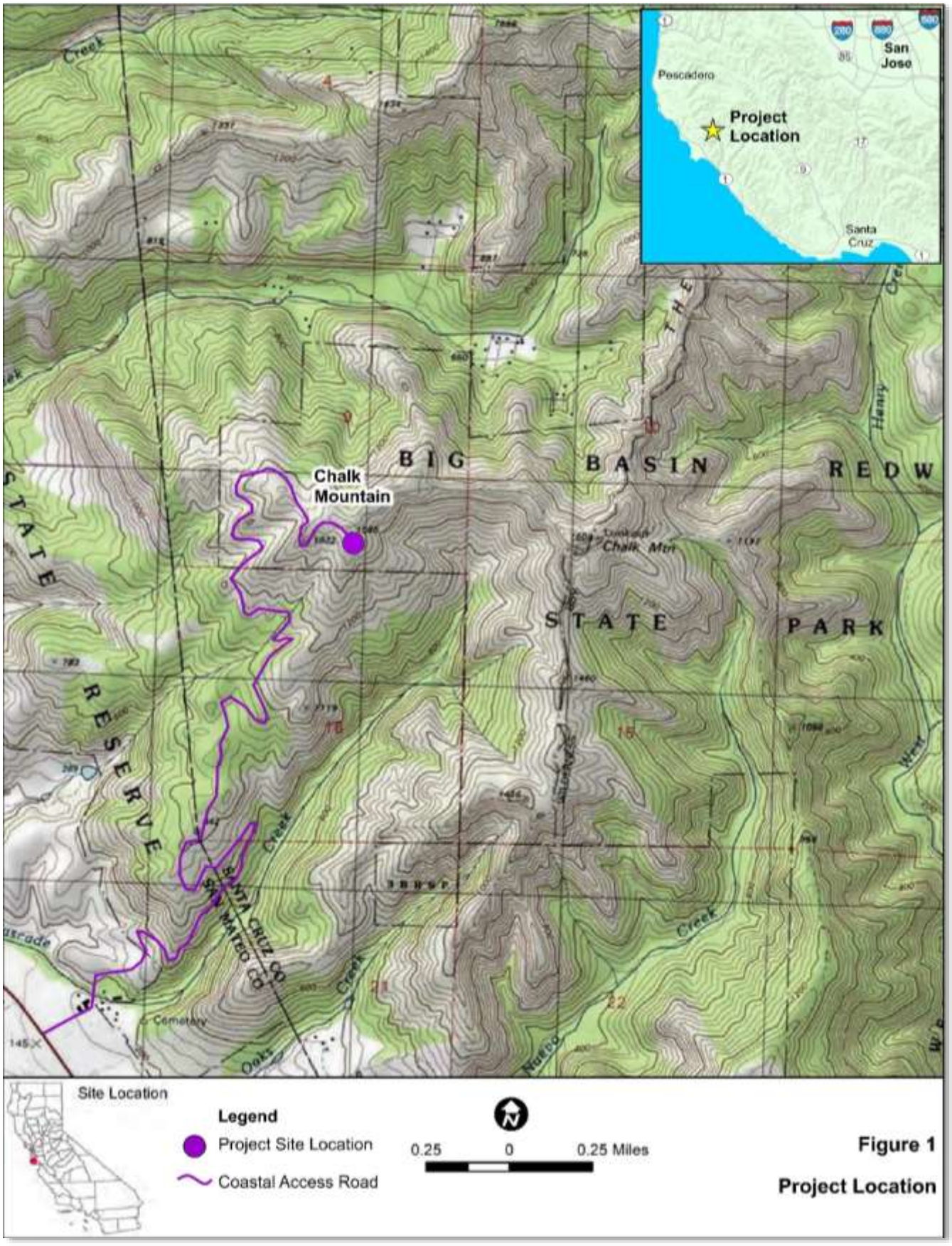
Pescadero
San Jose
Project Location
Santa Cruz
Chalk Mountain
BIG BASIN REDW
STATE PARK
STATE RESERVE
SANTA CRUZ CO
SAN MATEO CO
Site Location
Legend
Project Site Location
Coastal Access Road
0.25 0 0.25 Miles
Figure 1
Project Location

