SAN FRANCISCO
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Preliminary Mitigated Negative Declaration

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Date:	June 12, 2019
Case No.:	2014.1228E
Project Title:	**Montara Mountain Rainfall Prediction and Radio Replacement Project**
Zoning:	RM – Resource Management
Block/Lot:	N/A
Project Sponsor:	San Francisco Public Utilities Commission
Sponsor Contact:	Sue Chau – (415) 554-3238 schau@sfwater.org
Lead Agency:	San Francisco Planning Department
Staff Contact:	Julie Moore – (415) 575-8733 Julie.Moore@sfgov.org

PROJECT DESCRIPTION:

The San Francisco Public Utilities Commission (SFPUC) is proposing the Montara Mountain Rainfall Prediction and Radio Replacement Project to improve the accuracy of rainfall forecasts for the Bay Area Region and to replace an outdated land mobile radio system, providing reliable communications and enhancing safety. Most of the rain and flood events encountered in the Bay Area arise from atmospheric rivers, which are difficult to track. The Advanced Quantitative Precipitation Information (AQPI) system is a regional initiative to provide accurate and timely precipitation forecasting of atmospheric rivers. The AQPI system is designed to interact with local water agencies so that flooding information can be widely disseminated and reduce storm impacts to areas of concern. As a partner, the SFPUC would install an X-band radar to improve early warning systems with better predictions of precipitation, streamflow, and storm surges through research and climatic monitoring. The radio replacement would install a 45-foot-tall monopole with antennas and a small dish. Components also would include supporting structures and foundations, a short access road, security fencing, and power and communication lines.

FINDING:

This project could not have a significant effect on the environment. This finding is based on California Environmental Quality Act (CEQA) Guidelines sections 15064 (Determining Significant Effect), 15065 (Mandatory Findings of Significance), and 15070 (Decision to prepare a Negative Declaration), and the following reasons as documented in the initial study for the project, which is attached. Mitigation measures are included in this project to avoid potentially significant effects (see pages F-1 through F-9).

INITIAL STUDY

Montara Mountain Rainfall Prediction and Radio Replacement Project
Case No. 2014.1228E

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APE	Area of Potential Effects
AQMD	Air Quality Management District
AQPI	Advanced Quantitative Precipitation Information
ARO	Atmospheric River Observatory
ARPP	Advanced Rainfall Prediction Project
BAAQMD	Bay Area Air Quality Management District
BMPs	best management practices
CAA	Clean Air Act
C-APE	California Environmental Quality Act-Area of Potential Effects
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCMP	California Coastal Management Program
CCSF	City and County of San Francisco
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CMA	congestion management agency
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CRPR	California Rare Plant Rank
CRHR	California Register of Historical Resources
CZ	Coastal Zone
CZMA	Coastal Zone Management Act
dBA	A-weighted decibels
DPM	diesel particulate matter
EECAP	Energy Efficiency Climate Action Plan
EMF	electromagnetic field
EMI	electromagnetic interference
ERO	Environmental Review Officer
ESA	Endangered Species Act
ESRL	Earth Science Research Laboratory
FAA	Federal Aviation Administration
FARR	Final Archeological Resources Report
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
GGNRA	Golden Gate National Recreation Area
GHG	greenhouse gas
HCASR	Historic Context and Archeological Survey Report

HRIER	Historic Resources Inventory and Evaluation Report
IEEE	Institute of Electrical and Electronic Engineers
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IS	Initial Study
KVP	key viewpoint
LCP	Local Coastal Program
L_{dn}	day/night noise level
LOS	level of service
$\mu g/m^3$	micrograms per cubic meter
MHz	megahertz
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MOA	memorandum of agreement
MPE	maximum permissible exposure
MWSD	Montara Water and Sanitary District
NAHC	Native American Heritage Commission
NCAB	North Coast Air Basin
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NO_x	oxides of nitrogen
NPS	National Park Service
NRHP	National Register of Historic Places
NSCAPCD	Northern Sonoma County Air Pollution Control District
NSR	New Source Review
NWIC	Northwest Information Center
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PM	particulate matter
PM_{10}	particulate matter 10 micrometers in diameter or smaller
$PM_{2.5}$	particulate matter 2.5 micrometers in diameter or smaller
ppm	parts per million
PRC	California Public Resources Code
PWMP	Peninsula Watershed Management Plan
RF	radio frequency
RM	Resource Management
RM-CZ/DR/CD	Resource Management – Coastal Zone/Design Review/Coastal Development
RMS	root mean square
ROG	reactive organic gases
SFBAAB	San Francisco Bay Area Air Basin
SFPUC	San Francisco Public Utilities Commission
SHPO	State Historic Preservation Officer
SSC	Species of Special Concern
SO_2	sulfur dioxide
SVP	Society of Vertebrate Paleontology
TAC	toxic air contaminant
TCR	tribal cultural resource
UHF	ultrahigh frequency

U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
WEAP	Worker Environmental Awareness Program
WWE	Wastewater Enterprise

INITIAL STUDY

Montara Mountain Rainfall Prediction and Radio Replacement Project
Case No. 2014.1228E

A. Project Description

A.1 Project Overview

The San Francisco Public Utilities Commission (SFPUC) is proposing the Montara Mountain Rainfall Prediction and Radio Replacement Project in the SFPUC Peninsula Watershed. The project consists of two components: installation of an advanced quantitative precipitation information (AQPI) system and replacement of an existing radio system. The AQPI system is designed to improve the spatial, temporal, and volumetric accuracy of rainfall forecasts for the Bay Area Region. The AQPI system would consist of X-band radar data collection/monitoring equipment. The radio system replacement would replace the existing SFPUC Water Enterprise low band land mobile radio (LMR) system with a modern Project 25 (standard) Motorola high band digital LMR system.

A.2 Project Background

The AQPI system is a regional project in collaboration with the National Oceanic and Atmospheric Administration's (NOAA) Earth Science Research Laboratory, U.S. Geological Survey, Colorado State University's Cooperative Institute for Research in the Atmosphere, and local water and flood control agencies. The goal of the AQPI project component is to improve early warning systems with better predictions of precipitation, streamflow, and storm surges through research and climatic monitoring. This project addresses the needs and technical capabilities of many users at SFPUC and other agencies in San Francisco and the region. The monitoring and improved precipitation forecasts would benefit sectors including stormwater and wastewater management, water supply, water quality, emergency management, and transportation.

The AQPI system would employ a X-band dual polarimetric radar to provide detailed rain mapping over the City and County of San Francisco and SFPUC's local watersheds, and short-term precipitation forecast information. This data, combined with data from other facilities and sources, would be used to develop a model that would help predict precipitation amounts. The model performance would then be verified using existing rain gauges. The results of the modeling would generate specific operational recommendations for

managing the SFPUC water system—such as releasing or stopping releases of water from reservoirs or reducing flows from upcountry reservoirs.

The radio replacement project originated from a study and recommendation by AECOM[1] completed in 2015, which called for the replacement of the outdated and inadequate SFPUC Water Enterprise voice radio system with a modern digital communications system that would be portable and easy to use, improve coverage, enhance safety, and provide reliable communications during a disaster.[2] The proposed radio replacement would increase coverage in the watershed and would provide coverage from Pacifica to Half Moon Bay.

A.3 Project Purpose

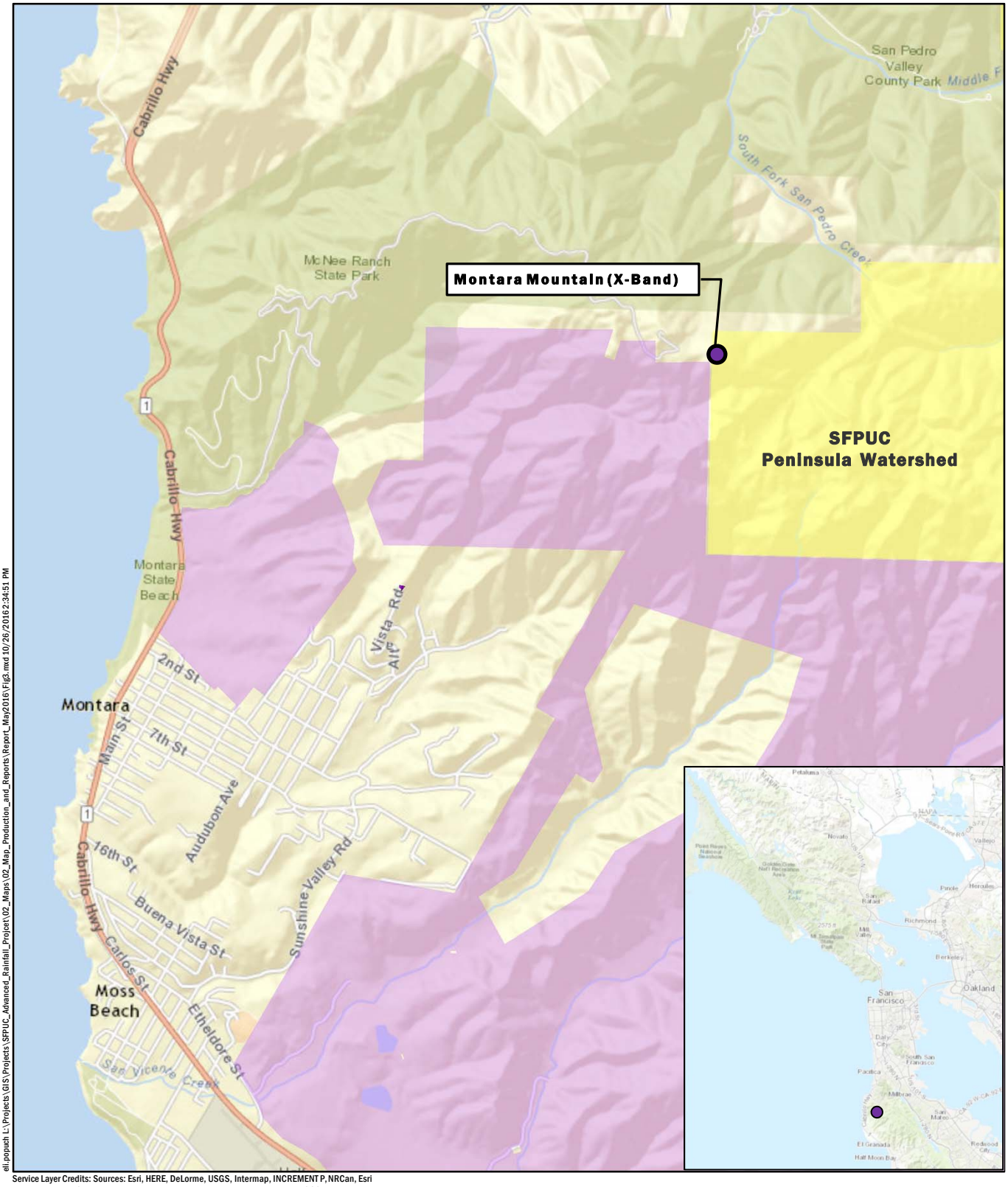
The AQPI project objective is to deploy monitoring equipment to collect atmospheric data in real time, and to use the data to generate rainfall forecasts with improved spatial, temporal, and volumetric accuracy. These forecasts would ultimately be used in conjunction with the SFPUC Water Enterprise hydraulic model to better manage SFPUC infrastructure.

The purpose of the radio replacement is to maintain and protect the City of San Francisco's critical infrastructure, such as pipelines, water tanks, pump stations, reservoirs, and power generation facilities by providing communications to ensure that operations and maintenance could proceed uninterrupted during emergencies. Installation of the radio tower on Montara Mountain would provide radio communication coverage to the north, south, and west regions of the SFPUC Peninsula Watershed, as this vantage point is one of the highest points in the watershed.

A.4 Project Location

The project site is in the SFPUC-owned Peninsula Watershed in San Mateo County (Figure 1), about 10 miles south of the San Francisco. The site is at the top of a peak near the northwestern corner of the watershed, overlooking privately owned property to the west, the Golden Gate National Recreation Area (GGNRA)'s Rancho Corral de Tierra to the southwest, and San Pedro Valley County Park to the north.

[1] AECOM, 2015. *SFPUC Radio System Migration Plan Draft Report.* March 26.
[2] Cell phones do not provide coverage in remote areas and may not be available during a disaster.



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Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Project Site

Protected Lands (CPAD 2015)

SFPUC

State

Federal

0 1,500 3,000 Feet

MONTARA MOUNTAIN SITE

Advanced Rainfall Prediction Project
SFPUC

FIGURE 1

The site is accessible by SFPUC watershed access roads, which begin on the eastern shore of the Crystal Springs and San Andreas Reservoirs adjacent to Interstate 280. The site is also accessible from the Montara State Beach gate via the American Tower access road.

The proposed project site is 0.07 acre on top of Montara Peak. It is adjacent to an existing communications facility which has been leased by San Mateo County from the SFPUC since 1963. The adjacent facility includes telecommunication and radio antenna towers, support buildings, and two aboveground propane tanks; the facility is surrounded by chain-linked fence topped with barbed and razor wire. Additional communication facilities are present on the privately-owned property to the west.

Figure 2 depicts the layout of proposed project components on the site. The X-band radar equipment and radio communications equipment would be located within a fenced area. Electronic equipment for both systems would be located in the support structure that serves as the radar base. The radio replacement would provide the AQPI system the communication line needed to operate. The location was selected as an ideal site due to the maximal areal coverage for both radar and radio systems.

A.5 Project Components and Operational Characteristics

A.5.1 AQPI X-Band Radar System

The X-band radar would consist of a 10-foot-tall radar with a 6-foot-diameter antenna. The radar would be mounted on a 10-foot-tall, 8-foot by 10-foot structure to support the radar, which would be built on top of a 10-foot by 12-foot concrete pad that may extend about 30 inches deep. The support structure may be a metal shipping container, pre-fabricated building, or a constructed building of the same size. This would result in a maximum height of 20 feet, and ground footprint for the radar system of 120 square feet. Figure 2 depicts the proposed site layout.

The radar would collect meteorological data that would be analyzed to provide detailed projections of precipitation intensity, duration, and location. The radar would operate by transmitting a radio signal (i.e., a pulse) for a very short period of time and then listening for the return signal from the target for a much longer period of time before transmitting a new signal. The time of transmission is the pulse length and is much shorter than the listening time between pulses. The percentage of time when the radar is transmitting is the duty cycle.

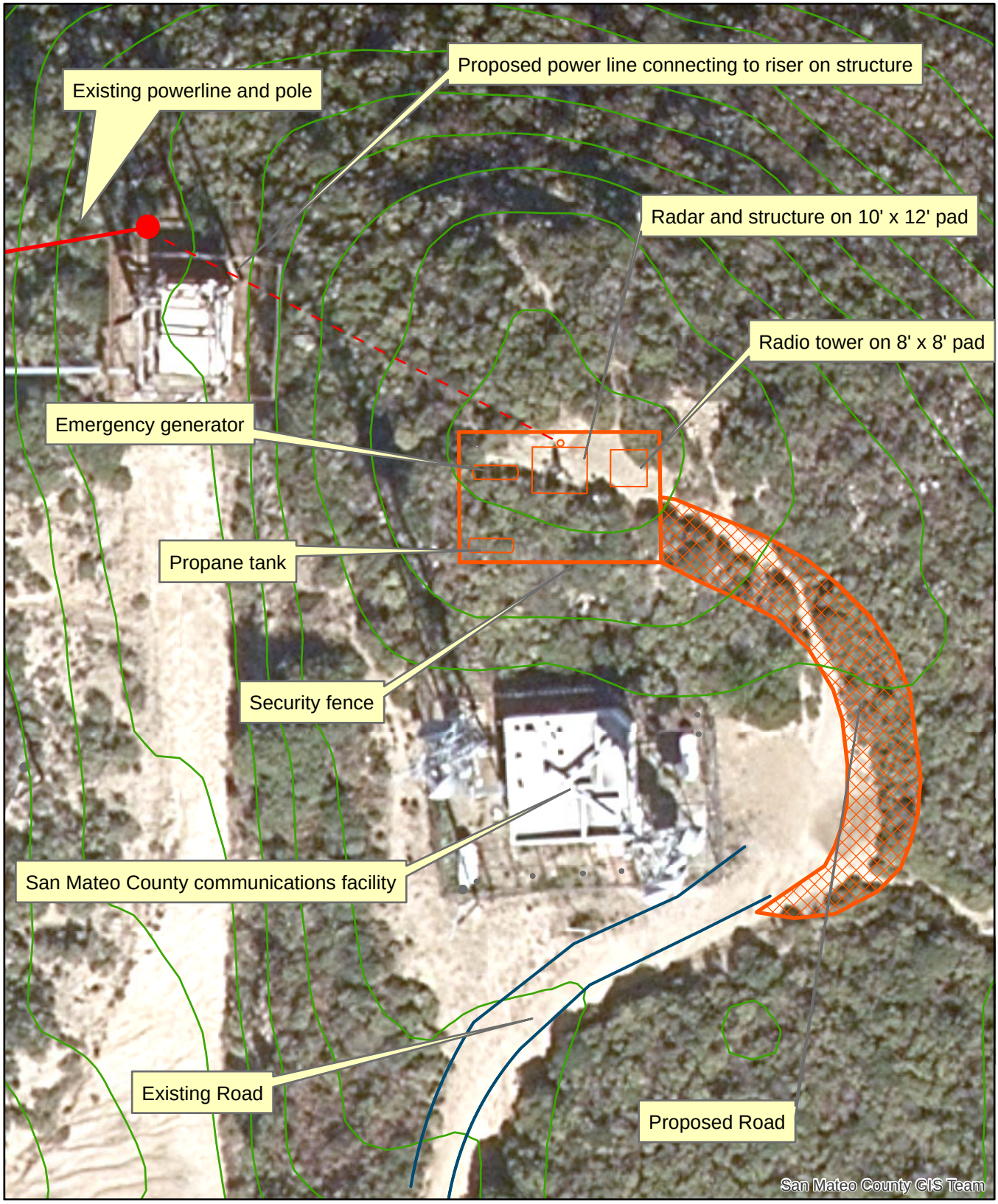

Figure 2

Montara Mountain
Proposed Project Components

The AQPI system would operate an X-band radar at the Montara Mountain site. The wavelength of radar signals varies inversely with operating frequency (i.e., higher frequency results in shorter wavelength).