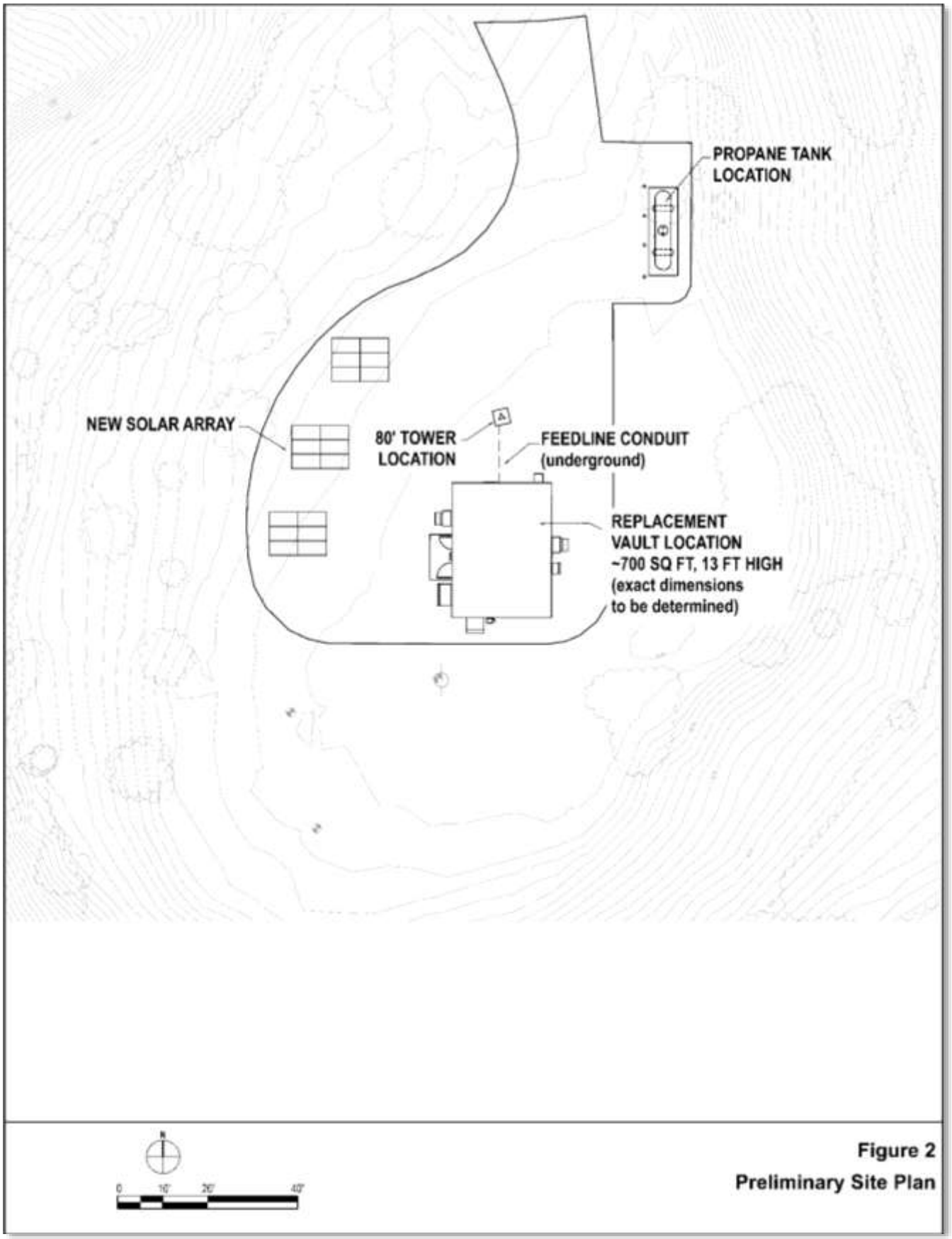

Figure 2
Preliminary Site Plan

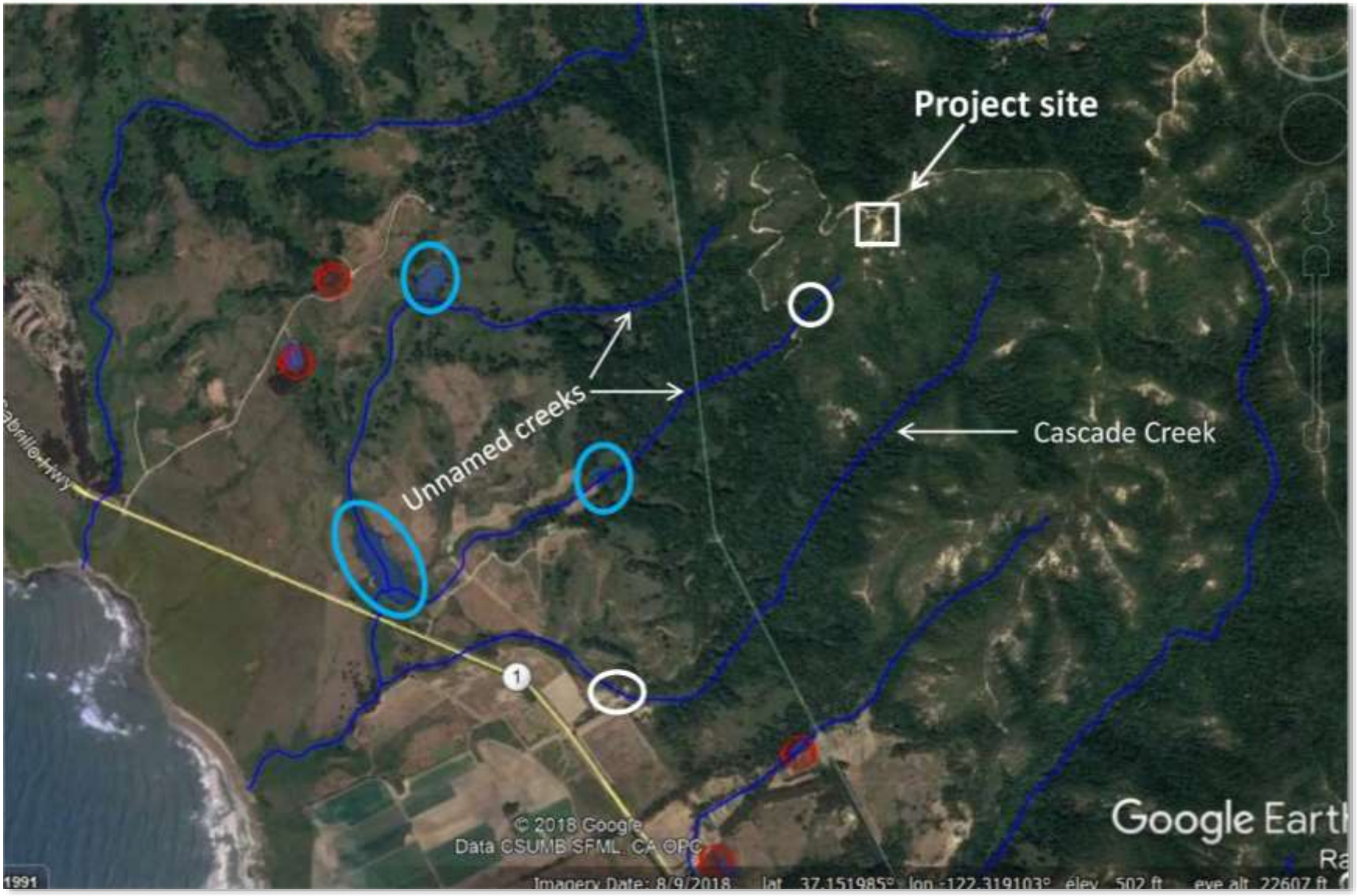

Figure 3. Chalk Mountain project site relative to local creeks and seven nearby ponds (blue and red circles); only two ponds are within 1.25 mi. Red circles show CNDDB records for California red-legged frog. White circles show where coastal access route crosses a creek or drainage.

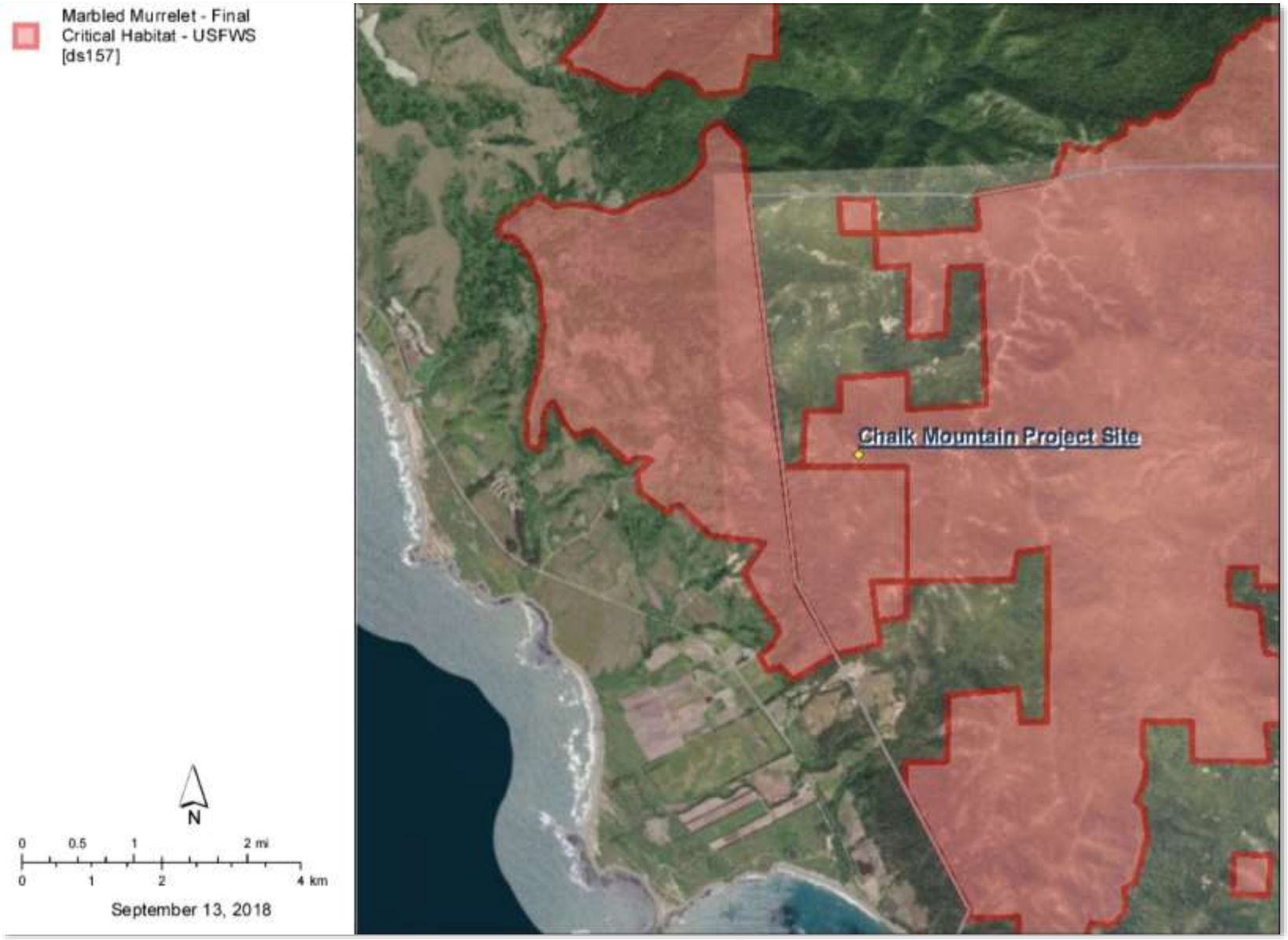

Figure 4. Chalk Miountain site relative to marbled murrelet critical habitat.