Table 1 presents the key operational characteristics for the radar, including antenna type and size, operating frequency, wavelength, maximum transmit power, and duty cycle.

Table 1
Operational Characteristics of Proposed AQPI System Radar System

Radar Unit		**X-Band[1]**
Antenna Type		Parabolic Dish
Operating Frequency (Gigahertz)		9.4
Wavelength (centimeters)		3.2
Maximum Transmitted Power (kilowatts)		25
Antenna Diameter (feet)		6.0
Array size (feet)		n/a
Antenna Gain (decibels)[2]		41.5
Main Beam width (degrees)		1.4
Offset beam width (degrees)		n/a
Antenna Operation		360° rotation
Main beam elevation angles (degrees)		0 to 90
Duty cycle (%)[3]		0.10 to 0.16[4]
Rotation rate (degrees/ second)		8 to 22 (typically 10)

Notes:

1 Radar specifications obtained from X-Band Dual Polarization Weather Radar, RXM-25.
2 Antenna gain is a measurement of power, expressed in decibels, that represents the efficiency in which the antenna converts electricity into radio waves.
3 Percent of time the radar is transmitting.
4 Duty cycle of 0.16 percent is limited to transmit powers of 16 kilowatts or less. At transmit power of 25 kilowatts, maximum duty cycle is 0.10 percent.

The X-band radar would include rotating antennas that scan 360 degrees of azimuth (a level plane) during normal operation and transmit a narrowly focused radio signal. It also can adjust the beam direction with an upward or downward tilt of the antenna, varying the elevation angle of the radar signal from -2 to 90 degrees relative to the horizon. The radio signal itself would have a main beam width of 1.0 to 1.4 degrees in the horizontal and vertical directions, respectively. The antenna would continuously scan in the azimuthal plane and at different elevation angles to obtain a complete rainfall map around the radar station. To obtain complete rainfall data at the required time intervals, the antenna must scan at the minimum rotation rate shown in Table 1 above.

The proposed radar system consists of a directional antenna, the objective of which is to emit the radio waves in one direction within a main beam. The main beam becomes fully formed at a set distance that depends on size and wavelength of the antenna. This distance is called the near field to far field transition distance. In the near field, the main beam is not fully formed and power densities (power level within an area at a certain distance from the radar) vary considerably at various locations with respect to the antenna. In the far field, the main beam is fully formed and the power density decreases in a regular manner with increasing distance from the antenna. In addition, "side lobes" consisting of smaller side beams are typically generated at an angle as an unintended byproduct of the main beam; the side lobes capture unwanted data. The power density in the side lobes is generally much less than that in the main beam.

The X-band operation can also operate with the antenna stationary, resulting in the main beam pointed at a fixed location. Operating a meteorological radar with a stationary, horizontal antenna (for testing and maintenance only) would be infrequent, occurring approximately once a year during manual calibration.[3]

During testing and maintenance with the antenna stationary, the X-band radar transmitter would be operated in one of the following ways:

a) The transmitter would be shut off;
b) The transmitted power would be directed into a dummy load (i.e., not projected outward from the antenna); or
c) The antenna would be pointed vertically (90-degree elevation angle) if the antenna is in fixed position and the transmitted power is projected outward from the antenna.

[3] Chandrasekar, V., Professor, Electrical and Computer Engineering, Cooperative Institute for Research in the Atmosphere, email to John Chamberlain, AECOM (March 28, 2017).

To provide an additional safety margin for technicians operating or maintaining the radar, the X-band radar would be equipped with a safety interlock that would prevent the radar from transmitting when a person enters the radome surrounding the antenna.[4]

As part of standard procedures, the project would include the following actions to ensure that human exposure to electromagnetic fields (EMFs) is below maximum permissible exposure (MPE) levels, and that the potential for electromagnetic interference (EMI) to occur or persist is avoided during operation of the radar:

1. Following installation and prior to permanent operation of the radar systems, the radar operators would test the field strength of the radar emissions at various locations in the vicinity of the radar during full power operation, using measurement methodologies established by the Institute of Electrical and Electronic Engineers (IEEE) in its C95.3-2002 Standard, titled "Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 100 kHz to 300 GHz" (IEEE, 2003).[5] If power densities are measured that exceed the MPEs contained in the latest version of applicable human exposure standards (i.e., standards set by the IEEE,[6] Federal Communications Commission [FCC],[7] Occupational Safety and Health Administration [OSHA],[8] and International Commission on Non-Ionizing Radiation Protection [ICNIRP][9]), the radar operators would make any combination of operational or equipment changes to reduce power densities at ground level. These changes may include a combination of increasing the radar beam elevation angle above the horizon, or installing metallic or other shielding on affected electrical cables or equipment components; installing shielding would not require additional ground disturbance beyond that required for the initial installation of the X-band radar. The proposed exclusion fence would be affixed with safety markings to demarcate where occupational exposure safety controls apply. For example, a "Caution" sign on the exclusion fence and entry gate,

4 Ibid

5 This recommended practice describes methods for field measurement of external electric and magnetic fields and contact currents to which persons may be exposed.

6 IEEE is a professional society that develops safety standards for electrical and electronic equipment; these standards address EMF exposure of both the general public and workers in an occupational setting.

7 The Federal Communications Commission rules and regulations regarding licensed and unlicensed radio frequency transmissions are found at 47 CFR Part 15.

8 The Occupational Safety and Health Administration safety standards for occupational exposure to radio frequency emissions are found at 29 CFR §1910.97.

9 The International Commission on Non-Ionizing Radiation Protection is an international professional society that develops voluntary safety standards for electrical and electronic equipment; these standards address EMF exposure of both the general public and workers in an occupational setting.

similar to the one presented below, would be appropriate and in conformance with IEEE guidelines (IEEE, 1999).

2. Occasional operational and maintenance testing of the X-band radar would be done in a manner that avoids direct exposure of persons or occupied structures (i.e., the transmitter would be shut off, the transmitted power would be directed into a dummy load (not projected outward from the antenna), the antenna would be pointed vertically if the antenna is in fixed position, and the transmitted power would be projected outward from the antenna).

3. The design and layout of the radar would isolate the radar from the power supply and grounding systems used by the nearby radio communications towers to prevent coupling of radar emissions into other users. Grounding features and enhanced isolation systems would be incorporated as required by prevailing California electrical codes.

4. If radar operations cause EMI with nearby radio systems, the radar operators would temporarily suspend operations until a mutually agreed upon technical or operational solution can be identified and implemented, such as shielding affected components or sector-blanking (i.e., programming a halt to radar signal propagation at certain angles) of radar transmissions in the direction of the interference. Technical (nonoperational) methods to isolate the project's radar signals from nearby radio communications tower systems may include antenna isolation through the use of filters to block unwanted signals, shielding of cables and power supply lines with electrically neutral materials (e.g., rubber or plastic) to prevent coupling, and shielding of equipment by enclosing the equipment in an electrically grounded metallic box or structure that would intercept the unwanted signal.

A.5.2 Radio System Components

The radio system would consist of a 45-foot-tall monopole on a concrete pad foundation approximately 8 feet by 8 feet and about 42 inches deep. The monopole would be a 12-3/4-inch-diameter pipe. There would

be three 1-inch-diameter vertical antennas: one at 40 feet and two at 30 feet in height. Each of the proposed vertical antennas would be 8 feet tall, so the highest antenna would extend to approximately 48 feet. An 18-inch-diameter microwave radio dish-antenna would be mounted on the monopole at 15 feet above the ground. Two racks of radio communication equipment would be housed within the radar system support structure. The radio station would be an 800MHz public safety frequency station. It would operate 24 hours per day, 7 days per week and would have GPS tracking ability for every user. The radio system would be set up to operate on different channels for different user groups, such that communications between different SFPUC departments could occur independently from one another and from outside agencies with mutual aid agreements.

A.5.3 Support Facilities

In addition to the radar and radio systems, an access road, backup generator, propane tank, security fencing, and power lines would be installed.

An approximately 15-foot-wide by 150-foot-long access road would be constructed to access the project site from the existing unpaved access road for the adjacent facility. The depth of roadway grading would range from 6 to 24 inches deep. Two concrete pads would be created for the backup power supply system. The propane tank and backup generator pads would both be approximately 10 feet long by 4 feet wide by 1 foot deep. The backup generator would be 13,000 watts or less and located within a marine-grade sealed housing to protect from weather and animals and to reduce noise. Security fencing around the 43-foot by 28-foot project site would consist of an 8-foot-high mesh chain-link fence.

Electrical supply would be installed to power the radio, radar and associated data transmission equipment. A single, low voltage overhead power line would connect from the nearest American Tower Corporation power source, approximately 100 feet west of the project site, to a riser located on the radar structure.

A.6 Construction Activities and Schedule

Project construction would include the following: access road and site grading; a geotechnical investigation; foundation excavations; installation of the radar, radio systems; power/communication line connections; and security fencing.

A.6.1 Access Road and Grading

Approximately 2,000 square feet of vegetation would be cleared for installation of an access road and components at the project site. A 15-foot-wide by 150-foot-long access road would be graded from the existing unpaved access road from the adjacent, existing facility to the project site. The project site would also be graded and leveled. The maximum depth of grading would vary based on existing topography (between 6 and 24 inches maximum). Excavation would be kept to a minimum wherever possible. Local material would be used for backfill to the extent feasible, but additional imported material may be necessary.

A.6.2 Geotechnical Investigation

A geotechnical boring would be drilled to evaluate subsurface conditions to aid in the design of a concrete foundation to support the 45-foot monopole (radio tower). The geotechnical information would also be used for design of the anchoring system for the radar-supporting building. The geotechnical boring would involve drilling one 30-foot-deep, 6-inch-diameter boring at the proposed monopole location and collecting soil samples for laboratory soil classification tests.

The project site would be accessed via the proposed access road using either a rubber-tired 2-wheel drive drill rig or a 4-wheel drive tracked drill rig. Following completion of the investigation, the borehole would be grouted to the ground surface and the exhumed soil would be spread locally around the project site.

A.6.3 Radar and Radio Installation

Installation of the AQPI radar and radio systems would include excavation, forming and pouring concrete foundation pads, and installing equipment. Approximately 10 cubic yards of soil from the foundation excavations would be reused onsite for the access road construction. After the concrete pad is completed, the radar support structure building would be installed. The support structure may be a metal shipping container, pre-fabricated building or a constructed building of the same size. The radar system would be affixed to the top of the support structure building. The radio monopole, emergency generator and propane tank also would be mounted on their foundations. Power and communication line connections would be installed.

The monopole would consist of a dull galvanized finish (gray in color) and would match the existing San Mateo County communication towers adjacent to the site. The radar equipment and paint ingredients would

be composed of nonreflective materials. An 8-foot-high 1-inch mesh chain-link security fence would be installed around the facilities. Fenceposts would be drilled to a depth of 18 inches and cemented in place.

A.6.4 Construction Access and Staging Areas

The primary access route to the project site would be public roadways, limited-access watershed roads, and unpaved service roads. To the extent feasible, construction workers would be asked to consolidate their equipment and personnel to limit the number of vehicles traveling on watershed access roads. Each project construction task would be expected to employ two vehicles and one piece of equipment at the site at one time.

Due to site access constraints, it may be necessary to deliver equipment (e.g., the radar, monopole, shipping container, and other materials) to the project site by helicopter. If required, helicopters would hover about 50 feet above the site and lower equipment to the ground using a tether line for unloading. The helicopters presence at the site would be limited to the short duration needed to release the delivery from the tether line. It is anticipated that helicopter deliveries would occur on a single day of 5 to 7 flights.

A.6.5 Construction Equipment

Construction equipment would include flat-bed/box delivery trucks, pickup trucks, dump trucks, backhoe, box-scraper, brush cutters, grader, concrete trucks, compactor/vibrators, forklifts, boom trucks, a drill rig, a small excavator, and cranes. Some types of equipment would only be needed for certain phases of the construction activities.

A.6.6 Project Workforce, Construction Schedule and Hours

Construction is estimated to begin in the summer or fall of 2019. The construction duration would range from 2 to 3 months per season and would likely require two construction seasons. It is planned to be complete by the end of 2020. Delivery of equipment by helicopter, if needed, would only occur from August through January.

Construction would require a crew of four to six workers. Construction activities are expected to occur primarily from Monday through Friday, 7 a.m. to 5 p.m. However, construction may extend into the evening hours or on weekends. Regardless, the SFPUC proposes that all construction activities would comply with the local noise ordinance.

A.6.7 SFPUC Standard Construction Measures

The SFPUC has established Standard Construction Measures to be included in all construction contracts.[10] The main objective of these measures is to avoid and reduce impacts on existing resources, to the extent feasible. Among other measures, the SFPUC Standard Construction Measures require that the contractor provide notifications in advance to businesses, property owners, facility managers, and residents of adjacent areas potentially affected by the project construction.

A.7 Operations and Maintenance

The radar and radio station would be unattended and remotely controlled. Data communication via microwave would transmit data to SFPUC headquarters for processing. Operation of the proposed radar, data transmission, and radio systems would involve periodic equipment maintenance, approximately once every 1 to 3 months. These activities would typically include driving a pickup truck or van to the station to calibrate instruments and to repair equipment when needed. Existing watershed management staff would conduct regular inspections of the proposed facilities.

The backup generator would be tested monthly for 10 minutes to maintain operation and confirm readiness. The generator test is automatic and would not require attendance. Any failure would be reported through the radio network and result in inspection by maintenance personnel. If radio system repairs are needed, SFPUC staff or radio system contractors would provide support. Propane delivery and fire safety inspection would be part of periodic operations and maintenance. Propane delivery would occur once per year unless an extended outage were to occur.

The Cooperative Institute for Research in the Atmosphere at the University of Colorado, (AQPI engineering lead) would be responsible for operation and maintenance of the radar equipment for the duration of the agreement with the SFPUC (2 to 3 years), after which ownership of the AQPI system and radar equipment would be turned over to the Bay Area consortium of project partners for long-term operation and maintenance.

[10] SFPUC (San Francisco Public Utilities Commission), 2015. SFPUC Standard Construction Measures. Harlan L. Kelly, Jr., General Manager, July 1.

A.8 Required Actions and Approvals

This Initial Study (IS)/Mitigated Negative Declaration (MND) is intended to provide the project information and environmental impact analysis necessary to assist responsible public agency decision-makers in considering the approvals necessary for the planning, development, construction, operations, and maintenance of the project. Permits and authorizations from state and local agencies could rely in whole or in part on this IS/MND.