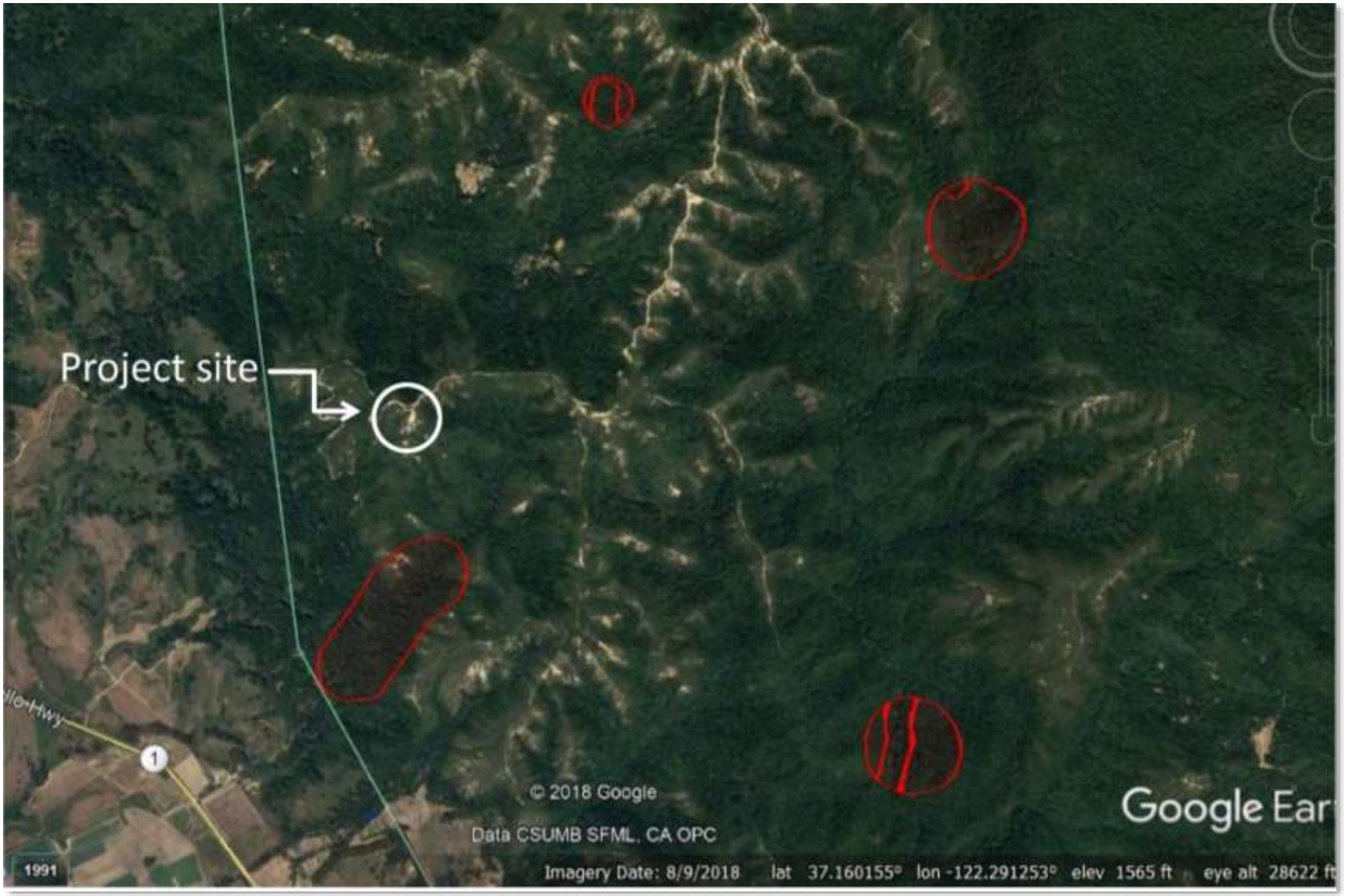

Figure 5. Chalk Mountain project site relative to nearest marbled murrelet CNDDB records, outlined in red.

Figure 6. Coastal access road passes through dense forest (green arrows) including one portion within a nonspecific CNDDB record (red outline), all within critical habitat.

Attachment 1

Photo Exhibit

Photo 1: South-facing view from Chalk Mountain.

Photo 2: Southwest-facing view of nearby vegetation.

Photo 3: East-facing view of downslope vegetation.

Photo 4: North-facing view from Chalk Mountain.

Photo 5: Existing facilities at Chalk Mountain.

Photo 6: Existing facilities at Chalk Mountain.

Photo 7: Existing facilities at Chalk Mountain.

Photo 8: Southeast-facing view from Chalk Mountain.