The agency actions and approvals at the federal, State, and local level could include:

- Federal Communications Commission (FCC). Licensing of radio system frequency
- Federal Communications Commission (FCC). Antenna site registration
- Federal Aviation Administration (FAA). Determination of No Hazard to Air Navigation;
- U.S. Fish and Wildlife Service (USFWS). Consultation pursuant to Section 7 of the Endangered Species Act (completed)
- Bay Area Air Quality Management District (BAAQMD). Permit to operate backup generator.
- SFPUC. Adoption of the final mitigated negative declaration, findings, and the mitigation monitoring and reporting program

B. Project Setting

B.1 Regional and Local Setting

The Montara Mountain site is at the western extent of the SFPUC-owned Peninsula Watershed in unincorporated San Mateo County. The proposed project site is approximately 5 miles west of the Crystal Springs Reservoir and 2 miles inland from the coast. The project site is surrounded by open space, including the Peninsula Watershed to the north, south, and east, San Pedro Valley County Park further to the north, privately owned property to the west, and GGNRA land to the southwest. It is accessible to the public via North Peak Access Road and the Montara Mountain trail, both of which pass through McNee Ranch State Park to the northwest. The SFPUC-owned watershed, including the project site, is not open to the public; however, the project site is accessible through public trails. The Montara Mountain site and general vicinity feature primarily undisturbed coastal mountain habitat with rugged hills and steep slopes. With the exception of the reservoirs in the watershed, this region is largely undeveloped, and primarily vegetated with coastal scrub and oak woodland.

B.2 Other Projects in the Vicinity

Past, present, and reasonably foreseeable future projects occurring in the vicinity of the project site could result in cumulative impacts, in combination with the proposed project impacts.

Projects that were completed in the vicinity of the project site prior to this evaluation have been considered as part of the existing conditions in the assessment of environmental impacts. Therefore, these past projects were taken into account during the determination of cumulative impacts for each environmental topic.

The present and/or reasonably foreseeable future projects are the Pilarcitos Dam and Reservoir Improvements, and routine maintenance such as road grading and erosion control in the Montara Watershed. These projects are proposed in the SFPUC Peninsula Watershed lands which surround the Montara Mountain site.

Table 3 in Section E, Evaluation of Environmental Effects, describes the potential cumulative projects in the project vicinity. The discussion of potential cumulative impacts is included in the individual environmental topic subsections in Section E.

C. Compatibility with Existing Zoning and Plans

	Applicable	*Not Applicable*
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	☐	☒
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	☒	☐
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	☒	☐

No variances, special authorizations, or changes to the Planning Code or Zoning Map of San Francisco or any other jurisdictions are proposed as part of this project; therefore, these issues are not applicable and are not discussed further.

This section provides a general description of applicable land use plans and policies and how they apply to the project. Potential inconsistencies between the project and the applicable plans are also discussed. The focus of this section is on CCSF land use plans and policies, the SFPUC's plans and policies, and other regional and local plans that apply to the project.

The Montara Mountain site is in San Mateo County in the SFPUC Peninsula Watershed. The SFPUC is an agency of CCSF, and therefore is under the jurisdiction of the City's charter and plans, where applicable. The SFPUC has adopted plans specific to the management of the agency's resources. Therefore, the project would be subject to the policies of the CCSF and SFPUC.

C.1 City and County of San Francisco Plans and Policies

The CCSF land use plans and policies are primarily applicable to projects within the jurisdictional boundaries of the City of San Francisco, although in some cases they may apply to projects outside of these boundaries. These plans include the San Francisco General Plan, which sets forth the City's comprehensive, long-term land use policy; the San Francisco Accountable Planning Initiative, which serves as the basis for resolving inconsistencies in the San Francisco General Plan; and the San Francisco Sustainability Plan, which addresses the City's long-term sustainability. CCSF has authority over the management, use, and

control of land it owns outside of the City, subject to the SFPUC's exclusive responsibility for the construction, management, use, and control of the City's water supplies and utilities.[11]

C.1.1 San Francisco General Plan

The San Francisco General Plan sets forth the comprehensive, long-term land use policy for the CCSF. The General Plan consists of 10 issue-oriented plan elements: air quality, arts, commerce and industry, community facilities, community safety, environmental protection, housing, recreation and open space, transportation, and urban design. Plan elements relevant to the project are briefly described below.

Community Safety Element. This Element addresses the potential for geologic, structural, and nonstructural hazards to affect City-owned structures and critical infrastructure, and seeks to protect human life and property from hazards. This Element includes the following policies applicable to the project: Policy 1.1, *Examine the risk of flooding due to climate change-related effects, such as storm surges, changes in precipitation patterns, and sea level rise…*; Policy 1.11, *Continue to promote green stormwater management techniques*; and Policy 1.20, *Increase communication capabilities in preparation for all phases of a disaster, and ensure communication abilities extend to hard-to-reach areas and special populations.*

Environmental Protection Element. This Element addresses the impact of urbanization on the natural environment by promoting the protection of plant and animal life, and through restoration of natural qualities of land, air, and water by elimination of pollution. Policy 3.3 of the Element recommends that CCSF "implement plans to improve sewage treatment and halt pollution of the Bay and Ocean." Policies 8.2 and 8.3 call for the City to "protect the habitats of known plant and animal species that require a relatively natural environment and to protect rare and endangered species."

The project would provide the SFPUC with the data needed to better manage flows in the combined sewer system, reducing stormwater overflows, and thereby complying with Policies 1.1 and 1.11 of the Community Safety Element; and would improve sewage treatment and decrease the occurrence of untreated sewage discharges into the Bay and Ocean, thereby complying with the Environmental Protection Element. The project is also designed to avoid sensitive habitat for rare and endangered species.

[11] San Francisco Charter, Sections 4.112 and 8B.121.

C.1.2 The Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the Planning Code to establish the following eight priority policies as a preamble to the San Francisco General Plan. The priority policies serve as the basis upon which inconsistencies in the San Francisco General Plan are to be resolved. The eight Priority Policies direct that:

1. Neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses be enhanced.

2. Housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of the neighborhoods.

3. The city's supply of affordable housing be preserved and enhanced.

4. Commuter traffic not impede Muni transit service or overburden streets or neighborhood parking.

5. A diverse economic base be maintained by protecting industrial and service sectors from displacement by commercial office development, and future opportunities for resident employment and ownership in these sectors be enhanced.

6. The CCSF achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.

7. Landmarks and historic buildings be preserved.

8. Parks and open spaces and their access to sunlight and vistas be protected from development.

Of the eight priority policies, only the eighth is relevant to the proposed project. The Montara Mountain site is adjacent to public trails. However, due to the minor size of the project components, the proposed project would not result in a change in access to sunlight (see Section E.9, Wind and Shadow). The proposed project would have a less-than-significant impact on a scenic vista because the radar and radio systems are smaller than and comparable to the existing facilities adjacent to the site (see Section E.2, Aesthetics, for further discussion).

C.1.3 San Francisco Sustainability Plan

Although the San Francisco Board of Supervisors endorsed the Sustainability Plan for the City of San Francisco[12] in 1997, the Board has not committed the CCSF to perform the actions addressed in the Plan. The Plan serves as a blueprint for sustainability, with many of its individual proposals requiring further development and public comment. The Plan's underlying goals are to maintain the physical resources and systems that support life in San Francisco, and to create a social structure that will allow such maintenance. The Plan is divided into 15 topic areas. Eleven of these areas address specific environmental issues: air quality; biodiversity; energy; climate change and ozone depletion; food and agriculture; hazardous materials; human health; parks, open spaces, and streetscapes; solid waste; transportation; and water and wastewater. The other five areas are broader in scope and cover many issues, including the economy and economic development; environmental justice; municipal expenditures; public information and education; and risk management. Each topic area has a set of indicators that is to be used over time to determine whether San Francisco is moving in a direction that supports sustainability for that area.

The proposed project would allow the SFPUC to better manage flows in the water and combined sewer systems, thereby furthering the water and wastewater strategy (goal #3), which aims:

- To ensure a sustainable and adequate water supply for normal use and for extraordinary use (such as fire-fighting, earthquakes) and to do these considering the lowest impact on the environment;
- To minimize contaminants in storm water and dry-weather flows;
- To plan for normal flows and extraordinary events;
- To minimize storm water flows into the combined sewer system;
- To manage and treat flows that enter the system; and
- To strive to eliminate combined system overflow discharge.

C.2 SFPUC Plans and Policies

The SFPUC has adopted various plans and policies that further direct its activities, including the Strategic Sustainability Plan and the Water Enterprise Environmental Stewardship Policy.

[12] CCSF (City and County of San Francisco), 1997. *The Sustainability Plan for the City of San Francisco.* Department of the Environment.

C.2.1 SFPUC Strategic Sustainability Plan

The SFPUC's 2011 Strategic Sustainability Plan is a system for planning, managing, and evaluating SFPUC-wide performance that takes into account the long-term economic, environmental, and social impacts of the SFPUC's business activities. The SFPUC uses this document to evaluate its performance semi-annually; to provide an annual score card; and to help the SFPUC measure the progress it makes each year in improving its performance toward reaching its objectives and goals.[13]

The plan consists of a "Durable Section," which contains goals, objectives, and performance indicators to implement SFPUC's vision and values. The goals and objectives are then used to drive the "Dynamic Section" of the Sustainability Plan, which contains specific actions, targets, measures, and budgeting.

The proposed project would meet the SFPUC's objective of optimizing planning to meet water, wastewater, and power demand by providing the SFPUC with data to better manage flows in the water and sewer systems.

C.2.2 Water Enterprise Environmental Stewardship Policy

Adopted in June 2006, the Water Enterprise Environmental Stewardship Policy (Policy) established the long-term management direction for CCSF-owned lands and natural resources affected by operation of the SFPUC regional water system in the Tuolumne River, Alameda Creek, and the Peninsula Watershed.[14] It also addresses rights-of-way and properties in urban surroundings under SFPUC management. The Policy is integrated into Water Enterprise planning and decision-making processes, and also directly implemented through a number of efforts, including the Peninsula Watershed Management Plan (PWMP).[15]

Key implementation strategies of the Policy include the following: implementation and update of the existing PWMP; development of a Habitat Conservation Plan for the Peninsula Watershed; development of the Watershed and Environmental Improvement Program, which encompasses the Peninsula Watershed; integration of the Environmental Stewardship Policy into the Water System Improvement Program and individual infrastructure projects; and ensuring that the Policy guides development of project

[13] SFPUC (San Francisco Public Utilities Commission), 2011. *Strategic Sustainability Plan.* March.
[14] SFPUC (San Francisco Public Utilities Commission), 2006. *SFPUC Final Water Enterprise Environmental Stewardship Policy*. June 27.
[15] SFPUC (San Francisco Public Utilities Commission), 2002. *Peninsula Watershed Management Plan.* Prepared by EDAW, Inc.

descriptions, alternatives, and mitigation for all projects during the environmental review process under CEQA and/or NEPA.

The following Policy provisions would apply to the proposed project because the project site is located in the Peninsula Watershed:

- The SFPUC will proactively manage the watersheds under its responsibility in a manner that maintains the integrity of the natural resources, restores habitats for native species, and enhances ecosystem function.

- To the maximum extent practicable, the SFPUC will ensure that all operations of the SFPUC water system (including water diversion, storage, and transport), construction and maintenance of infrastructure, land management policies and practices, purchase and sale of watershed lands, and lease agreements for watershed lands protect and restore native species and the ecosystems that support them.

- The SFPUC will manage rights-of-way and properties in urban surroundings under its management in a manner that protects and restores habitat value, where available, and encourages community participation in decisions that significantly interrupt or alter current land use in these parcels.

The proposed project would comply with the above Policy provisions. Construction of the proposed facilities would disturb a relatively small area (less than 0.1 acre). Although special-status plants and host plants for special-status butterflies are present adjacent to the Montara Mountain project site, construction of the proposed project would not remove or physically disturb these plants. As described in Section E.13, Biological Resources, project impacts on habitat and special-status species would be not be significant with the implementation of mitigation measures to avoid and minimize impacts.

C.2.3 Peninsula Watershed Management Plan

The Peninsula Watershed is in central San Mateo County and includes the San Andreas and Crystal Springs reservoirs, adjacent to Highway 280; and the Pilarcitos Reservoir to the northwest. The watershed encompasses 23,000 acres of the San Francisco Peninsula, most of which is owned by the SFPUC. The SFPUC adopted the PWMP to provide a policy framework for the SFPUC to make decisions about activities, practices, and procedures that are appropriate on watershed lands. The PWMP provides goals, policies, and management actions that address watershed activities and reflect the unique qualities of the

watershed. The PWMP is also intended to be used as a watershed management implementation guide by the SFPUC's Land and Resource Management Section (now called Natural Resources and Land Management Division) staff. As part of implementation of the PWMP, the SFPUC reviews all plans, projects, and activities that occur in the Peninsula Watershed for conformity with the PWMP, and for compliance with environmental codes and regulations.

The primary goal of the PWMP is to maintain and improve source water quality to protect public health and safety. The secondary goals include:

- Maximize water supply.
- Preserve and enhance the ecological and cultural resources of the watershed.
- Protect the watersheds, adjacent urban areas, and the public from fire and other safety hazards.
- Continue existing compatible uses and provide opportunities for potential compatible uses on watershed lands, including educational, recreational, and scientific uses.
- Provide a fiscal framework that balances financial resources, revenue-generating activities, and overall benefits, and an administrative framework that allows implementation of the watershed management plans.
- Enhance public awareness of water quality, water supply, conservation, and watershed protection issues.

The proposed project would construct and operate monitoring equipment to collect atmospheric data that would provide the SFPUC with improved precipitation monitoring and forecast models to support stormwater and wastewater management. It would also install an upgraded communication system to help protect the watershed and public from fire and other safety hazards. The project would support the goals to protect public health and safety and continue existing compatible uses (scientific) and would not conflict with primary or secondary goals of the PWMP.

C.3 Other Plans and Policies

C.3.1 Local Plans and Policies

This section describes the local land use policies of San Mateo County that are applicable to the project site. California Government Code Section 53090 *et seq*. mutually exempts cities and counties from complying with each other's building code and zoning ordinances. The SFPUC, which is part of CCSF, is therefore exempt from complying with the building and zoning ordinances of other cities and counties. This same state law also exempts public utilities and special-purpose local agencies from complying with local building and zoning ordinances when locating or constructing facilities for the production, generation, storage, treatment, or transmission of water. Although the SFPUC is not legally bound to the land use plans and policies of other jurisdictions, non-CCSF land use plans are discussed in this section to the extent that they provide land use planning information for the jurisdictions in which the project is located.

Determinations of project consistency with local general plans would be made by the pertinent land use jurisdictions, following notification by the SFPUC pursuant to state law. In addition, this IS/MND addresses aspects of compatibility with local land use planning if the project would meet any of the following conditions.

- The project would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts or bicycle racks), or would cause a substantial increase in transit demand that cannot be accommodated by existing or proposed transit capacity or alternative travel modes (analyzed in Section E.5, Transportation and Circulation).

- The project would expose people to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (analyzed in Section E.6, Noise).

- The project is in an area covered by an airport land use plan (or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport), and would expose people residing or working in the project area to excessive noise levels (analyzed in Section E.6, Noise).

- The project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (analyzed in Section E.13, Biological Resources).

- The project would conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (analyzed in Section E.13, Biological Resources).

- The project would result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (analyzed in Section E.17, Mineral and Energy Resources).

- The project would conflict with existing zoning for agricultural use or a Williamson Act contract (analyzed in Section E.18, Agricultural and Forest Resources).

The project proposes installation of a weather data collection system and radio tower, which is a permitted use subject to a use permit within the site's existing RM (Resource Management) zoning district. The project would not result in any change of land use in the vicinity of the project site, and therefore would not appear to be in conflict with any adopted county and city plans and goals.

This IS/MND systematically identifies the potential environmental impacts associated with implementation of the proposed project, as well as feasible measures to avoid or substantially lessen such effects. The criteria used in the impact analysis of this IS/MND support the intent of general plan goals and policies related to protection of the environment. As detailed throughout Section E, Evaluation of Environmental Effects, most of the environmental impacts attributable to the project are associated with construction activities, and these impacts would be reduced to less-than-significant levels through implementation of proposed mitigation measures. Therefore, the project would be consistent with the local general plan.