Attachment 2

Special-status Plant Species

Attachment 2
Special-status Plant Species

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
PLANTS				
Agrostis blasdalei **Blasdale's bent grass**	Rhiz. perennial grass; sandy or gravelly soils in coastal dunes, coastal bluff scrub, and coastal prairie; Santa Cruz Co. north to Mendocino Co.; Elev. of about 5 to 365 m. above mean sea level (amsl).	May-Jul	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Amsinckia lunaris **Bent-flowered fiddleneck**	Annual; cismontane woodland, valley and foothill grassland, and coastal bluff scrubs; Monterey Co. north to Lake Cos.; Elev. from about sea level to 795 m. amsl.	Mar-Jun	Fed: none CA: S3 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Anomobryum julaceum **Slender silver moss**	Moss; broad-leafed upland forest, lower montane coniferous forest, north coast coniferous forest; grows on damp rocks and soil, sometimes on roadcuts; scattered locations throughout Calif.; Elev. of about 100 to 1,000 m. amsl.	--	Fed: none CA: S2 CRPR: 4.2	**Minimal.** Marginally suitable habitat present, not known from within 10 miles.
Arabis blepharophylla **Coast rock cress**	Perennial herb; rocky areas in broad-leafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub; Monterey Co. north to Sonoma Co.; Elev. from sea level to about 1,100 m. amsl.	Feb-May	Fed: none CA: S4 CRPR: 4.3	**Moderate.** Suitable habitat present, known from within about 2 miles.
Arctostaphylos andersonii **Anderson's manzanita**	Shrub; broad-leafed upland forest, chaparral, north coast coniferous forest; Santa Cruz, Alameda, and San Mateo Cos; Elev. of about 60 to 760 m. amsl.	Nov-May	Fed: none CA: S2 CRPR: 1B.2	**Moderate.** Suitable habitat present, known from within about 2 miles.
Arctostaphylos glutinosa **Schreiber's manzanita**	Shrub; closed-cone coniferous forest and chaparral; typically, on mudstone or diatomaceous shale outcrops; often with *Pinus attenuata*. Santa Cruz and Monterey Cos.; Elev. of about 170 to 680 m. amsl.	Nov-Apr	Fed: none CA: S1 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Arctostaphylos ohloneana **Ohlone manzanita**	Shrub; coastal scrub, closed-cone coniferous forests; growing on Monterey shale; Santa Cruz Co.; Elev. of about 455 to 520 m. amsl.	Feb-Mar	Fed: none CA: S1 CRPR: 1B.1	**Low.** Marginally suitable habitat present, known from within about 5 miles.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Arctostaphylos regismontana **Kings Mountain manzanita**	Shrub; broad-leafed upland forest, chaparral, north coast coniferous forest; granite or sandstone outcrops; San Mateo and Santa Cruz Cos.; Elev. of about 240 to 705 m. amsl.	Dec-Apr	Fed: none CA: S2 CRPR: 1B.2	**Moderate.** Suitable habitat present, known from within about 3 miles.
Arctostaphylos silvícola **Bonny Doon manzanita**	Shrub; chaparral, closed-cone coniferous forest, lower montane coniferous forest; only known from Zayante (inland marine) sands in Santa Cruz County; Elev. of about 150 to 520 m. amsl.	Jan-Mar	Fed: none CA: S1 CRPR: 1B.2	**Minimal.** No suitable Zayanrte sands in the vicinity of the project site.
Arenaria paludicola **Marsh sandwort**	Perennial herb; marshes and swamps; grows up through dense mats of *Typha, Juncus, Scirpus*, etc. in freshwater marsh with sandy soil; scattered locations throughout cismontane Calif.; Elev. of about 3 to 170 m. amsl.	May-Aug	Fed: **END** CA: **END**, S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range, no suitable habitat.
Astragalus pycnostachyus var. *pycnostachyus* **Coastal marsh milk-vetch**	Perennial herb; coastal dunes, marshes, and swamps; mesic sites in dunes or along streams or coastal salt marshes; San Luis Obispo to Humboldt Cos., Elev. from sea level to 155 m. amsl.	Apr-Oct	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range, no suitable habitat.
Calandrinia breweri **Brewer's calandrinia**	Annual; sandy or loamy soils in chaparral and coastal scrub; scattered locations throughout Calif.; Elev. from about 12 to 1,220 m. amsl.	Jan-Jun	Fed: none CA: S4 CRPR: 4.2	**Minimal.** No suitable coastal scrub or chaparral habitat.
Calyptridium parryi var. *hesseae* **Santa Cruz Mountains pussypaws**	Annual; sandy or gravelly substrates in chaparral and cismontane woodland; Monterey, Santa Cruz and surrounding Cos.; Elev. from about 300 to 1,535 m. amsl.	May-Aug	Fed: none CA: S2 CRPR: 1B.1	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Campanula califórnica **Swamp harebell**	Perennial herb; bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marsh, north coast coniferous forest. Santa Cruz to Mendocino Cos.; Elev. from about sea level to 520 m. amsl.	Jun-Oct	Fed: none CA: S3 CRPR: 1B.2	**Minimal;** no suitable bog or fen habitat on project site**.**
Carex saliniformis **Deceiving sedge**	Perennial herb; coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt); Santa Cruz to Humboldt Cos.; Elev. from about sea level to 230 m. amsl.	Jun-Jul	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range, no suitable habitat.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Chorizanthe pungens var. *hartwegiana* **Ben Lomond spineflower**	Annual; lower montane coniferous forest; Zayante coarse sands in maritime ponderosa pine sandhills; San Mateo and Santa Cruz Cos.; Elev. from about 105 to 475 m. amsl.	Apr-Jul	Fed: **END** CA: S1 CRPR: 1B.1	**Minimal.** No suitable Zayanrte coarse sands in the vicinity of the project site.
Chorizanthe robusta var. *hartwegii* **Scotts Valley spineflower**	Annual; meadows, valley and foothill grassland; grows on mudstone and sandstone outcrops within grasslands; Santa Cruz and Monterey Cos.; Elev. from about 105 to 245 m. amsl.	Apr-Jul	Fed: **END** CA: S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range, no suitable habitat.
Chorizanthe robusta var. *robusta* **Robust spineflower**	Annual; sandy terraces and bluffs in cismontane woodland, coastal dunes, coastal scrub, and chaparral; Monterey Co. north to Marin Co.; Elev. from about 9 to 245 m. amsl.	Apr-Sept	Fed: **END** CA: S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range.
Cirsium andrewsii **Franciscan thistle**	Perennial herb; serpentine seeps in coastal bluff scrub, broad-leafed upland forest, coastal scrub, and coastal prairie; San Mateo Co. north to Humboldt Co.; Elev. from about sea level to 295 m. amsl.	Mar-Jul	Fed: none CA: S3 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Collinsia multicolor **San Francisco collinsia**	Annual; grows in decomposed shale (mudstone) mixed with humus; sometimes on serpentine in closed-cone coniferous forest and coastal scrub; San Luis Obispo Co. north to San Mateo Co.; Elev. from about 10 to 275 m. amsl.	Feb-May	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Dacryophyllum falcifolium **Tear drop moss**	Moss; limestone substrates and outcrops in North Coast coniferous forest; Santa Cruz and Monterey Cos.; Elev. about 50 to 275 m. amsl.	--	Fed: none CA: S2 CRPR: 1B.3	**Minimal.** Project site is well above species' elevational range.
Eriogonum nudum var. *decurrens* **Ben Lomond buckwheat**	Perennial herb; grows in ponderosa pine sandhills in Santa Cruz County; Elev. from about 180 to 505 m. amsl.	Jun-Oct	Fed: none CA: S1 CRPR: 1B.1	**Minimal.** No suitable sandhill habitat in the vicinity of the project site.
Erysimum ammophilum **Sand-loving wallflower**	Perennial herb; sandy openings in maritime chaparral, coastal dunes, and coastal scrub; San Mateo Co. south to Monterey Co.; Elev. from about sea level to 320 m. amsl.	Feb-Jun	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range, no suitable habitat.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Erysimum teretifolium **Santa Cruz wallflower**	Annual or perennial herb; inland marine sands (Zayante coarse sand) in lower montane conif-erous forest and chaparral; Monterey Co. north to Alameda Co.; Elev. from about 180 to 515 m. amsl.	Mar-Jul	Fed: **END** CA: **END**, S1 CRPR: 1B.1	**Minimal.** No suitable Zayanrte coarse sands in the vicinity of the project site.
Fissidens pauperculus **Minute pocket moss**	Moss; grows on damp soil along the coast in dry streambeds in North coast coniferous forest; Santa Cruz Co. north to Del Norte Co.; Elev. from about 10 to 1,024 m. amsl.	--	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** No suitable damp soils or stream beds within the project site.
Fritillaria agrestis **Stinkbells**	Perennial herb; grows on serpentine and clay soils in grasslands and openings in cismontane woodland, chap-arral, valley and foothill grassland, pinyon and juniper woodland; scattered locations throughout Calif.; Elev. from about 10 to 1,555 m. amsl.	Mar-Jun	Fed: none CA: S3 CRPR: 4.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Fritillaria liliacea **Fragrant fritillary**	Perennial herb; on clay or serpen-tine soils in coastal scrub, valley and foothill grassland, coastal prairie, and cismontane wood-land; San Luis Obispo Co. north to Sonoma Co.; Elev. from about sea level to 400 m. amsl.	Feb-Apr	Fed: none CA: S2 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Grimmia torenii **Toren's grimmia**	Moss; on rocky carbonate and volcanic boulders in openings in cismontane woodland, lower montane coniferous forest, and chaparral; Monterey Co. north to Lake Co.; Elev. from about 325 to 1,160 m. amsl.	--	Fed: none CA: S2 CRPR: 1B.3	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Grimmia vaginulata **Vaginulate grimmia**	Moss; on rocky carbonate boulders and walls in chaparral; Santa Cruz Co.; Elev. from about 685 to 1,135 m. amsl.	--	Fed: none CA: S1 CRPR: 1B.1	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Hesperevax sparsiflora var. *brevifolia* **Short-leaved evax**	Annual; sandy bluffs and flats on coastal bluff scrub, coastal dunes, and coastal prairie; Santa Cruz Co. north to Del Norte Co.; Elev. from about sea level to 640 m. amsl.	Mar-Jun	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** No suitable habitat in the vicinity of the project site.
Hesperocyparis abramsiana var. *abramsiana* **Santa Cruz cypress**	Tree; restricted to sandstone and granitic-derived soils; often w/*Pinus attenuata* and redwoods; endemic to Santa Cruz Co.; Elev. from about 300 to 1,085 m. amsl.	Year-round	Fed: **THR** CA: **END**, S1 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Hesperocyparis abramsiana var. *butanoensis* **Butano Ridge cypress**	Tree; grows on sandstone in closed-cone coniferous forest, lower montane coniferous forest, and chaparral; Santa Cruz and San Mateo Cos.; Elev. from about 400 to 490 m. amsl.	Year-round	Fed: **THR** CA: **END**, S1 CRPR: 1B.2	**Moderate.** Suitable habitat present, known from within about 2 miles.
Holocarpha macradenia **Santa Cruz tarplant**	Annual; grows in light, sandy soils or sandy clay soils; coastal prairie, coastal scrub, and valley and foothill grassland; Monterey Co. north to Sonoma Co.; Elev. from about 10 to 220 m. amsl.	Jun-Oct	Fed: **THR** CA: **END**, S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range, no suitable habitat.
Horkelia cuneata var. *sericea* **Kellogg's horkelia**	Perennial herb; sandy and gravelly soils in old dunes and coastal sandhills; closed-cone coniferous forest, coastal scrub, coastal dunes, and chaparral; Santa Barbara Co. north to Marin Co.; Elev. from about 5 to 430 m. amsl.	Apr-Sept	Fed: none CA: S1? CRPR: 1B.1	**Minimal.** No suitable habitat in the vicinity of the project site.
Horkelia marinensis **Point Reyes horkelia**	Perennial herb; sandy flats and dunes near coast; coastal prairie and coastal scrub; Monterey Co. north to Mendocino Co.; Elev. from sea level to about 775 m. amsl.	May-Sept	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** No suitable habitat in the vicinity of the project site.
Lasthenia californica ssp. *macrantha* **Perennial goldfields**	Annual; coastal bluff scrub, coastal dunes, and coastal scrub; San Luis Obispo Co. north to Humboldt Co.; Elev. from sea level to about 185 m. amsl..	Jan-Nov	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Leptosiphon rosaceus **Rose leptosiphon**	Annual; coastal bluff scrub; San Mateo Co. north to Sonoma Co.; Elev. from about 10 to 140 m. amsl.	Apr-Jul	Fed: none CA: S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range.
Limnanthes douglasii ssp. *sulphurea* **Point Reyes meadowfoam**	Annual; vernally wet depressions in open rolling prairies; marshes and swamps; vernal pools, and coastal prairie; typically, in dark clay soils; San Mateo and Marin Cos.; Elev. from about 10 to 125 m. amsl.	Mar-May	Fed: none CA: **END**, S1 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Malacothamnus arcuatus **Arcuate bush-mallow**	Shrub; grows on gravelly alluvium in chaparral and cismontane woodland; Santa Cruz, San Mateo, and surrounding Cos.; Elev. from about sea level to 735 m. amsl.	Apr-Sept	Fed: none CA: S2 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 3 miles.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Microseris paludosa **Marsh microseris**	Perennial herb; closed-cone coniferous forest, cismontane woodland, coastal scrub, and native grasslands; San Luis Obispo Co. north to Mendocino Co.; Elev. from about sea level to 610 m. amsl.	Apr-Jul	Fed: none CA: S2 CRPR: 1B.2	**Low.** Suitable habitat present, known from within about 5 miles.
Mielichhoferia elongata **Elongate copper moss**	Moss; grows on acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates naturally enriched with heavy metals; cismontane woodlands; Scattered locations throughout northern Calif.; Elev. from about 500 to 1300 m. amsl.	--	Fed: none CA: S4 CRPR: 4.3	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Monardella sinuata ssp. nigrescens **Northern curly-leaved monardella**	Annual; sandy soils in coastal dunes, coastal scrub, chaparral, lower montane coniferous forest; San Luis Obispo Co. north to Marin Co.; Elev. from about 10 to 245 m. amsl.	Apr-Sept	Fed: none CA: S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.
Monolopia gracilens **Woodland woollythreads**	Annual; typically, on sandy or rocky serpentine soils in chaparral, valley and foothill grassland, cismontane woodland, broad-leafed upland forest, and North Coast coniferous forest; San Luis Obispo Co. north to Contra Costa Co.; Elev. from about 120 to 975 m. amsl.	Feb-Jul	Fed: none CA: S3 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Orthotrichum kellmanii **Kellman's bristle moss**	Moss; sandstone outcrops with high calcium concentrations in small openings within dense chaparral with overstory of scattered *Pinus attenuata*; chaparral and cismontane woodland; San Luis Obispo and Santa Cruz Cos.; Elev. from about 340 to 685 m. amsl.	Jan-Feb	Fed: none CA: S2 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Pedicularis dudleyi **Dudley's lousewort**	Perennial herb; grows in deep shady woods of older coast redwood forests; also, in maritime chaparral; San Luis Obispo Co. north to San Mateo Co.; Elev. from about 60 to 330 m. amsl.	Apr-Jun	Fed: none CA: **RARE**, S2 CRPR: 1B.2	**Minimal.** Project site is well above species' elevational range.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Penstemon rattanii var. *kleei* **Santa Cruz Mountains beardtongue**	Perennial herb; sandy shale slopes; sometimes in the transition between forest and chaparral; Santa Cruz and surrounding Cos.; Elev. from about 455 to 915 m. amsl.	May-Jun	Fed: none CA: S2 CRPR: 1B.2	**Moderate.** Suitable habitat present, known from within about 5 miles.
Pentachaeta bellidiflora **White-rayed pentachaeta**	Annual; open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock; valley and foothill grassland and cismontane woodlands; Monterey Co. north to Marin Co.; Elev. from about 35 to 610 m. amsl.	Mar-May	Fed: **END** CA: **END**, S1 CRPR: 1B.1	**Low.** Suitable habitat present, known from within about 5 miles.
Pinus radiata **Monterey pine**	Tree; dry bluffs and slopes in closed-cone coniferous forest and cismontane woodland. Known from three stands in Monterey, Santa Cruz, San Luis Obispo, and San Mateo Cos.; Elev. from about 60 to 125 m. amsl.	Year-round	Fed: none CA: S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range.
Piperia candida **White-flowered rein orchid**	Perennial herb; serpentine soils, forest duff, mossy banks, rock outcrops, and muskeg; North Coast coniferous forest, lower montane coniferous forest, and broad-leafed upland forest. Santa Cruz Co. north to Oregon; Elev. from about 20 to 1,615 m. amsl.	Mar-Sep	Fed: none CA: S3 CRPR: 1B.2	**Low.** Marginally suitable habitat present, known from within about 5 miles.
Plagiobothrys chorisianus var. *chorisianus* **Choris' popcornflower**	Annual; mesic sites in chaparral, coastal scrub, and coastal prairie; Monterey Co. north to Alameda Co.; Elev. from about 5 to 705 m. amsl.	Mar-Jun	Fed: none CA: S1 CRPR: 1B.2	**Minimal.** No suitable habitat in the vicinity of the project site.
Plagiobothrys diffuses **San Francisco popcornflower**	Annual; grassy slopes with marine influence; coastal prairie and valley and foothill grasslands; Santa Cruz Co. north to San Mateo Co.; Elev. from about 45 to 360 m. amsl.	Mar-Jun	Fed: none CA: **END**, S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range, no suitable habitat.
Polygonum hickmanii **Scotts Valley polygonum**	Annual; sandstone or mudstone with a thin soil layer; vernally moist due to runoff; valley and foothill grassland; Santa Cruz Co.; Elev. from about 210 to 230 m. amsl.	May-Aug	Fed: **END** CA: **END**, S1 CRPR: 1B.1	**Minimal.** Project site is well above species' elevational range, no suitable habitat.