San Mateo County Policies

The Montara Mountain site is in the Resource Management (RM) zone under San Mateo County's Zoning Ordinance.[16] This district is associated with preservation of open space and natural resources, outdoor recreation, and resource management, and allows for construction and operation of scientific/technical research uses. Under San Mateo County's zoning regulations, development in this district must conserve natural features and scenic values to the extent feasible. Goals for RM zones include providing public access and encouraging innovative technologies for conserving energy, water, and other utilities for park and recreation facilities. Because construction and operation of scientific/technical research uses is allowed

[16] San Mateo County Zoning Code §§ 6310-6315.

in the RM zone, proposed project uses at the Montara Mountain site would not conflict with San Mateo County Zoning regulations.

C.3.2 Golden Gate National Recreation Area

The GGNRA administers a 19,000-acre Scenic Easement and a 4,000-acre Scenic and Recreation Easement,[17] which encompass most of the Peninsula Watershed, including the Montara Mountain site.

The SFPUC is permitted to conduct any activity on its lands as long as it is consistent with the terms of its easement; CCSF's reserved rights; and the collection, storage, and transmission of water. The Scenic and Recreation Easement allows for Scenic Highways (State Route 35/Skyline Boulevard and Highway 280) and trails for hiking. The easement states the following:

- The land would be preserved in its present natural state and would not be used for any purpose other than for the collection, storage, and transmission of water and protection of water quality, and other purposes which would be compatible with said use and preserving said land as open-space land.
- No structures would be erected upon said land except such structures as may be directly related to and compatible with the aforesaid uses. No trailer would be placed, used, or maintained on said land as a substitute for a caretaker's residential building. The design and location of all buildings, except water utilities buildings and appurtenances, would be subject to the concurrence of a regional representative of the Department of the Interior to be designated by the Secretary of the Interior.
- No signs, billboards, or advertisements, excepting directional signs and identification signs in connection with permitted uses, would be displayed or placed upon the land.
- Except as required to accomplish the improvements hereinafter permitted or as otherwise permitted to the Grantor hereunder, the general topography of the landscape would be maintained in its present condition and no substantial excavation or topographic changes would be made without the concurrence of a regional representative of the Department of the Interior to be designated by the Secretary of the Interior.

[17] CCSF (City and County of San Francisco), 1969. Scenic and Recreation Easement issued to the National Park Service for the Golden Gate National Recreation Area.

- Except as required to accomplish the purposes and uses herein permitted to Grantor, there would be no cutting or permitting of cutting, destroying, or removing any timber or brush without the concurrence in writing by a regional representative of the Department of the Interior to be designated by the Secretary of the Interior.

- The SFPUC is permitted the right to use its premises for purposes which it may find necessary or desirable for its water or other utility operations, including the right to construct, maintain, repair, expand, and reconstruct buildings, storage facilities, reservoirs, pipe systems, cable systems, flumes, head walls, retention walls, bulkheads, cofferdams, pumphouses, dikes, roadways, and public utilities and similar improvements.

The proposed project would not conflict with the requirements of the Scenic Easement, because the SFPUC would use the data collected from the radar systems for managing its utility operations. The project would involve minimal grading and excavation and would not substantially change the topography of the site. Additionally, as described in Section E.2, Aesthetics, the proposed project would have a less-than-significant impact on scenic vistas, because the radar and radio equipment would be smaller than and comparable to the adjacent telecommunication and radio structures.

D. Summary of Environmental Effects

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

☐ Land Use	☐ Air Quality	☒ Biological Resources
☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Geology and Soils
☐ Population and Housing	☐ Wind and Shadow	☐ Hydrology and Water Quality
☒ Cultural Resources	☐ Recreation	☐ Hazards/Hazardous Materials
☐ Transportation and Circulation	☐ Utilities and Service Systems	☐ Mineral/Energy Resources
☐ Noise	☐ Public Services	☐ Agricultural and Forest Resources
		☒ Mandatory Findings of Significance

E. Evaluation of Environmental Effects

This IS examines the project to identify potential effects on the environment. For each item on the IS checklist, the evaluation has considered the impacts of the project both individually and cumulatively (i.e., combined with other past, present, and reasonably foreseeable future projects). All items on the IS checklist that have been checked "Less than Significant with Mitigation Incorporated," "Less-than-Significant Impact," "No Impact," or "Not Applicable" indicate that, upon evaluation, staff has determined the project would not have a significant adverse environmental impact related to that issue. A full discussion is included for all items checked "Less than Significant with Mitigation Incorporated" and "Less-than-Significant Impact," and a brief discussion is included for items checked "No Impact" or "Not Applicable." The items checked in Section D, Summary of Environmental Effects (above), have been determined to be "Less than Significant with Mitigation Incorporated." A determination of "Potentially Significant" applies where a project component could result in a significant impact for which mitigation would not be expected to reduce the impact to a less-than-significant level. As discussed in detail below, implementation of the proposed project would not be expected to cause any "Potentially Significant" impacts.

Numbering of Impacts and Mitigation Measures

Environmental impacts are numbered throughout this IS/MND using the section topic identifier, followed by sequentially numbered impacts. Mitigation measures are numbered to correspond to the impact numbers; for example, Mitigation Measure M-CR-1 addresses Impact CR-1 regarding cultural resources. Cumulative impacts are discussed at the end of each environmental topic impact discussion, and are identified by the letter C; for example, Impact C-CR addresses cumulative cultural resources impacts.

Approach to Cumulative Impact Analysis

CEQA Guidelines Section 15130(b)(1) indicates that a cumulative impact analysis should be based on either (1) a list of past, present, and reasonably foreseeable probable future projects producing closely related impacts that could combine with those of a project; or (2) a summary of projections contained in a general plan or related planning document. This document uses the list-based approach. The following factors were used to determine an appropriate list of individual projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts**—A relevant project contributes to effects on resources that are also affected by the project. A relevant future project is defined as one that is "reasonably foreseeable," such as a proposed project for which an application has been filed with the approving agency or has approved funding.

- **Geographic Scope and Location**—A relevant project is one within the geographic area where effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects on air quality consists of the affected air basin.

- **Timing and Duration of Implementation**—Effects associated with activities for a relevant project (e.g., short-term construction or long-term operations) would likely coincide with the related effects of the project.

Table 2 lists the present and reasonably foreseeable future projects in the project vicinity considered in the cumulative impact analysis, based on the above-referenced factors. These projects are proposed in the SFPUC Peninsula Watershed lands which surround the Montara Mountain site. A discussion of potential cumulative impacts is included in the individual environmental resource area subsections in Section E, Evaluation of Environmental Effects.

Table 2
Projects Considered in the Cumulative Impact Analysis

Project No.	Project Name (Jurisdiction)	Project Description	Estimated Construction Schedule
1	Pilarcitos Dam and Reservoir Improvements Project (SFPUC)	Pilarcitos Dam is now being studied for seismic upgrades and dam safety improvements.	Design Stage
2	Miscellaneous Maintenance Projects around Montara Watershed (SFPUC)	Routine maintenance projects such as road grading, fence replacement, vegetation management, and erosion control in the Montara Watershed.	Ongoing

E.1 Land Use and Land Use Planning

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
1. LAND USE AND LAND USE PLANNING					
Would the project:					
a) Physically divide an established community?	☐	☐	☐	☒	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	☐

Overview

The Montara Mountain site is in the SFPUC-owned Peninsula Watershed in San Mateo County, about 10 miles south of San Francisco. The Montara Mountain project site is situated atop the ridgeline of a mountain, immediately adjacent to a telecommunications facility and surrounded by open space areas, including the GGNRA property known as Rancho Corral de Tierra and San Pedro Valley County Park.

Impact LU-1. The project would not physically divide an established community. (No Impact)

The 0.07-acre Montara Mountain site is in open, undeveloped lands, and is not in an established community, nor is it adjacent to any established communities. The project would entail the installation of precipitation data collection/monitoring equipment and communication equipment, as well as the construction of a short access road. Due to the small size of the site, the project elements would not constitute a physical barrier or restrict access for the existing users on the site. Therefore, the proposed project would not physically divide an existing community and would have *no impact*.

Impact LU-2. The project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

As described in Section C, Compatibility with Existing Zoning and Plans, the project would not obviously or substantially conflict with applicable plans, policies, and regulations.

The Montara Mountain site is in the RM zoning district under San Mateo County's Zoning Ordinance. This district is associated with preservation of open space and natural resources, outdoor recreation, and resource management, and allows for construction and operation of scientific/technical research uses. Because construction and operation of scientific/technical research uses is allowed in the RM zone, the proposed project would not conflict with San Mateo County Zoning regulations.

Therefore, the project would not substantially conflict with any applicable land use plan, policy, or regulation; impacts with respect this significance criterion would be *less than significant*.

Impact C-LU. The proposed project, in combination with past, present and reasonably foreseeable future projects in the vicinity of the project sites, would not result in a cumulatively considerable contribution to a significant cumulative impact related to land use. (Less than Significant)

The geographic scope of the cumulative impacts analysis for land use consists of the proposed project area and immediate vicinity.

None of the cumulative projects listed in Table 2 nor the project would divide an established community. Therefore, there would be no cumulative impact related to division of an established community.

Cumulative projects that are in the immediate project vicinity include those identified in the Peninsula Watershed near the Montara Mountain site. The cumulative projects in the immediate vicinity of the Montara Mountain site are miscellaneous maintenance projects around Montara watershed and the proposed project. These projects would not result in significant cumulative impacts because these projects would be required to comply with applicable land use plans, policies, and regulations adopted for the purpose of minimizing environmental effects. Therefore, cumulative impacts related to compatibility with applicable land use plans, policies, or regulations would be *less than significant*.

E.2 Aesthetics

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
2. AESTHETICS					
Would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	☐	☐	☒	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	☐	☐	☒	☐	☐

Approach to Analysis

To analyze the visual impacts of the proposed project, a baseline for existing visual character was established at the site, and then simulations were prepared and used to assess the visual impacts that the proposed project would have once constructed.

Visual resource analysts conducted a site visit to observe and capture photographs of the existing site conditions, and then identified potential key viewpoints that provide publicly accessible views of the site. The visual analysts identified one key viewpoint for the Montara Mountain site. This viewpoint represents both the likely sensitive viewer groups that would be present and the characteristic landscape view in the study area.

A visual simulation was created by visual resource specialists to illustrate the changes that could occur at this key viewpoint that provides views of the proposed project site. Visual simulations are helpful to analyze visual impacts, by comparing existing views to simulated views. This simulation is represented on Figures 3 and 4.

Viewpoint Location Map

Source: esri 2015

Legend

Viewpoint Location

Photograph Information

Time of photograph:	3:26 PM
Date of photograph:	11-14-14
Weather condition:	Cloudy
Viewing direction:	East
Latitude:	37°33'41.48"N
Longitude:	122°28'48.02"W
Focal Length:	35mm

EXISTING CONDITIONS FROM KEY OBSERVATION POINT

MONTARA MOUNTAIN

Advanced Rainfall Prediction Project
SFPUC

FIGURE 3

Viewpoint Location Map

Source: esri 2015

Legend

Viewpoint Location

Photograph Information

Time of photograph:	3:26 PM
Date of photograph:	11-14-14
Weather condition:	Cloudy
Viewing direction:	East
Latitude:	37°33'41.48"N
Longitude:	122°28'48.02"W
Focal Length:	35mm

SIMULATION FROM KEY OBSERVATION POINT MONTARA MOUNTAIN (X-BAND)

Advanced Rainfall Prediction Project
SFPUC

FIGURE 4

Montara Mountain

The Montara Mountain site is approximately 3.5 miles southeast of the City of Pacifica, on the peak of Montara Mountain (Figure 1). The land is owned by the SFPUC and located in the Peninsula Watershed in San Mateo County. The area that surrounds the site is largely undeveloped, apart from several communication facilities. Due to the jagged, complex topography of the surrounding mountains, the site is not visible from a publicly accessible vantage point in any direction from a distance greater than approximately 0.5 mile. From the site, views north and south are expansive, although the primary view of the Pacific Ocean is obscured by another peak. Looking towards the site, the prevailing colors in the vicinity are dull to vibrant greens and browns. The views of the site contain mostly amorphous lines of manmade structures, and natural landforms and vegetation. The trails in the area introduce curvilinear, flowing lines. The mountains and hills in the area vary in elevation, which intensifies the depth and visual quality of the area neighboring the proposed project site.

The existing facilities adjacent to the Montara Mountain site include telecommunication and radio antenna towers, aboveground transmission lines, support buildings, and an aboveground propane tank; the facilities are surrounded by chain-linked fencing and barbed wire. The existing telecommunication and radio structures introduce manmade, angular, contrasting lines with cool, metallic hues that conflict with the natural colors of the region.

Affected Viewers

There are many variables that contribute to the viewer sensitivity (or public concern) of an area. Such considerations can include, but are not limited to, the number of people exposed to the view, the length of time the viewer would be exposed, and how much the public is invested in a specific view. This initial study does not attempt to categorize the sensitivity of surrounding viewer groups as part of this impact assessment, but does acknowledge that varying viewer groups occur in the vicinity of the project site. Such viewer groups are tied to the dominant land uses that occur in the vicinity of the proposed project site.

The principal viewer group at the Montara Mountain site is recreationists. The North Peak Access Road Trail runs close to the proposed site and is a popular hiking trail in McNee Ranch State Park, known for its panoramic views of the Pacific Ocean.[18] This trail is 150 feet southwest of the project site. The project site

[18] Bay Area Hiker, 2015. McNee Ranch State Park, California State Parks, San Mateo County. Available online at. http://www.bahiker.com/southbayhikes/mcneeranch.html. Accessed September 2015.

is on SFPUC watershed land and is not open to the public; the area would be fenced off once construction is complete. Hikers may stop and enjoy the panoramic views of the Pacific Ocean near the project site, but the proposed equipment would not obstruct their visual experience because they would be looking west toward the ocean, rather than north towards the equipment.

Impact AE-1. The project would not have a substantial adverse effect on a scenic vista. (Less than Significant)

A scenic vista is described as a publicly accessible viewpoint that provides expansive views of a highly valued landscape that the general public benefits from. Scenic vistas can consist of views from designated scenic corridors, static viewpoints that provide high-quality views, or any views that are publicly accessible and fall under the description of a scenic vista. Projects that create substantial adverse effects on scenic vistas are those that unfavorably alter the existing visual quality and character in areas where publicly accessible views are present. The project site was evaluated for the presence of designated scenic vistas in the county general plan.

The Montara Mountain site is in San Mateo County. The San Mateo County General Plan identifies Cabrillo Highway (Highway 1) as a County-designated scenic corridor.[19] Cabrillo Highway runs along the San Mateo coast 2 miles west of the Montara Mountain site. Through site reconnaissance, it was determined that the site is not visible from Cabrillo Highway due to the changing topography close to the proposed site, therefore, the proposed project site would not be visible from this designated scenic corridor.

The proposed radar and radio structures would not cause a substantial adverse effect on a scenic vista due to many contributing factors: the location of the project site, which would be shielded almost entirely from view on the aforementioned scenic corridor; previous disturbance to the site vicinity due to existing infrastructure (e.g., telecommunications towers and a water tank); and the size of the proposed radar and radio systems, which are smaller than and comparable to the existing equipment at the adjacent site. For these reasons, the impact of the project on scenic vistas would be *less than significant.*

[19] County of San Mateo Planning and Building Department, 2012b. *San Mateo County General Plan*. Updated December 2012. Available online at. http://planning.smcgov.org/documents/general-plan-policies. Accessed September 2015.

Impact AE-2. The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment that contribute to a scenic public setting. (Less than Significant)

Scenic resources are defined as natural or built visual features that positively impact the scenic quality of an area. Typical scenic resources include trees, vegetation, water, and landforms that add visual uniqueness to a visual study area. Ridgelines are an important scenic resource because ridgelines preserve the natural character and landform of an area. The San Mateo County General Plan identifies ridgelines as scenic resources that must be protected.[20]

Although the Montara Mountain site is on a ridgeline, the project follows the design standards for scenic corridors by designing structures compatible in size and scale with their adjacent manmade features, and groups the proposed equipment together with an existing telecommunications facility.[21] The proposed structure would be screened from the view of Cabrillo Highway by the natural topography of the area, and would therefore not have a significant impact on the visual character of the aforementioned ridgeline.

The Montara Mountain site is in the SFPUC-owned Peninsula Watershed and lies within a 19,000-acre section of the watershed subject to a U.S. Department of Interior Scenic Easement administered by GGNRA. As discussed under Other Plans and Policies, Section C.4.2, Golden Gate National Recreation Area, the project would adhere to the requirements of the 1969 NPS Scenic Easement.[22] The SFPUC is permitted to use the land for purposes which it may find necessary for its water or other public utilities operations and the proposed project meets this purpose as the precipitation data collected once this project equipment is operational would benefit SFPUC utility operations.