Attachment 2. Special-status Plant Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Rosa pinetorum **Pine rose**	Shrub; closed-cone coniferous forest and cismontane woodland; scattered locations in northern Calif.; Elev. from about 5 to 1,090 m. amsl.	May-Jul	Fed: none CA: S2 CRPR: 1B.2	**Low.** Suitable habitat present, known from within about 5 miles.
Senecio aphanactis **Chaparral ragwort**	Annual; alkali soils in chaparral, cismontane woodland, and coastal scrub; scattered locations throughout Calif.; Elev. from about 20 to 855 m. amsl.	Jan-May	Fed: none CA: S2 CRPR: 2B.2	**Minimal.** No suitable alkali soils, minimal suitable habitat, known from within about 5 miles of the project site.
Silene verecunda ssp. *verecunda* **San Francisco campion**	Perennial herb; grows on mud-stone or shale in coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, coastal prairie; Santa Cruz and San Mateo Cos.; Elev. from about 30 to 645 m. amsl.	Feb-Aug	Fed: none CA: S1 CRPR: 1B.2	**Minimal.** No suitable habitat in the vicinity of the project site.
Stebbinsoseris decipiens **Santa Cruz microseris**	Annual; open areas in loose or disturbed soil, usually derived from sandstone, shale or serpen-tine, on seaward slopes; broad-leafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and native grasslands; Monterey Co. north to Marin Co.; Elev. from about 90 to 750 m. amsl.	Apr-May	Fed: none CA: S2 CRPR: 1B.2	**High.** Suitable habitat present. Known from within about 1 mile of the project site.
Stuckenia filiformis ssp. *alpina* **Slender-leaved pondweed**	Perennial herb (aquatic); shallow clear water in marshes and swamps; scattered location in northern Calif.; Elev. from about 300 to 2150 m. amsl.	May-Jul	Fed: none CA: S3 CRPR: 2B.2	**Minimal.** No suitable aquatic habitat present.
Trifolium buckwestiorum **Santa Cruz clover**	Annual; moist grassland in coastal prairie, broad-leafed upland forest, and cismontane woodland; Monterey to Mendocino Cos.; Elev. from about 30 to 805 m. amsl.	Apr-Oct	Fed: none CA: S2 CRPR: 1B.1	**Minimal.** No suitable grassland habitat, known from within about 5 miles.
Usnea longissimi **Methuselah's beard lichen**	Fruticose lichen (epiphytic); on tree branches; usually on old growth hardwoods and conifers. Broad leaved upland forest and North Coast coniferous forest. San Mateo Co. north to Del Norte Co.; Elev. from about 45 to 1465 m. amsl.	Year-round	Fed: none CA: S4 CRPR: 4.2	**Low.** Suitable habitat present, known from within about 5 miles.