Figure 3 depicts the existing conditions observed at the key viewpoint identified at Montara Mountain. The viewpoint is 0.1 mile west of the proposed site on the North Peak Access Road Trail. As shown in the figure, the site vicinity contains several utility towers and other equipment that contrast with the otherwise natural setting surrounding the area. Adjacent to the proposed site are many large existing telecommunication systems, an aboveground propane tank, and transmission lines that span the mountainside. As shown on Figure 4, the addition of the proposed X-band radar system would not create a significant change to the existing conditions of the area, because it is shaped similarly to existing

[20] County of San Mateo Planning and Building Department, 2012b. *Op. cit*.
[21] County of San Mateo Planning and Building Department, 2012b. *Op. cit*.
[22] CCSF (City and County of San Francisco), 1969. Scenic and Recreation Easement issued to the National Park Service for the Golden Gate National Recreation Area.

structures and is small in scale compared to some of the existing telecommunication facilities at this location. The duration of view would be short as recreationists pass by, and then the facility would be out of the sensitive viewers' sight.

The construction activities are anticipated to detract from the visual quality of the site, but the short duration (4 to 6 months) and limited disruptions to the existing setting would make these impacts less than significant.

As discussed in Section A.7, Operations and Maintenance, there would be no permanent staffing during operation. However, there would be periodic maintenance approximately every 1 to 3 months, which would include activities such as driving a pickup truck to the station and calibrating instruments or using hand tools to repair elements of the equipment; these activities would not alter the visual resources of the area.

Based on the above, construction and operation of the project would not substantially damage scenic resources; impacts would be *less than significant.*

Impact AE-3. The project would not substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

The visual character of an area refers to the visual experience that physical features within it create for viewers; these features can include water, vegetation, manmade structures, and landforms. Visual quality is an assessment of how visually pleasing a landscape is to viewers in terms of vividness, intactness, and unity. The level to which changes in visual character and quality affect the public is influenced by the viewer sensitivity of an area. Key elements of visual character (form, line, color, and texture) were assessed at the proposed project location. Visual character and quality were evaluated and determined in this analysis based on the extent that these factors would change with implementation of the project.

As displayed on Figure 4, the key viewpoint depicts views from the North Peak Access Road Trail facing the proposed Montara Mountain site, which currently includes many structures, including telecommunication towers, transmission towers, an aboveground propane tank, and a utility shed. This highly disturbed area is surrounded by natural, rugged landscape. The proposed structures at this site would add another manmade element to the view, but it would be comparable in nature and smaller than the existing structures in the immediate area. The structure would not be a source of light or glare, because the paint chosen for the radar would be composed of nonreflective materials. The proposed project would

introduce additional manmade structures in a localized area, but it would be consistent with the existing landscape character of the localized project area, and would therefore not substantially degrade the existing visual character of the site and its surroundings.

Based on this analysis, the proposed project would have a *less-than-significant* impact to the existing visual character and quality of the project sites and their surroundings. The determination of significance is also based on considerations and analysis from Impacts AE-1 and AE-2 above.

Impact AE-4. The project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area, or that would substantially impact other people or properties. (Less than Significant)

Construction activities are scheduled to occur during daylight hours, and therefore are not anticipated to require lighting. The use of permanent lighting is not required during operation for this project; therefore, operational and maintenance impacts from nighttime lighting are not expected. As discussed in Section E.5, Transportation and Circulation, the project would not require a notice filed with the FAA regarding a potential physical obstruction. Therefore, lighting pursuant to FAA Regulations Part 77 (14 Code of Federal Regulations [CFR] 77) would not be necessary for the proposed project. The surface materials that would be used to construct the proposed equipment would not introduce new sources of light and would be selected to minimize glare, as outlined in Section A.6, Construction Activities and Schedule. Therefore, impacts would be *less than significant*.

Impact C-AE. The project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative aesthetics impact. (Less than Significant)

A summary of cumulative projects in the vicinity of the proposed project site can be found in Table 2. The two projects found in this table are proposed in the SFPUC Peninsula Watershed lands which surround the Montara Mountain site. These projects would not be expected to introduce structures or other improvements that would have a substantial adverse effect on a scenic vista, alter the landscape or substantially damage scenic resources, or introduce significant new sources of light and glare. In addition, based on the location of these projects relative to the project site, it is unlikely that the proposed project and cumulative projects would be viewed simultaneously from a publicly accessible vantage point. Therefore, the project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would result in *less-than-significant* cumulative impacts to aesthetic resources.

E.3 Population and Housing

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
3. POPULATION AND HOUSING					
Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒	☐
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?	☐	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	☐

Impact PH-1. The project would not induce substantial population growth in an area, either directly or indirectly. (No Impact)

Typically, a project is classified as growth-inducing if it would significantly increase the local population or create new development that would not have occurred if the project were not executed. As explained below, the proposed project would not create the need for additional residences, major roads, or infrastructure and would therefore not be deemed growth-inducing.

The construction activities are expected to require approximately four to six workers over the course of 4 to 6 months (see Section A.6, Construction Activities and Schedule, above). The regional labor force would readily meet the needs of the construction crew. Relocation of workers from outside of the Bay Area would not be required, and construction of housing for these workers would not be required. Therefore, construction activities associated with the project would not be considered directly or indirectly growth-inducing, and would not create a significant increase in the local population.

No permanent staffing is necessary at the proposed facility for operation or maintenance activities. Once operational, the proposed radio, radar and data transmission systems would require minimal maintenance, occurring once every 1 to 3 months. Therefore, operation and maintenance activities associated with the project would not be considered directly or indirectly growth-inducing and would not increase local population *(no impact)*.

Impact PH-2. The project would not displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing. (No Impact)

There are no existing housing units at the site. The proposed project would not involve displacement of housing and would not require the construction of replacement housing. Therefore, the project would have *no impact* relative to the displacement of housing.

Impact PH-3. The project would not displace substantial numbers of people, necessitating the construction of replacement housing. (No Impact)

As discussed in Impact PH-2, there are no existing housing units at the site. The proposed project would not involve displacement of people and would not require the construction of replacement housing. Therefore, the project would have *no impact* relative to the displacement of people.

Impact C-PH. Construction of the project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative impact on growth or housing. (No Impact)

Implementing this project would not contribute to cumulative population or housing impacts because the proposed project would not induce growth or create a need for replacement housing. Therefore, construction of the project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not have a significant cumulative impact on growth or housing (*no impact*).

E.4 Cultural Resources

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
4. CULTURAL RESOURCES					
Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco *Planning Code*?	☐	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?	☐	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	☐
d) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074?	☐	☒	☐	☐	☐

Approach to Analysis

Under CEQA, a cultural resource is considered significant if it meets the criteria for listing in the California Register of Historical Resources (CRHR). Significant cultural resources are termed "historical resources" under CEQA. These include both built-environment historic resources and historic and prehistoric archeological resources. CEQA Section 15064.5 defines as significant any resource that:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history.

Resources that are listed in or formally determined to be eligible for listing in the National Register of Historic Places (NRHP) are automatically listed in the CRHR, and are therefore considered historical resources for the purposes of CEQA compliance.

Article 10 and Article 11 of the San Francisco Planning Code pertain to individual city landmarks and historic districts, and to conservation districts in the City's downtown core area (C-3 district), respectively. Because the project does not propose improvements in San Francisco, and there are no designated City landmarks or districts in any of the project sites, Article 10 and Article 11 would not apply to the project.

Prior to assessing potential impacts that could result with project implementation, the Area of Potential Effects (APE) for each cultural resource sub-discipline (i.e., archeology and historic architecture) was established for the proposed project. According to 36 CFR 800.16(d), the "Area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The CCSF[23] has adopted nearly identical language for the delineation of a California Environmental Quality Act-Area of Potential Effects (C-APE), an APE established for assessment of potential project effects to resources eligible for addition to the CRHR, but not developed in consultation with the SHPO. For the current undertaking, the APE and C-APE are identical, and the term "APE" is used in this document.

APE as Delineated for Archeological Resources

Archeological sites are typically subject only to direct impacts resulting from project-related earth-moving activities that have the potential to disturb (i.e., affect) archeological deposits.[24] Accordingly, for the current undertaking, the APE defined for archeological resources comprises all areas where ground-disturbing activities could occur as a result of implementation of the proposed project. The APE would include the depths of excavation (i.e., vertical APE) as well as the areal extent of all proposed ground-disturbing activities. All ground-disturbing activities would be confined to the areas within the 0.1-acre APE at Montara Mountain. The maximum depth of excavation required for construction would be 4 feet below ground surface for concrete pad foundations; the maximum depth of the geotechnical boring would be 30 feet.

[23] San Francisco Planning Department, 2013. *Archaeological Glossary and Usage Guide for CEQA Documents*. Environmental Planning Division.

[24] It should be noted that there are instances where archeological sites can be subject to indirect impacts, such as improved access to a site area that results in illicit artifact collection. Potential indirect effects to archeological resources are not anticipated for the current undertaking.

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APE as Delineated for Historic Architectural Resources

The APE for historic architectural resources was defined using the methods adopted by the FCC for permitting communication towers. According to FCC guidance, unless otherwise established through consultation with the SHPO, the presumed APE for visual effects (i.e., indirect effects) resulting from the construction of new towers 200 feet or less in height comprises those areas within a half mile of the tower site. Therefore, the APE would extend out from the project site in a one-half-mile radius to account for potential indirect effects to historic architectural resources that could result from project implementation.

Baseline conditions for archeological and historic architectural resources in the APE are documented in the project's Historic Context and Archeological Survey Report (HCASR)[25] and the Historic Resources Inventory and Evaluation Report (HRIER),[26] and are summarized in this section.

Impact CR-1. The project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco Planning Code. (No Impact)

Potential impacts to archeological resources, both as historical resources and unique archeological resources, are addressed separately below under Impact CR-2. The following discussion concerns potential impacts to historical resources that are nonarcheological (e.g., built environment).

Inventory efforts for historic architectural resources included a review of cultural resources base maps and resource records, survey reports, and atlases of historic places on file at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University; archival research; contacts with local historical societies and other relevant parties; and field investigations of the project site. These efforts were documented in the HRIER prepared for the project.

No structures more than 45 years old were identified within the Montara Mountain site APE; therefore, the project would have *no impact.*

[25] URS (URS Corporation), 2015a. *Historic Context and Archeological Survey Report for the Advanced Rainfall Prediction Proje*ct. Report prepared for the San Francisco Public Utilities Commission and the San Francisco Planning Department, Environmental Planning Division. URS Corporation, San Francisco, California.

[26] URS (URS Corporation), 2015b. *Historic Resources Inventory and Evaluation Report for the Advanced Rainfall Prediction Project*. Report prepared for the San Francisco Public Utilities Commission. URS Corporation, Portland, Oregon.

Impact CR-2. The project could cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5. (Less than Significant with Mitigation)

The following discussion assesses impacts to archeological resources meeting the requirements for listing as historical resources pursuant to CEQA Guidelines Section 15064.5, as described above. In addition, impacts to unique archeological resources as also described in Section 15064.5 and PRC §21083.2.71 are addressed herein. If an archeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a unique archeological resource as outlined in PRC §21083.2, project impacts to that resource must be addressed under CEQA. A unique archeological resource implies an archeological artifact, object, or site about which it can be clearly demonstrated that—without merely adding to the current body of knowledge—there is a high probability it meets one of the following criteria:

- The archeological artifact, object, or site contains information needed to answer important scientific questions, and there is a demonstrable public interest in that information;
- The archeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- The archeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A nonunique archeological resource indicates an archeological artifact, object, or site that does not meet the above criteria. Impacts to nonunique archeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

Inventory efforts for archeological resources included a review of ethnographic and historic literature and maps, archeological base maps and site records, survey reports, and atlases of historic places on file at the NWIC; a Sacred Lands File review and tribal contact list by the California Native American Heritage Commission (NAHC); Native American contact letters to all individuals identified by the NAHC; and an archeological pedestrian reconnaissance. These efforts were documented in the HCASR prepared for the project. No archeological resources were identified as a result of these efforts within the archeological APE delineated for the project. The archival research similarly did not reveal the presence of historic-era development within the project site that might suggest the potential for historic-era archeological resources in the APE.

Current conditions were considered to evaluate the potential for exposing buried, previously undiscovered archeological sites during project implementation. The Montara Mountain site is situated on hilltop and/or ridgeline settings that exhibit soils of a generally shallow nature. Given the general thinness of the soil in these locations, such settings are considered to have very low sensitivity for the potential presence of buried archeological resources. A review of a report by Meyer and Rosenthal[27] did not reveal the known presence of buried archeological resources in the vicinity of the APE, or in similar environs throughout the greater Bay Area region.

Even though the APE has a low sensitivity for prehistoric or historic archeological resources, the potential to inadvertently expose—and therefore affect—previously unknown archeological resources, including those that may be NRHP- and/or CRHR-eligible, cannot be completely dismissed. The inadvertent exposure of a previously unknown archeological resource would be a significant impact. However, implementation of **Mitigation Measure M-CR-2, Accidental Discovery Measures**, would reduce impacts to a less-than-significant level by requiring that field personnel be made aware of potential impacts to resources from soil disturbance, and the project Head Foreman and/or SFPUC immediately notify the Environmental Review Officer (ERO) and immediately suspend any soils-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken. Therefore, impacts to previously unidentified historically significant and/or unique archeological resources in the APE for the proposed project would be *less than significant with mitigation.*

Mitigation Measure M-CR-2. Accidental Discovery Measures

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a) and (c). The SFPUC shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc., firms); or utilities firm involved in soils disturbing activities in the project site. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, but not limited to, machine operators, field crew, pile drivers, and supervisory personnel. The SFPUC shall provide the ERO with a signed affidavit from the responsible parties

[27] Meyer, Jack, and Jeff Rosenthal, 2007. *Geoarchaeological Overview of the Nine Bay Area Counties in Caltrans District 4*. Submitted to Caltrans District 4 Office.

(prime contractor, subcontractor[s], and utilities firm) to the ERO, confirming that all field personnel have received copies of the Alert Sheet.

Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the project Head Foreman and/or SFPUC shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present in the project site, the SFPUC shall retain the services of an archeological consultant who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61); consultants will be selected in consultation with the ERO while meeting the criteria or specialization required for the resource type as identified by the ERO in a manner consistent with SFPUC's on-call contracting requirements. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.

Measures might include preservation *in situ* of the archeological resource; an archeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Environmental Planning division guidelines for such programs. The ERO may also require that the SFPUC immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert in the final report.

Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows. California Archeological Site Survey NWIC

shall receive one copy, and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound copy, one unbound copy, and one unlocked, searchable PDF copy on CD, along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

Impact CR-3. The project could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant with Mitigation)

Earth-moving associated with construction activities at the project site could result in direct impacts on previously undiscovered human remains. The project would adhere to the provisions of the California Health and Safety Code, Section 7050.5, regarding the discovery of human remains. Additionally, Section 15064.5 of the CEQA Guidelines describes the steps that should be taken in the event of the accidental discovery of human remains, particularly Native American burial remains, on a project site during construction activities. These processes are described in further detail under PRC §5097.98.

Although there are no known archeological resources containing human remains in the project area or general vicinity surrounding the project site, the possibility of encountering human remains during construction cannot be completely discounted. Therefore, the project could significantly affect human remains during the construction phase at the project site. However, by implementing the measures outlined in M**itigation Measure M-CR-3, Accidental Discovery of Human Remains and Associated or Unassociated Funerary Objects**, the proposed project would have an impact that would be considered *less than significant with mitigation*.

Mitigation Measure M-CR-3. Accidental Discovery of Human Remains and Associated or Unassociated Funerary Objects

The treatment of human remains and of associated or unassociated funerary objects discovered during any soils-disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the San Mateo County Coroner:

San Mateo County Coroner
50 Tower Road

San Mateo CA 94402
(650) 312-5562

In the event of the appropriate Coroner's determination that the human remains are Native American remains, the California State NAHC shall be notified, and shall appoint a Most Likely Descendant (MLD) (PRC §f5097.98). The archeological consultant, project sponsor, ERO, and MLD shall have up to but not beyond 6 days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of an MLD. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects, as specified in the treatment agreement if such an agreement has been made or, otherwise, as determined by the archeological consultant and the ERO.