General references (botany): Baldwin et al., 2012; CDFW, 2018; CNPS, 2018; and CCH, 2018.

Conservation Status

Federal designations (Fed): (federal ESA, USFWS).

END: Federally listed, endangered.
THR: Federally listed, threatened.
Delisted: Previously Federally listed and formally delisted.

State designations (CA): (CESA, CDFW, Fish and Game Commission)

END: State listed, endangered.
THR: State listed, threatened.
RARE: State designated rare, may not be taken without permit from CDFW.

California Rare Plant Rank designations. Note: According to the California Native Plant Society (http://www.cnps.org/cnps/rareplants/ranking.php), plants ranked as CRPR 1A, 1B, and 2 meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.

1A: Plants presumed extinct in California.
1B: Plants rare and endangered in California and throughout their range.
2A: Plants presumed extinct in California but more common elsewhere in their range.
2B: Plants rare, threatened or endangered in California but more common elsewhere in their range.
3: Plants about which we need more information; a review list.
4: Plants of limited distribution; a watch list.

California Rare Plant Rank Threat designation extensions:

.1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Fairly endangered in California (20-80% occurrences threatened)
.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Definitions of occurrence probability: Estimated occurrence probabilities are based on literature sources cited earlier, field surveys, and habitat analyses reported here.

Present: Observed on the site by qualified biologists.
High: Habitat is a type often utilized by the species and the site is within the known range of the species.
Moderate: Site is within the known range of the species and habitat on the site is a type occasionally used.
Low: Site is within the species' known range but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.
Minimal: No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused study covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species.

Attachment 3

Special-status Wildlife Species

Attachment 3
Special-status Wildlife Species

Attachment 3. Special-status Wildlife Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Conservation Status	Potential to Occur
INVERTEBRATES			
Bombus occidentalis **Western bumble bee**	Widespread bee in western North America. A generalist that feeds on many species of flowers. Once common but has recently declined rapidly from central CA to southern B.C., perhaps from disease.	Fed: none CA: SCT	**Moderate.** Suitable habitat is present within the project site. Known historically (1971) within about 3.0 miles of the project site.
Trimerotropis infantilis zayante **Bandwinged grasshopper**	Restricted to sand parkland habitats within Zayante sandhills ecosystem of Santa Cruz County on Zayante series soils. Open, sandy areas with sparse, low, annual and perennial herbs on high ridges with sparse ponderosa pine (*Pinus ponderosa*).	Fed: FE CA: none	**Minimal.** Chalk Mountain occurs in the general vicinity of the Zayante sandhills ecosystem but is some distance from the current range of this grasshopper, which is not currently known north of Boulder Creek or west of Waddell Creek.
AMPHIBIANS			
Aneides niger **Santa Cruz black salamander**	Mixed deciduous woodlands, coniferous forests, coastal grasslands. Found under rocks near streams, in talus, under damp logs and other objects. Not aquatic but requires damp environments and moves only during times of high humidity.	Fed: none CA: SSC	**Moderate**. Suitable habitat is present along the access route. Known from within about 2.5 miles of the project site.
Dicamptodon ensatus **California giant salamander**	Occurs in coastal forests in or near clear, cold, permanent and semi-permanent streams and seeps. Aquatic breeder.	Fed: none CA: SSC	**Moderate**. Suitable habitat is present along the access route. Known from within about 2.1 miles of the project site.
Rana boylii **Foothill yellowlegged frog**	Found in or near rocky streams in woodland, scrub, and meadow habitats. Require shallow, flowing water in small to moderate streams with sunny and partly shaded banks for basking.	Fed: FCT CA: SSC	**Low**. Marginally suitable habitat is present along the access route. Known historically (1953) from within about 3.0 miles of the project site.
Rana draytonii **California redlegged frog**	Breeds in deep, still or slow-moving water with associated bulrush, willow, or cattail; may also breed in ponds without veg. May use upland cover (burrows, logs, leaf litter, seeps/springs) some distance from aquatic breeding sites. Designated critical habitat nearby.	Fed: FT CA: SSC	**High**. Suitable habitat is present along the access route. Known from within about 0.5 miles of the project site.

Attachment 3. Special-status Wildlife Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Conservation Status	Potential to Occur
REPTILES			
Thamnophis sirtalis tetrataenia **San Francisco garter snake**	Freshwater marshes, ponds and slow-moving streams in San Mateo County and extreme northern Santa Cruz County.	Fed: FE CA: SE	**Moderate.** Suitable habitat is present along the access route. Known from within about 5.0 miles of the project site.
BIRDS			
Aquila chrysaetos **Golden eagle**	Rolling terrain where open grassland turns to scattered oaks, sycamores, or large pines. Cliff-walled canyons provide nesting habitat, but birds will also nest in medium to large trees in open areas.	Fed: none CA: SSC, CFP	**High**. Foraging habitat present. **Minimal**. Nesting habitat is absent from the project site.
Asio otus **Long-eared owl**	Nests/roosts in conifer, oak, riparian, pinyon-juniper, and desert woodlands adjacent to grasslands, meadows, or shrublands for foraging. Requires dense cover for nesting. On central and southern coast, found primarily in oak and riparian.	Fed: none CA: SSC	Low. Suitable habitat present, nearest known occurrence approximately 10.0 miles to the northeast.
Athene cunicularia **Burrowing owl**	Grasslands, deserts, and edges of roads, canals, and agricultural areas; rarely in vicinity of shrubs and trees; dens in under-ground burrows typically created by other animals, but also in culverts and debris piles. Found primarily in the Central Valley and other open, flat areas of the state; absent from steep terrain and higher elevations.	Fed: none CA: SSC	**Minimal.** Would not occur in the steep, wooded terrain around Chalk Mountain.
Brachyramphus marmoratus **Marbled murrelet**	Nests in old-growth redwood-dominated forests, up to 25 miles inland, often in Douglas-fir. Feeds near-shore; nests inland along northern and central California coast.	Fed: FT CA: SE	**High**. Suitable habitat is present along the access route. Many nearby CNDDB records, the nearest being 0.5 mi south. project site and access route lie within critical habitat.
Falco peregrinus American **peregrine falcon**	Nests on cliffs or cliff-like structures such as bridges, towers, or buildings, usually near open areas and water bodies or wetlands; feeds mostly on birds, but also on other animals opportunistically.	Fed: FD CA: SD, CFP	**Minimal**. Could nest in the area but no suitable nesting habitat at or near project site.
MAMMALS			
Antrozous pallidus **Pallid bat**	Roosts singly or gregariously in rock outcrops, cliffs, caves, mines, trees, bridges, and occupied as well as vacant buildings. Found in grasslands, shrublands, woodlands, and forests from below sea level to 7000 feet elevation. Most often roosts high above the ground but has also been found roosting on the ground.	Fed: none CA: SSC	**Low**. Suitable habitat is present within the project site. Not known from within 5.0 miles of the project site. At least one record for this part of Santa Cruz County.

Attachment 3. Special-status Wildlife Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Conservation Status	Potential to Occur
Corynorhinus townsendii **Townsend's big-eared bat**	Found throughout California in many habitats. Distribution is patchy and strongly correlated with caves and cave-like roosting habitat, w/ population centers occurring in areas dominated by exposed, cavity-forming rock and/or historic mining areas. Forages in habitat edges along streams in wooded habitats. Extremely sensitive to disturbance.	Fed: none CA: SSC	**Low**. Roosting habitat unlikely near the Chalk Mtn project site but this bat could forage over the project area.
Eumops perotis californicus **Western mastiff bat**	Roosts primarily in deep, narrow rock crevices of cliff faces (exfoliating granite, columnar basalt). Distribution tied to significant rock features which offer suitable roosting. In California, most frequently encountered in dry desert washes, flood-plains, oak woodland, chaparral, open ponderosa pine forest, grassland, and agricultural areas.	Fed: none CA: SSC	**Minimal**. Known to occur in Coast Range south of San Francisco but not expected in the relatively moist coastal forests of western Santa Cruz County.
Neotoma fuscipes annectens **San Francisco dusky-footed woodrat**	Occupies forest or dense chaparral habitats of moderate canopy closure and moderate to dense understory. Builds nests in areas of cool shade with good cover.	Fed: none CA: SSC	**Minimal**. Chalk Mountain project site and its immediate surroundings are open and sparsely vegetated, if not bare. Could occur in the surroundings; unlikely at or adjacent to construction.
SPECIES ELIMINATED FROM FURTHER CONSIDERATION[5]			
Great blue heron, Allen's hummingbird, black oystercatcher, black turnstone, Clark's grebe, Lawrence's goldfinch, long-billed curlew, Nuttall's woodpecker, oak titmouse, rufous hummingbird, spotted towhee, willet, wrentit, obscure bumble bee, sandy beach tiger beetle, monarch (CA overwintering population), Santa Cruz kangaroo rat, hoary bat, western pearlshell, unsilvered fritillary, mimic tryonia (California brackishwater snail)			Do not fit listing criteria for consideration[6]
Fishes: tidewater goby, longfin smelt, coho salmon, steelhead **Reptiles and Amphibians:** western pond turtle, foothill yellow-legged frog **Birds**: California black rail, tricolored blackbird, western snowy plover, black swift, saltmarsh common yellowthroat, song sparrow (Modesto population), yellow rail, southwestern willow flycatcher, least Bell's vireo **Mammals**: Steller (=northern) sea lion			Require wetlands, waters, and/or associated habitats[7]
Myrtle's silverspot butterfly, California tiger salamander, red-bellied newt			Project site is outside known range of these species and does not in any event provide suitable habitat.

Attachment 3. Special-status Wildlife Species Known in the Vicinity of the Project Site

Species Name	Habitat Requirements	Conservation Status	Potential to Occur

1 - Species included in this table were compiled from a database search of the California Natural Diversity database and of the USFWS IPaC website. Note that the literature and other resources used to compile the biological information for the species above are provided in text but are not cited specifically here.

2 - Federal listing
FE= federally endangered
FT = federally threatened
FC = federal candidate for listing
FD = federally delisted
* = no federal status
MBTA = Migratory Bird Treaty Act

3 - State listing–status codes
SE = state endangered
ST = state threatened
SCT = state candidate for listing as threatened
SSC = California species of special concern
CFP = California fully protected. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.
* = No state status
CalFGC = California Fish and Game Code

4 - Includes all birds named in the migratory birds section of USFWS IPaC resource list that are not otherwise mentioned above.

5 - Scientific names of species are provided in agency species lists attached to the report.

6 - See memo text for definitions of included species.