Impact CR-4. The project could cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code §21074. (Less than Significant with Mitigation)

A tribal cultural resource (TCR) is defined in PRC §21074 as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a "California Native American tribe," that is also either (a) included or determined to be eligible for inclusion in the CRHR; or (b) included in a local historic register, as defined in PRC §5020.1(k). There are no known CRHR-eligible or otherwise eligible resources in the APE. Similarly, the NAHC review of their Sacred Lands File failed to identify resources of concern to the local Native American community in the project site APE.

Pursuant to Assembly Bill (AB) 52, effective July 1, 2015, within 14 days of a determination that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which the project is located. Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on TCRs and measures for addressing those impacts.

On December 10, 2015, the Planning Department mailed a "Tribal Notification Regarding Tribal Cultural Resources and CEQA" related to this project to Native American tribal representatives who requested

notification. During the 30-day comment period, no Native American tribal representatives contacted the Planning Department to request consultation. As discussed above, it was also concluded that during construction there is a low potential to encounter buried prehistoric archeological resources which might subsequently be determined to qualify as TCRs. It therefore appears that the potential for impacts to TCRs is low.

However, if an archeological resource of Native American origin were encountered during construction and subsequently identified as a TCR, the potential for adverse effects of the proposed project on previously unidentified archeological resources, as discussed under Impact CR-2, also represents a significant impact on TCRs. Implementation of **Mitigation Measure M-CR-2, Accidental Discovery Measures**, and **Mitigation Measure M-CR-4, Tribal Cultural Resources Interpretive Program**, would reduce potential adverse effects on TCRs, as defined in PRC §21074, to a *less-than-significant* level. **Mitigation Measure M-CR-4** would require either preservation–in-place of the TCRs, if determined effective and feasible, or an interpretive program regarding the TCRs developed in consultation with affiliated Native American tribal representatives.

Mitigation Measure M-CR-4. Tribal Cultural Resources Interpretive Program

If the ERO determines that preservation-in-place of previously unidentified archeological resources pursuant to **Mitigation Measure M-CR-2, Accidental Discovery Measures**, is not a sufficient or feasible option, and if in consultation with the affiliated Native American tribal representatives, the ERO determines that the resource constitutes a TCR, the project sponsor shall implement an interpretive program of the TCR in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.

Impact C-CR. The project, in combination with other past, present, and reasonably foreseeable future projects, could result in a cumulatively considerable contribution to a significant cumulative impact related to cultural resources. (Less than Significant)

The project would have no impact on historical resources, and thus would not contribute to any potential impact on such resources. As previously noted, the proposed project would be required to implement **Mitigation Measures M-CR-2, Accidental Discovery Measures, M-CR-3, Accidental Discovery of Human Remains and Associated or Unassociated Funerary Objects,** and **M-CR-4, Tribal Cultural Resources Interpretive Program**. These mitigation measures would ensure that project-related impacts to archeological resources, human remains, and tribal cultural resources would be less than significant. Because these impacts are site-specific and generally limited to the immediate construction area, the proposed project, in combination with other reasonably foreseeable future projects, would not result in a significant cumulative impact on archeological resources, human remains, or tribal cultural resources. This impact would be *less than significant.*

E.5 Transportation and Circulation

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
5. TRANSPORTATION AND CIRCULATION Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks?	☐	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	☐	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐	☐

The study area for transportation and circulation consists of a network of regional and local roadways that would be used by construction workers and vehicles for access to the project site.

San Mateo County has established level-of-service (LOS) standards implemented by its congestion management agency (CMA), the City/County Association of Governments of San Mateo County, through its Congestion Management Plan (CMP). Operation of the proposed project would involve periodic maintenance, approximately once every 1 to 3 months, which would entail a pickup truck being driven to the site. However, no permanent staffing would be needed at the proposed facility, and no regular worker commute traffic would be generated by project operations. Pursuant to recent revisions to CEQA

Guidelines by the State Office of Planning and Research (OPR), in March 2016, the San Francisco Planning Department adopted the OPR recommendations to use a vehicle-miles-traveled metric instead of automobile delay to evaluate the transportation impacts of projects. Therefore, vehicle delay (i.e., intersection LOS) is no longer used as a significance criterion in San Francisco. Therefore, consideration of LOS impacts on CMP roadways or local roadways during operation of the project components is *not applicable* to the proposed project, and significance criterion 5(b), above, is not discussed further in this section.

Implementation of the project and its facilities would not introduce any new design features to the road network, nor would it introduce incompatible uses; therefore, significance criterion 5(d) is *not applicable* to the proposed project and is not discussed further in this section.

Impact TR-1. The project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. This takes into account all modes of transportation—including mass transit and nonmotorized travel—and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. (No Impact)

The Montara Mountain site is accessed by a network of SFPUC watershed access roads, which are accessed from the westbound lane of State Route 92 just west of its junction with Interstate 280. The watershed access roads are not publicly accessible and are, therefore, not considered further in this analysis. The only bus service in the vicinity of the site is provided by SamTrans bus route 7, which travels approximately 2 miles west of the project site along Highway 1. No bicycle lanes are present on the roads in the area. Construction at this site would last 4 to 6 months and would generate approximately four to six round trips per day (Monday through Friday) by workers commuting to and from the site. To limit vehicles traveling on the watershed access roads to the project site, it is expected that most workers would park near the watershed entrance and carpool to the project site (see Section A.6, Construction Activities and Schedule).

Maintenance of the proposed radar and radio systems would occur once every 1 to 3 months and would involve driving a pickup truck to the site (see Section A.7, Operations and Maintenance). Maintenance would entail infrequent vehicle trips and would not permanently affect the transportation and circulation system.

For these reasons, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system (*no impact*).

Impact TR-2. The project would not result in a change in air traffic patterns, including either an increase in traffic levels, obstructions to flight, or a change in location, that results in substantial safety risks. (No Impact)

FAA Regulations Part 77 (14 CFR 77) establish height regulations for development within approach and take-off patterns to allow aircraft maneuvering room and to ensure that neither the operating capability of the airport nor the usable runway is adversely affected by obstructions in the surrounding airspace. The FAA has an established height restriction of 150 feet for objects within 5,000 feet from the end of each runway. In addition, the FAA has notification requirements for construction in the vicinity of airports that require the FAA be notified of any construction or alteration greater in height than the distance from the closest runway divided by 100, out to a distance of 20,000 feet. For any such projects, the FAA requires submission of a Notice of Proposed Construction or Alteration (Form 7460).

The Montara Mountain site is more than 20,000 feet from the nearest airport (San Francisco International). The X-band radar at the Montara Mountain site would be a maximum of 20 feet tall, consisting of a 10-foot-tall radar mounted on a 10-foot-tall building and the radio system monopole with antennae would be 48 feet tall. Therefore, none of the structures would require a notice filed with the FAA regarding a potential physical obstruction. The project would result in *no impact* on air traffic patterns.

Impact TR-3. The project would not result in inadequate emergency access. (Less than Significant)

Project construction activities would not occur in the travel lanes of any of the public roads in the vicinity of the project sites. Construction-related traffic associated with project activities would be minimal, as described above, and as a result would not be expected to substantially impair emergency vehicle access. The project site would be accessible via an unpaved access road, as shown on Figure 2, which would be similar to the emergency access provided at the site under current conditions. Therefore, the project would have a *less-than-significant impact* on emergency vehicle access.

Impact TR-4. The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. (Less than Significant)

As discussed above, the project would involve onsite improvements, and would not permanently eliminate or modify alternative transportation corridors or facilities, nor would the project result in any conflicts related to established policies or programs that support such facilities. In addition, alternative modes of transportation in the vicinity of the site are scarce, due to its remote rural location. Therefore, project-related impacts on alternative modes of transportation would be *less than significant*.

Impact C-TR. The project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to a significant cumulative transportation and circulation impact. (Less than Significant)

The geographic scope for the analysis of cumulative traffic impacts includes the local and regional roadways that would be used for construction-related vehicles. Construction of Miscellaneous Maintenance Projects around Montara Watershed, as depicted in Table 2, could coincide with the project, and could increase traffic temporarily on roadways used to access the Montara Mountain site. However, at this time, few details are available about the location or construction timing of the projects.

The network of watershed access roads used to access the Montara Mountain site, which would also be used to access the above cumulative projects, is located on SFPUC property and is not publicly accessible. Regardless, because all projects in the Peninsula Watershed would be under the direct control of the SFPUC, and given that the SFPUC implements Standard Construction Measures for all projects under its control (including measures that impose best management practices [BMPs] addressing traffic controls), it can be reasonably assumed that there would be no significant traffic-related impacts in the Peninsula Watershed during construction of the identified cumulative projects and the proposed project. Therefore, the project, in combination with past, present, and reasonably foreseeable future projects, would result in *less-than-significant* cumulative transportation and circulation impacts.

E.6 Noise

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
6. NOISE					
Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒	☐
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	☐
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	☐	☐	☐	☐	☒
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☐	☒
g) Be substantially affected by existing noise levels?	☐	☐	☐	☐	☒

The project site is not within 2 miles of a public airport or private airstrip, and the project would not include the development of noise-sensitive facilities that would be affected by existing noise. Therefore, significance criteria 6(e) through (g) are *not applicable* to this project, and are not discussed further in this section. Noise impacts to wildlife are discussed in Section E.13, Biological Resources.

Existing Noise Environment

The Montara Mountain site location is in San Mateo County on SFPUC-owned land. The surrounding land uses include the GGNRA property, Rancho Corral de Tierra, to the west; San Pedro Valley County Park to the north; and open space to the south. There are no sensitive receptors for noise within one-quarter mile of the site. There is an existing tower and supporting facilities less than 50 feet from the proposed radar and radio location. The nearest public trail is 150 feet away. The existing noise is characterized by wind,

maintenance visits to the nearby towers and supporting facilities, wildlife, and recreational hikers and bicyclists. Noise from low-altitude airplane traffic from the Half Moon Bay Airport may also contribute to local noise levels. Because most of the surrounding area is open space, ambient noise levels at the project site are expected to be below 60 Community Noise Equivalent Level (CNEL);[28] however, during periods of high winds, ambient noise levels may increase.[29]

Impact NO-1. The project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (No Impact)

The project has the potential to generate construction-related short-term noise increases and operational long-term noise increases; however, these levels would not exceed standards established in applicable local general plans or noise ordinances, or other applicable standards.

The San Mateo County Code of Ordinances (Section 4.88 – Noise Control) specifies the noise standards for permanent exterior and interior noise. For exterior noise levels measured at the nearest sensitive receptor, noise levels must not exceed 55 dBA from 7:00 a.m. to 10:00 p.m.; or 50 dBA from 10:00 p.m. to 7:00 a.m.; and interior noise levels must not exceed 45 dBA from 7:00 a.m. to 10:00 p.m., or 40 dBA from 10:00 p.m. to 7:00 a.m. The Code of Ordinances states that noise sources associated with demolition, construction, repair, remodeling, or grading are exempted provided that activities do not occur between the hours of 6:00 p.m. and 7:00 a.m. on weekdays, 5:00 p.m. and 9:00 a.m. on Saturdays, or anytime on Sundays, Thanksgiving, and Christmas. In addition, the Code of Ordinances exempts noise activities performed for the good of the public when a government agency or a public or private utility determines a project must be done before 7:00 a.m. or after 6:00 p.m., or on weekends.

As stated in the project description, and outlined in the SFPUC Standard Construction Measures,[30] the SFPUC intends to comply with local noise ordinance when performing construction activities. Construction would primarily occur Monday through Friday from 7:00 a.m. to 5:00 p.m., with construction activities possibly extending into evening hours or on weekends, as allowable. Therefore, no conflicts with ordinances at the project site would occur during project construction, and because project construction would not exceed established noise standards, *no impact* would occur.

[28] Community noise equivalent level – a 24-hour noise descriptor that adds 5 dBA during evening hours (7:00 p.m. to 10:00 p.m.) and a 10 dBA penalty during nighttime hours (10:00 p.m. to 7:00 a.m.).

[29] MHA Environmental Consulting, Inc., 2005. *Montara Water and Sanitary District Public Works Plan Phase I Draft Environmental Impact Report*. Prepared for Montara Water and Sanitary District. October.

[30] SFPUC (San Francisco Public Utilities Commission), 2015. Op cit.

Operation of the radar and radio systems would not generate noise, as information would be transmitted via the communication lines. Periodic maintenance, approximately every 1 to 3 months, would include driving a pickup truck to the station, calibrating instruments, and repairing or testing equipment. The backup generator would be tested monthly for approximately 10 minutes. No permanent staff would be required. However, based on the typical noise levels generated by these activities and the distance of the nearest sensitive receptors, it is not anticipated that established noise standards would be exceeded. Therefore, *no impact* would occur.

Impact NO-2. The project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. (Less than Significant)

The operation of heavy construction equipment, such as pile drivers, excavators, drill rig, and vibratory rollers, create ground vibration. Ground vibration attenuates with distance from the source, but depends on the source, site geology, and other factors. Vibration, if substantial, could result in building damage. The Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment* provides general assessment criteria for vibration damage according to different types of building categories. The criteria range from 102 VdB for reinforced concrete, steel or timber buildings (no plaster) to 90 VdB for historic buildings extremely susceptible to vibration damage.[31]

Potential construction equipment includes flat-bed/box delivery trucks, pickup trucks, dump trucks, backhoes, box-scraper, brush cutters, grader, trenchers, concrete trucks, compactor/vibrators, forklifts, boom trucks, small excavator, cranes, and a drill rig. Construction vibration for the excavating equipment and loaded trucks ranges from 58 to 86 VdB, respectively, at a distance of 25 feet.[32] This analysis assumes that 1) construction equipment would not operate continuously at full power; 2) construction-related vibration would be intermittent over the course of construction; 3) such vibration would only occur during the day; and 4) such vibration would be temporary during the 4- to 6-month construction schedule. In accordance with the FTA's *Transit Noise and Vibration Impact Assessment*, the vibration from construction equipment was quantified.

Construction vibration at nearby buildings 50 feet away would be 77 VdB. Nearby buildings are small one-story utility structures. The vibration level would be below the most stringent structural threshold of

[31] FTA (Federal Transit Administration), 2006. *Transit Noise and Vibration Impact Assessment*. May 2006.
[32] FTA (Federal Transit Administration), 2006. *Transit Noise and Vibration Impact Assessment*. May 2006.

90 VdB; therefore, impacts from construction-related vibration at the Montara Mountain site would be *less than significant*.

Construction would occur during daytime hours, and possibly into evening hours or weekends (where allowable); however, no nighttime construction would occur. Because there are no sensitive receptors in the vicinity of the Montara Mountain site, project construction would not expose persons to groundborne vibration. Therefore, *no impacts* related to human nighttime annoyance are expected to occur.

Operation and maintenance of the radar and radio systems would not cause a noticeable increase in vibration compared to the existing conditions; therefore, *no impact* would occur.

Impact NO-3. The project would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

Operation of the proposed project would not generate substantial noise from stationary sources at the project site, because the radar and radio systems and supporting infrastructure would be static and would not generate noise once constructed. Any supporting equipment, such as communication or data transmission equipment similar to a computer, would be housed inside a structure. The backup generator would be within a sealed housing to reduce noise generation and would operate only for occasional routine testing and in the event of a power outage. Operations would not increase the ambient noise levels and would have very minor, if any, noticeable effects on existing noise conditions.

There would be no permanent staffing at the site. For routine maintenance and inspections, a maximum of one to two vehicle trips per month would occur; however, this increase in trips would amount to a negligible increase in ambient noise levels in the project vicinity, considering the existing operations adjacent to the project site. The site is adjacent to existing communications facilities with antenna towers and supporting structures, which require regular maintenance.

Therefore, noise from project operations and maintenance would not result in the exposure of persons to or generation of noise levels in excess of typical noise standards, or a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, the impact would be *less than significant*.

Impact NO-4. The project would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. (Less than Significant)

To address the CEQA significance criterion regarding "substantial temporary or periodic noise increases in ambient noise levels" for construction noise, a "substantial" noise increase is defined as an increase in noise to a level that causes interference with land use activities at nearby sensitive receptors. Construction noise could interfere with daytime (7 a.m. to 10 p.m.) activities when speech interference occurs. The speech interference threshold is 70 dBA.[33]

Construction activities would occur for a short period of 4 to 6 months. Anticipated construction activities include grading, drilling for geotechnical investigation, excavation, and rigging for the foundation; forming and pouring of a concrete pad; and the installation of the radar, power/communication line connections, and security fencing. Potential construction equipment includes flat-bed/box delivery trucks, dump trucks, pickup trucks, backhoes, grader, trenchers, concrete trucks, compactor/vibrators, small excavator, cranes, and a drill rig. Construction noise for each equipment piece generally ranges from 76 to 88 dBA maximum sound levels at a distance of 50 feet.[34]

Construction of the proposed project would result in temporary increases in noise levels. The site preparation phase would typically generate the most substantial noise levels because the onsite equipment associated with grading and excavation are the noisiest. This activity is expected to occur in the beginning of the 4- to 6-month construction schedule. Consistent with the "general assessment" method for construction activity noise estimation from the FTA noise assessment guidance, this analysis assumes that the two loudest pieces of equipment associated with project construction processes are the truck and trencher. Together, these two sources would be expected to emit noise at a level of 80.7 dBA at a distance of 25 feet. This also assumes that both pieces of construction equipment are operating simultaneously and consistently at full power.

As discussed in Section A.6.4, Construction Access and Staging Areas, project construction may include delivery of equipment by helicopter. Approximately five to seven deliveries of a short duration for unloading could occur, likely on a single day. A flying helicopter is expected to emit 100 dB of noise at a

[33] Caltrans (California Department of Transportation), 2009. *Technical Noise Supplement*. November.
[34] FTA (Federal Transit Administration), 2006. *Op. cit*.

distance of 100 feet, 87 dB at 500 feet, and 78 dB at 1,000 feet.[35,36] This noise level would be experienced briefly as equipment is unloaded and would likely occur on only one day of the construction period.

The Montara Mountain site is surrounded by open space with no sensitive receptors within one-quarter mile of the site. Maximum typical construction noise at the nearest public trail approximately 150 feet away would be less than 68 dBA, although helicopter noise would exceed this level if used. Construction activities may disturb recreationists on nearby trails. Recreationists are not considered sensitive receptors for temporary noise impacts, because they would be subject to this noise for a limited duration as they pass by the construction activity, and would have the option of using other trails to avoid construction noise should they wish. The maximum noise level for routine construction activities at nearby trails would be below the speech interference threshold of 70 dBA and helicopter noise would occur only briefly, if at all. Therefore, impacts from construction noise at the Montara Mountain site would be *less than significant*.

Project construction activities would cause a temporary increase in vehicle and truck noise along access routes to the project sites. The project anticipates 4 to 6 daily round trips at the site. This analysis assumes that the low number of vehicles and trucks associated with the project would not measurably increase ambient noise levels along these roadways. Because noise increases from 6 vehicles per day would be temporary and occasional, the noise impact from the project's offsite vehicle and truck operations would be *less than significant*.

Impact C-NO. The project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to a significant noise and vibration impact. (Less than Significant)

The geographic scope of potential cumulative noise impacts encompasses the project site, its immediate vicinity, and areas next to proposed haul routes. The projects listed in Table 2 may overlap with some or part of the proposed project's temporary haul routes. The projects in the Peninsula Watershed would have the potential to generate noise that could overlap with that generated by the proposed project; the other projects in Table 2 would not be expected to have overlapping construction periods with the proposed project or generate operational noise and vibration.

[35] Reference noise level for a Bell J-2A helicopter. https://www.chem.purdue.edu/chemsafety/Training/PPETrain/dblevels.htm. Accessed May 23, 2019.

[36] Hearing Health and Technology Matters, available at https://hearinghealthmatters.org/lawandhearing/2011/helicopter-noise/. Accessed May 23, 2019.

Past, present, and reasonably foreseeable future projects, considered in combination with the proposed project, would not result in cumulatively significant temporary noise impacts because these projects would be confined to the SFPUC's Peninsula Watershed, and would not be in close proximity to sensitive receptors. Additionally, based on the location of these projects in the watershed relative to each other, and the intervening distance to the closest possible receptors, cumulative vibration impacts during construction would not be expected. Therefore, temporary cumulative noise and vibration impacts would be *less than significant*.

Operational noise associated with the cumulative projects in the Peninsula Watershed would be expected to be minimal, based on the nature of these projects. There would be no permanent operational noise impacts associated with the proposed project other than routine maintenance occurring every 1 to 3 months. Therefore, long-term cumulative noise impacts would be *less than significant.*

E.7 Air Quality

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
7. AIR QUALITY					
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	☐

Overview

The Montara Mountain site is in San Mateo County, which is in the San Francisco Bay Area Air Basin (SFBAAB), and under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The regional air district is responsible for attaining and maintaining air quality under the federal and state air quality standards, as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. The agency has the responsibility to monitor ambient air pollutant levels throughout its jurisdiction, and develop and implement strategies to attain the applicable federal and state standards.

The BAAQMD is the regional agency with jurisdiction over the nine-county SFBAAB, which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa Counties and portions of Sonoma and Solano Counties. The SFBAAB generally experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment or unclassified for most criteria pollutants, with the exception of ozone, particulate matter 2.5 micrometers in diameter or smaller ($PM_{2.5}$), and particulate matter 10 micrometers in diameter or smaller (PM_{10}); these pollutants are designated as nonattainment for either the state or federal standards.

The most recent air quality plan, the 2017 Clean Air Plan,[37] was adopted by the BAAQMD on April 19, 2017. The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases (GHGs) in a single, integrated plan; and establish emission control measures to be adopted or implemented. The 2017 Clean Air Plan contains the following primary goals:

- Protect air quality and health at the regional and local scale: Attain all state and national air quality standards, and eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and

- Protect the climate: Reduce Bay Area greenhouse gas emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050.

The 2017 Clean Air Plan represents the most current applicable air quality plan for the SFBAAB. Consistency with this plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of air quality plans.

Criteria Air Pollutants

In accordance with the CCAA and the CAA, air pollutant standards are identified for the following six criteria air pollutants. ozone, carbon monoxide (CO), PM, nitrogen dioxide, sulfur dioxide (SO_2), and lead. These air pollutants are termed criteria air pollutants because they are regulated by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. In general, the SFBAAB experiences low concentrations of most pollutants when compared to federal or state standards. The SFBAAB is designated as either in attainment[38] or unclassified for most criteria pollutants, with the exception of ozone, $PM_{2.5}$, and PM_{10}, which are designated as nonattainment for either the state or federal standards. By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to result in nonattainment of air quality standards by itself. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to

[37] BAAQMD (Bay Area Air Quality Management District), 2017. *2017 Clean Air Plan*. April.

[38] "Attainment" status refers to those regions that are meeting federal and/or state standards for a specified criteria pollutant. "Non-attainment" refers to regions that do not meet federal and/or state standards for a specified criteria pollutant. "Unclassified" refers to regions where there are insufficient data to determine the region's attainment status for a specified criteria air pollutant.

cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[39]

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 3 identifies the BAAQMD air quality significance thresholds.[40] Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

Table 3
Criteria Air Pollutant Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds per day)	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	Best Management Practices	None	

Notes:
NO_x = oxides of nitrogen
PM_{10} = particulate matter 10 micrometers in diameter or smaller
$PM_{2.5}$ = particulate matter 2.5 micrometers in diameter or smaller
ROG = reactive organic gases

Ozone Precursors. As discussed previously, the SFBAAB is currently designated as nonattainment for ozone and PM. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on the state and federal Clean Air Acts emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2, requires that any new

[39] BAAQMD (Bay Area Air Quality Management District), 2011. *California Environmental Quality Act Air Quality Guidelines.* May. Page 2-1.

[40] BAAQMD (Bay Area Air Quality Management District), 2017. *California Environmental Quality Act Air Quality Guidelines.* May.

source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_x, the offset emissions level is an annual average of 10 tons per year (or 54 pounds per day).[41] These levels represent emissions below which new sources are not anticipated to contribute to an air quality violation, or result in a considerable net increase in criteria air pollutants.

Although this regulation applies to new or modified stationary sources, land use development projects result in ROG and NO_x emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the thresholds discussed above can be applied to the construction and operational phases of land use projects, and those projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ROG and NO_x emissions. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Particulate Matter (PM_{10} and $PM_{2.5}$).[42] The BAAQMD has not established an offset limit for $PM_{2.5}$. However, the emissions limit in the federal New Source Review (NSR) for stationary sources in nonattainment areas is an appropriate significance threshold. For PM_{10} and $PM_{2.5}$, the emissions limits under NSR are 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels below which a source is not expected to have an impact on air quality.[43] Similar to ozone precursor thresholds identified above, land use development projects typically result in PM emissions as a result of increases in vehicle trips, space heating and natural gas combustion, landscape maintenance, and construction activities. Therefore, the thresholds discussed above can be applied to the construction and operational phases of a land use project. Again, because construction activities are temporary in nature, only the average daily thresholds are applicable to construction-phase emissions.

Fugitive Dust. Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of BMPs at construction sites significantly controls fugitive dust,[44] and individual

[41] BAAQMD (Bay Area Air Quality Management District), 2009. *Revised Draft Options and Justification Report. California Environmental Quality Act Thresholds of Significance.* October. Page 17.

[42] PM_{10} is often termed "coarse" particulate matter, and is made of particulates that are 10 microns in diameter or smaller. $PM_{2.5}$, termed "fine" particulate matter, is composed of particles that are 2.5 microns or less in diameter.

[43] BAAQMD (Bay Area Air Quality Management District), 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance.* October. Page 16.

[44] Western Regional Air Partnership, *2006. WRAP Fugitive Dust Handbook.* September 7. Available online at. http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf. Accessed February 16, 2012.

measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[45] The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.[46] The City's Construction Dust Control Ordinance (Ordinance 176-08, effective July 30, 2008) requires a number of measures to control fugitive dust, and the BMPs employed in compliance with the City's Construction Dust Control Ordinance represent an effective strategy for controlling construction-related fugitive dust.

Other Criteria Pollutants. Regional concentrations of CO in the Bay Area have not exceeded the state standards in the past 11 years, and SO_2 concentrations have never exceeded the standards. The primary source of CO emissions from development projects is vehicle traffic. Construction-related SO_2 emissions represent a negligible portion of the total basin-wide emissions, and construction-related CO emissions represent less than 5 percent of the Bay Area total basin-wide CO emissions. As discussed previously, the Bay Area is in attainment for both CO and SO_2. Furthermore, the BAAQMD has demonstrated, based on modeling, that to exceed the California ambient air quality standard of 9.0 parts per million (ppm) (8-hour average) or 20.0 ppm (1-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited). Therefore, given the Bay Area's attainment status and the limited CO and SO_2 emissions that could result from a development projects, development projects would not result in a cumulatively considerable net increase in CO or SO_2, and quantitative analysis is not required.

Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long-duration) and acute (i.e., severe but of short-term) adverse effects to human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and mortality. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach to determine which sources and pollutants to control, as well as

[45] BAAQMD (Bay Area Air Quality Management District), 2009. *Revised Draft Options and Justification Report. California Environmental Quality Act Thresholds of Significance.* October. Page 27.

[46] BAAQMD (Bay Area Air Quality Management District), 2017. *CEQA Air Quality Guidelines.* May.

the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.[47]

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than that for other land uses. Therefore, these groups are referred to as sensitive receptors. Exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 30 years. Therefore, assessments of air pollutant exposure to residents typically result in the greatest adverse health outcomes of all population groups.

Exposures to $PM_{2.5}$ are strongly associated with mortality, respiratory diseases, and lung development in children, and other endpoints such as hospitalization for cardiopulmonary disease.[48] In addition to $PM_{2.5}$, diesel particulate matter (DPM) is of concern. The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.[49] The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

Excess Cancer Risk. The above 100 per one million persons (100 excess cancer risk) criterion is based on U.S. Environmental Protection Agency (U.S. EPA) guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[50] As described by the BAAQMD, the U.S. EPA considers a cancer risk of 100 per million to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air

[47] In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

[48] San Francisco Department of Public Health, 2008. *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways. Guidance for Land Use Planning and Environmental Review.* May.

[49] CARB (California Air Resources Board), 1998. Fact Sheet, "The Toxic Air Contaminant Identification Process. Toxic Air Contaminant Emissions from Diesel-fueled Engines." October.

[50] BAAQMD (Bay Area Air Quality Management District), 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance.* October. Page 67.

Pollutants rulemaking,[51] the U.S. EPA states that it "…strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million; and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.[52]

Fine Particulate Matter. In April 2011, the U.S. EPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*, "Particulate Matter Policy Assessment." In this document, U.S. EPA staff concludes that the then current federal annual $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu g/m^3$) should be revised to a level within the range of 13 to 11 $\mu g/m^3$, with evidence strongly supporting a standard within the range of 12 to 11 $\mu g/m^3$. The Air Pollutant Exposure Zone for San Francisco is based on the health protective $PM_{2.5}$ standard of 11 $\mu g/m^3$, as supported by the U.S. EPA's Particulate Matter Policy Assessment, although lowered to 10 $\mu g/m^3$ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

Proximity to Freeways. According to CARB, studies have shown an association between the proximity of sensitive land uses to freeways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children. Siting sensitive uses in close proximity to freeways increases both exposure to air pollution and the potential for adverse health effects. Because evidence shows that sensitive uses in an area within a 500-foot buffer of any freeway are at an increased health risk from air pollution,[53] lots that are within 500 feet of freeways are included in the Air Pollutant Exposure Zone.

The BAAQMD 2017 CEQA Air Quality Guidelines[54] contain thresholds of significance for individual project local health risks and hazards. Table 4 identifies the BAAQMD individual project thresholds for cancer risk, noncancer hazard index, and $PM_{2.5}$ concentration. Table 4 also includes the BAAQMD

[51] 54 Federal Register 38044, September 14, 1989.

[52] BAAQMD (Bay Area Air Quality Management District), 2009. *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance.* October. Page 67.

[53] CARB (California Air Resources Board), 2005. *Air Quality and Land Use Handbook. A Community Health Perspective.* April. Available online at. http://www.arb.ca.gov/ch/landuse.htm.

[54] BAAQMD (Bay Area Air Quality Management District), 2017. *Op. cit*.

cumulative health risk and hazard thresholds, which are used to evaluate the risks and hazards from the project in combination with all local sources.

Table 4
Local Health Risk and Hazard Significance Thresholds

Threshold	Cancer risk (in a million)	Noncancer Hazard Index	$PM_{2.5}$ annual average concentration ($\mu g/m^3$)
Individual Project Threshold	10.0	1.0	0.3
Cumulative Threshold	100.0	10.0	0.8

Note:
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter 2.5 micrometers in diameter or smaller

Construction Air Quality Impacts

Project-related air quality impacts fall into two categories: short-term impacts from construction and long-term impacts from project operation. The following addresses construction-related air quality impacts resulting from the proposed project.

Impact AQ-1. The proposed project's construction activities would generate fugitive dust and criteria air pollutants, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

Construction activities (short-term) typically result in emissions of ozone precursors and PM in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. The proposed project includes the construction and installation of data collection/monitoring equipment, support structures, access roads, and power and communication lines. During the project's construction period, construction activities would have the potential to result in emissions of ozone precursors and PM, as discussed below.

Fugitive Dust

Project-related construction activities may cause wind-blown dust that could contribute PM into the local atmosphere. Although there are federal standards for air pollutants and implementation of state and regional air quality control plans, air pollutants continue to have impacts on human health throughout the country. California has found that PM exposure can cause health effects at lower levels than national

standards. The current health burden of PM demands that, where possible, public agencies take feasible available actions to reduce sources of PM exposure. According to CARB, reducing $PM_{2.5}$ concentrations to state and federal standards of 12 $\mu g/m^3$ in the San Francisco Bay Area would prevent between 200 and 1,300 premature deaths.[55]

Dust can be an irritant, causing watering eyes or irritation to the lungs, nose, and throat. Demolition, excavation, grading, and other construction activities can cause wind-blown dust that adds PM to the local atmosphere. Depending on exposure, adverse health effects can occur due to this PM in general, and also due to specific contaminants such as lead or asbestos that may be constituents of soil.