7 - Wetlands/waters and associated habitats include creeks, rivers, ponds, lakes, ocean, salt ponds, alkali lakes, vernal pools, meadows, mudflats, emergent wetlands, and riparian habitats, and/or their banks or adjacent uplands

Attachment 4

CNDDB Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Ano Nuevo (3712213) OR Franklin Point (3712223) OR Big Basin (3712222) OR Davenport (3712212) OR Pigeon Point (3712224))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Agrostis blasdalei Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
Amsinckia lunaris bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
Aneides niger Santa Cruz black salamander	AAAAD01070	None	None	G3	S3	SSC
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos andersonii Anderson's manzanita	PDERI04030	None	None	G2	S2	1B.2
Arctostaphylos glutinosa Schreiber's manzanita	PDERI040G0	None	None	G1	S1	1B.2
Arctostaphylos ohloneana Ohlone manzanita	PDERI042Y0	None	None	G1	S1	1B.1
Arctostaphylos regismontana Kings Mountain manzanita	PDERI041C0	None	None	G2	S2	1B.2
Arctostaphylos silvicola Bonny Doon manzanita	PDERI041F0	None	None	G1	S1	1B.2
Astragalus pycnostachyus var. pycnostachyus coastal marsh milk-vetch	PDFAB0F7B2	None	None	G2T2	S2	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Brachyramphus marmoratus marbled murrelet	ABNNN06010	Threatened	Endangered	G3G4	S1	
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
Charadrius alexandrinus nivosus western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
Chorizanthe pungens var. hartwegiana Ben Lomond spineflower	PDPGN040M1	Endangered	None	G2T1	S1	1B.1
Cicindela hirticollis gravida sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Cirsium andrewsii Franciscan thistle	PDAST2E050	None	None	G3	S3	1B.2
Coastal Brackish Marsh Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
Collinsia multicolor San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Cypseloides niger black swift	ABNUA01010	None	None	G4	S2	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dicamptodon ensatus California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
Dipodomys venustus venustus Santa Cruz kangaroo rat	AMAFD03042	None	None	G4T1	S1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriogonum nudum var. decurrens Ben Lomond buckwheat	PDPGN08492	None	None	G5T1	S1	1B.1
Erysimum ammophilum sand-loving wallflower	PDBRA16010	None	None	G2	S2	1B.2
Erysimum teretifolium Santa Cruz wallflower	PDBRA160N0	Endangered	Endangered	G1	S1	1B.1
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumetopias jubatus Steller (=northern) sea-lion	AMAJC03010	Delisted	None	G3	S2	
Fissidens pauperculus minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Grimmia torenii Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
Grimmia vaginulata vaginulate grimmia	NBMUS32340	None	None	G3	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hesperevax sparsiflora var. brevifolia short-leaved evax	PDASTE5011	None	None	G4T3	S2	1B.2
Hesperocyparis abramsiana var. abramsiana Santa Cruz cypress	PGCUP04081	Threatened	Endangered	G1T1	S1	1B.2
Hesperocyparis abramsiana var. butanoensis Butano Ridge cypress	PGCUP04082	Threatened	Endangered	G1T1	S1	1B.2
Horkelia cuneata var. sericea Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
Horkelia marinensis Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
Lasthenia californica ssp. macrantha perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Leptosiphon rosaceus rose leptosiphon	PDPLM09180	None	None	G1	S1	1B.1
Limnanthes douglasii ssp. sulphurea Point Reyes meadowfoam	PDLIM02038	None	Endangered	G4T1	S1	1B.2
Malacothamnus arcuatus arcuate bush-mallow	PDMAL0Q0E0	None	None	G2Q	S2	1B.2
Margaritifera falcata western pearlshell	IMBIV27020	None	None	G4G5	S1S2	
Maritime Coast Range Ponderosa Pine Forest Maritime Coast Range Ponderosa Pine Forest	CTT84132CA	None	None	G1	S1.1	
Microseris paludosa marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
Mielichhoferia elongata elongate copper moss	NBMUS4Q022	None	None	G5	S3S4	4.3
Monolopia gracilens woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
Monterey Pine Forest Monterey Pine Forest	CTT83130CA	None	None	G1	S1.1	
N. Central Coast Calif. Roach/Stickleback/Steelhead Stream N. Central Coast Calif. Roach/Stickleback/Steelhead Stream	CARA2633CA	None	None	GNR	SNR	
Neotoma fuscipes annectens San Francisco dusky-footed woodrat	AMAFF08082	None	None	G5T2T3	S2S3	SSC
North Central Coast Drainage Sacramento Sucker/Roach River North Central Coast Drainage Sacramento Sucker/Roach River	CARA2623CA	None	None	GNR	SNR	
North Central Coast Short-Run Coho Stream North Central Coast Short-Run Coho Stream	CARA2632CA	None	None	GNR	SNR	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
Northern Coastal Salt Marsh						
Northern Interior Cypress Forest	CTT83220CA	None	None	G2	S2.2	
Northern Interior Cypress Forest						
Northern Maritime Chaparral	CTT37C10CA	None	None	G1	S1.2	
Northern Maritime Chaparral						
Oncorhynchus kisutch pop. 4	AFCHA02034	Endangered	Endangered	G4	S2?	
coho salmon - central California coast ESU						
Oncorhynchus mykiss irideus pop. 8	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
steelhead - central California coast DPS						
Orthotrichum kellmanii	NBMUS56190	None	None	G1	S1	1B.2
Kellman's bristle moss						
Pedicularis dudleyi	PDSCR1K0D0	None	Rare	G2	S2	1B.2
Dudley's lousewort						
Penstemon rattanii var. kleei	PDSCR1L5B1	None	None	G4T2	S2	1B.2
Santa Cruz Mountains beardtongue						
Pentachaeta bellidiflora	PDAST6X030	Endangered	Endangered	G1	S1	1B.1
white-rayed pentachaeta						
Pinus radiata	PGPIN040V0	None	None	G1	S1	1B.1
Monterey pine						
Piperia candida	PMORC1X050	None	None	G3	S3	1B.2
white-flowered rein orchid						
Plagiobothrys chorisianus var. chorisianus	PDBOR0V061	None	None	G3T1Q	S1	1B.2
Choris' popcornflower						
Plagiobothrys diffusus	PDBOR0V080	None	Endangered	G1Q	S1	1B.1
San Francisco popcornflower						
Rana boylii	AAABH01050	None	Candidate Threatened	G3	S3	SSC
foothill yellow-legged frog						
Rana draytonii	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California red-legged frog						
Riparia riparia	ABPAU08010	None	Threatened	G5	S2	
bank swallow						
Rosa pinetorum	PDROS1J0W0	None	None	G2	S2	1B.2
pine rose						
Senecio aphanactis	PDAST8H060	None	None	G3	S2	2B.2
chaparral ragwort						
Silene scouleri ssp. scouleri	PDCAR0U1MC	None	None	G5T4T5	S2S3	2B.2
Scouler's catchfly						
Silene verecunda ssp. verecunda	PDCAR0U213	None	None	G5T1	S1	1B.2
San Francisco campion						
Speyeria adiaste adiaste	IILEPJ6143	None	None	G1G2T1	S1	
unsilvered fritillary						

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Speyeria zerene myrtleae	IILEPJ608C	Endangered	None	G5T1	S1	
Myrtle's silverspot butterfly						
Spirinchus thaleichthys	AFCHB03010	Candidate	Threatened	G5	S1	
longfin smelt						
Stebbinsoseris decipiens	PDAST6E050	None	None	G2	S2	1B.2
Santa Cruz microseris						
Stuckenia filiformis ssp. alpina	PMPOT03091	None	None	G5T5	S2S3	2B.2
slender-leaved pondweed						
Taxidea taxus	AMAJF04010	None	None	G5	S3	SSC
American badger						
Thamnophis sirtalis tetrataenia	ARADB3613B	Endangered	Endangered	G5T2Q	S2	FP
San Francisco gartersnake						
Trifolium buckwestiorum	PDFAB402W0	None	None	G2	S2	1B.1
Santa Cruz clover						
Trifolium polyodon	PDFAB402H0	None	Rare	G1	S1	1B.1
Pacific Grove clover						
Trimerotropis infantilis	IIORT36030	Endangered	None	G1	S1	
Zayante band-winged grasshopper						
Usnea longissima	NLLEC5P420	None	None	G4	S4	4.2
Methuselah's beard lichen						

Record Count: 91