The SFPUC has developed Standard Construction Measures[56] to be included in all construction contracts. These Standard Construction Measures contain specific provisions for protection of air quality, including the implementation of BMPs that are consistent with those included in the BAAQMD 2017 CEQA Air Quality Guidelines. Incorporation of these measures would ensure that potential dust-related air quality impacts would be *less than significant.*

Criteria Air Pollutants

As discussed above, construction activities would result in emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment. To assist lead agencies in determining whether short-term construction-related air pollutant emissions require further analysis as to whether the project may exceed the criteria air pollutant significance thresholds shown in Table 3 above, the BAAQMD, in its CEQA Air Quality Guidelines (May 2017), developed screening criteria. If a proposed project meets the screening criteria, then construction of the project would result in less-than-significant criteria air pollutant impacts. A project that exceeds the screening criteria may require a detailed air quality assessment to determine whether criteria air pollutant emissions would exceed significance thresholds. The CEQA Air Quality Guidelines note that the screening levels are generally representative of new development without any form of mitigation measures taken into consideration. In addition, the screening criteria do not account for project design features, attributes, or local development requirements that could also result in lower emissions.

[55] CARB (California Air Resources Board), 2008. *Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California*, Staff Report. Table 4c, October 24.

[56] SFPUC (San Francisco Public Utilities Commission), 2015. *Op. cit.*

The proposed project construction would include the use of flat-bed/box delivery trucks, pickup trucks, dump trucks, backhoes, box-scraper, brush cutters, grader, trenchers, concrete trucks, compactor/vibrators, forklifts, boom trucks, cranes, and a drill rig. The proposed facilities would be constructed on a 0.07-acre site. The size of the proposed construction activities would be below the criteria air pollutant screening size for a general light industrial land use type of 11 acres. The general light industrial land use type would be a conservatively comparable project type, because this project would involve limited development of structures, and project construction activities would be anticipated to be less intense than construction of a general light industrial project. Therefore, quantification of construction-related criteria air pollutant emissions is not required, and the proposed project's construction activities would result in a *less-than-significant* criteria air pollutant impact.

Impact AQ-2. The proposed project's construction activities would generate toxic air contaminants, including diesel particulate matter, but would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

The BAAQMD recommends that projects be evaluated for their potential health-risk impacts on sensitive receptors within 1,000 feet of an emission source. No residences or other sensitive receptors are within 1,000 feet of the Montara Mountain site. Recreationists using nearby trails would be exposed to project emissions as they pass by the site, however, they would not be considered sensitive receptors due to the very short-term exposure duration.

Project construction would generate exhaust emissions that include TACs, such as DPM, and $PM_{2.5}$. DPM and $PM_{2.5}$ pose potential health risks to sensitive receptors. The total duration of construction would be between 4 and 6 months, and construction activities would cease after this period. Construction activities involving diesel equipment would be periodic and limited in nature due to the size of the project site and minimal structures being developed. As explained in BAAQMD's CEQA guidelines. "Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations." Therefore, construction emissions would result in a *less-than-significant* impact to nearby receptors.

Operational Air Quality Impacts

The only operational emissions associated with the project would be related to vehicle trips and backup generator testing during periodic maintenance, approximately once every 1 to 3 months (see Section A.7,

Operations and Maintenance). These activities would typically include vehicle trips to the station, calibrating instruments or using hand tools to repair elements of the equipment, and backup emergency generator testing for no more than 50 hours per year. No permanent staffing at the proposed facilities would be needed. Because the operation and maintenance activity would be infrequent and very limited in nature, project operations would not generate substantial emissions.

Impact AQ-3: During project operations, the proposed project would result in emissions of criteria air pollutants, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)

As discussed above in Impact AQ-1, the air district, in its *CEQA Air Quality Guidelines* (May 2017), has developed screening criteria to determine whether a project requires an analysis of project-generated criteria air pollutants. If all the screening criteria are met by a proposed project, then the lead agency or applicant does not need to perform a detailed air quality assessment.

The proposed project operations would entail limited vehicle trips and backup generator testing approximately once every 1 to 3 months. Conservatively, this could include 1 or 2 vehicle trips per month. The proposed project would be below the criteria air pollutant screening size of 72 acres for general light industrial uses identified in the air district's *CEQA Air Quality Guidelines*. Thus, quantification of project-generated criteria air pollutant emissions is not required, and the proposed project would not exceed any of the significance thresholds for criteria air pollutants, and would result in *less-than-significant* impact with respect to criteria air pollutants.

Impact AQ-4: During project operations, the proposed project would generate toxic air contaminants, including diesel particulate matter, but would not expose sensitive receptors to substantial air pollutant concentrations. (Less than Significant)

As discussed above under Impact AQ-2, there are no sensitive receptors within 1,000 feet. Recreationists using nearby trails would be exposed to project emissions as they pass by the site, however, they would not be considered sensitive receptors due to the very short-term exposure duration. However, the proposed project would generate toxic air contaminants, as discussed below.

Sources of Toxic Air Contaminants

Vehicle Trips. Individual projects result in emissions of toxic air contaminants primarily as a result of an increase in vehicle trips. The BAAQMD considers roads with less than 10,000 vehicles per day "minor, low-impact" sources that do not pose a significant health impact even in combination with other nearby sources and recommends that these sources be excluded from the environmental analysis. The proposed project's

five vehicle trips per month would be negligible and well below this level and would be distributed among the local roadway network, therefore an assessment of project-generated TACs resulting from vehicle trips is not required, and the proposed project would not generate a substantial amount of TAC emissions that could affect nearby sensitive receptors.

On-Site Diesel Generator. The proposed project would include a backup emergency generator. Emergency generators are regulated by the air district through its New Source Review (regulation 2, rule 5) permitting process. The SFPUC would be required to obtain applicable permits to operate an emergency generator from the air district. Although emergency generators are intended only to be used in periods of power outages, monthly testing of the generator would be required. The air district limits testing to no more than 50 hours per year. Additionally, as part of the permitting process, the air district limits the excess cancer risk from any facility to no more than ten per one million population and requires any source that would result in an excess cancer risk greater than one per one million population to install Best Available Control Technology for Toxics. Compliance with the air district permitting process would ensure that project-generated toxic air contaminant emissions would not expose receptors to substantial air pollutant concentrations, and toxic air contaminant emissions would be *less than significant*.

Impact AQ-5. The project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)

The most recently adopted air quality plan for the SFBAAB is the BAAQMD's 2017 Clean Air Plan. The 2017 Clean Air Plan is a "road map" that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as practicable, and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. The plan builds on the main objective of the 2005 Ozone Strategy,[57] which was to comply with state air quality planning requirements as mandated by the CCAA. The Bay Area Ozone Attainment Plan[58] was adopted by BAAQMD in 2001 in response to the U.S. EPA's finding of failure of the Bay Area to attain the national ambient air quality standard for ozone. The Ozone Attainment Plan includes a control strategy for ozone and its precursors to ensure reduction in emissions from stationary sources, mobile sources, and the transportation sector.

The thresholds of significance in the BAAQMD 2017 CEQA Air Quality Guidelines were established to be consistent with the air quality attainment plans. As described in discussion Impact AQ-1, emissions from project construction and project operations would not exceed the thresholds of significance, and would

[57] BAAQMD (Bay Area Air Quality Management District), 2006. *Bay Area 2005 Ozone Strategy*. January 4.

[58] BAAQMD (Bay Area Air Quality Management District), 2001. *Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard*. October 24.

therefore be consistent with the applicable plans. As a result, the project would not conflict with or obstruct the implementation of the applicable air quality plans, and the impact would be *less than significant*.

Impact AQ-6. The project would not create objectionable odors affecting a substantial number of people. (Less than Significant)

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The project would not include these types of facilities or operations, and would not result in a new source of substantial odors.

During construction, diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary, and would not persist upon project completion. Therefore, the project would not create a significant source of new odors, and odor impacts would be *less than significant*.

Impact C-AQ-1. The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would not result in a cumulatively considerable contribution to a significant cumulative air quality impact. (Less than Significant)

By its very nature, air pollution is largely a cumulative impact. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, because the proposed project's construction (Impacts AQ-1 and AQ-2) and operational (Impacts AQ-3 and AQ-4) emissions would not exceed the project-level thresholds for criteria air pollutants, the proposed project would not be considered to result in a cumulatively considerable contribution to regional air quality impacts.

The project's incremental increase in localized toxic air contaminant emissions resulting from new vehicle trips and a back-up generator would be minor and would not contribute substantially to cumulative toxic air contaminant emissions. Moreover, there are no sensitive receptors within 1,000 feet of the project site.

Therefore, the project in combination with other cumulative projects would not have a significant cumulative impact on air quality.

E.8 Greenhouse Gas Emissions

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
8. GREENHOUSE GAS EMISSIONS					
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	☐
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	☐

Approach to Analysis

GHG emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed to and will contribute to global climate change and its associated environmental impacts.

CEQA Guidelines Section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. The following analysis of the proposed project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Given that the analysis is in a cumulative context, this section does not include an individual project-specific impact statement.

Impact C-GG-1. The project would not generate greenhouse gas emissions, either directly or indirectly, at levels that would result in a significant impact on the environment. (Less than Significant)

The project would generate direct and indirect GHG emissions during project construction and operational phases.

Construction GHG emission sources include off-road construction equipment and on-road vehicles. Construction-related GHG emissions would be limited due to the short construction period and size of the project site and structures developed; and emissions would cease at the end of the construction period. BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions.

Nevertheless, due to the limited activity and construction duration, GHG emissions during construction would be *less than significant*.

Operation of the project would generate GHG emissions from vehicle trips for maintenance and routine backup generator testing. Maintenance would be required approximately once every 1 to 3 months, and would involve vehicle trips to the station, and calibrating instruments or using hand tools to repair elements of the equipment. No permanent staffing would be needed. The BAAQMD significance threshold for land use projects is 1,100 metric tons per year of carbon dioxide equivalents. BAAQMD has developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether a proposed project could result in potentially significant GHG impacts. If a project meets the screening criteria (i.e., is below the screening size), the project would not be expected to exceed the BAAQMD significance thresholds. The total project size is less than 1 acre. For comparison, BAAQMD's operational GHG screening size for a general light industrial project is 121,000 square feet (2.78 acres) of building square footage. The general light industrial land use type would be a conservatively comparable project type, because the proposed project would involve operational activity that would be anticipated to be less intense than operations of a general light industrial project. The total project building square footage would be even less than the total project area, because limited structures would be developed on the project site. In addition, operation and maintenance activity would be infrequent and very limited in nature. Based on the size of the site and the limited operational activity, project operations would not generate substantial emissions that would exceed BAAQMD's significance threshold; therefore, impacts would be *less than significant*.

Impact C-GG-2. The project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

The applicable GHG plans for the proposed project are the AB 32 Scoping Plan, which describes the approach that California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020; and regional and local plans that are specific to the project site locations. SFPUC has also developed a departmental Climate Action Plan in accordance with the San Francisco Greenhouse Gas Reduction Ordinance No. 81-08, and most recently published the SFPUC Climate Action Plan Annual Report in 2014. The report describes the SFPUC's GHG emissions and activities to reduce GHG emissions. These activities include the use of alternative and high-efficiency SFPUC vehicles, installation of solar and renewable energy projects, and implementation of water efficiency and conservation practices.

The Montara Mountain site is located in San Mateo County, and under the jurisdiction of the BAAQMD. The BAAQMD's most recent air quality plan, the 2017 Clean Air Plan, includes a goal of reducing GHG emissions to 1990 levels by 2020, and 40 percent below 1990 levels by 2035. In addition, BAAQMD established a climate protection program[59] to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and encourage development of alternative sources of energy, all of which assist in reducing GHGs. San Mateo County adopted the San Mateo County Energy Efficiency Climate Action Plan (EECAP)[60] in June 2013. The EECAP focuses on energy efficiency and GHG reductions for development projects, and includes a checklist of GHG reduction measures to assist in identifying consistency with the EECAP. The project would not conflict with the EECAP, because the project would not induce substantial population growth or interfere with implementation of these reduction measures.

The project would be consistent with applicable local plans, policies, and regulations for GHGs, and would not conflict with the provisions of AB 32, the applicable air quality plan, or any other state or regional plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Therefore, the project would result in *less-than-significant* project-specific and cumulative impacts with respect to GHG emissions.

[59] BAAQMD (Bay Area Air Quality Management District), 2015. Climate Protection Program. Available online at. http://www.baaqmd.gov/plans-and-climate/climate-protection/climate-protection-program. Accessed October 2015.

[60] San Mateo County, 2013. *San Mateo County Energy Efficiency Climate Action Plan*. June.

E.9 Wind and Shadow

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
9. WIND AND SHADOW					
Would the project:					
a) Alter wind in a manner that substantially affects public areas?	☐	☐	☐	☒	☐
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	☐	☐	☐	☒	☐

Impact WS-1. The project would not alter wind in a manner that substantially affects public areas. (No Impact)

There are no outdoor recreation facilities at any of the sites; however, there are public trails in proximity to the Montara Mountain site. Although there are public trails in the vicinity, the proposed project would not substantially alter the wind patterns on these trails due to the relatively low height and small footprint of each of the proposed structures. For these reasons, the project would have *no impact* on wind in public areas surrounding the proposed sites.

Impact WS-2. The project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas. (No Impact)

As described above, there are no outdoor recreation facilities; however, there are public trails in proximity to the Montara Mountain site. Although there are public trails in the vicinity, the proposed project would not create significant new shadow on these trails due to the relatively low height and small footprint of the proposed structures. For these reasons, the project would have *no impact* on shadow in public areas surrounding the site.

Impact C-WS. The project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative wind or shadow impact. (No Impact)

As stated above, the implementation of the proposed project would not result in any project-specific wind or shadow impacts. Therefore, the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute to cumulative impacts related to this resource topic (*no impact*).

E.10 Recreation

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
10. RECREATION					
Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	☐	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☐	☒
c) Physically degrade existing recreational resources?	☐	☐	☒	☐	☐

The project involves the installation of radar and radio system equipment; it would not have the potential to increase the use of neighborhood parks, regional parks, or other recreational facilities. Additionally, the project does not propose the construction of new recreational facilities or require the expansion of existing recreational facilities. Therefore, criteria 10(a) and 10(b) are *not applicable* to this project, and are not discussed further in this section.

Impact RE-1. The project would not physically degrade existing recreational resources. (Less than Significant)

The Montara Mountain site is at the western boundary of the SFPUC Peninsula Watershed, immediately adjacent to the GGNRA property, Rancho Corral de Tierra. North Peak Access Road winds through Rancho Corral de Tierra and is used by recreationists as a public trail to access several peaks in the GGNRA property. The road is also used to access the project site at the North Peak of Montara Mountain. The short road leading up to the existing communications facilities and the project site from North Peak Access Road is not an official public trail; nevertheless, it is very popular. The nearest official public trail is 150 feet southwest of the project site. Although North Peak Access Road would be used for construction access and material delivery through the Peninsula Watershed, this use would be infrequent and temporary. Construction and staging activities would be confined to the SFPUC-owned property, and no trail closures would be implemented. Therefore, impacts on recreational resources at the Montara Mountain site would be *less than significant*.

Due to the project site's close proximity to public trails, minor, permanent impacts to the visual character of the areas and minor temporary impacts from construction noise could affect recreationists; these impacts are further analyzed in Section E.2, Aesthetics, and Section E.6, Noise, respectively, and would be *less than significant*.

Impact C-RE. The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project sites, would not result in a cumulatively considerable contribution to a significant cumulative impact related to recreation. (Less than Significant)

The geographic scope for cumulative recreation impacts includes the project site, immediate vicinity, and other nearby recreational facilities. Cumulative recreation impacts could occur if the projects identified in Table 2 would result in the physical degradation of recreational resources. Similar to the proposed project, the identified cumulative projects could have minor and localized impacts on recreational resources from construction access and activity, but these impacts would be temporary and would not be expected to substantially degrade recreational resources. Therefore, the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project sites, would result in *less-than-significant* cumulative impacts on recreation.

E.11 Utilities and Service Systems

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
11. UTILITIES AND SERVICE SYSTEMS					
Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒	☐
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	☐	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒	☐

The proposed project involves the construction of radar, radio, and data transmission equipment and would not necessitate a connection to permanent water or wastewater facilities. During construction, water demands would be met by trucking water to the site. Portable toilet facilities would be provided for the workers. There are no associated needs for water and wastewater treatment during the operation or maintenance activities. Therefore, significance criteria 11(a), 11(b), 11(d), and 10(e) are *not applicable* to this project, and are not discussed further in this section.

Impact UT-1. The proposed project would not require new stormwater drainage facilities or the expansion of existing facilities, the construction of which could result in significant environmental effects. (No Impact)

The ground surface at the project site would be disturbed by construction activities. As discussed in Section E.15, Hydrology and Water Quality, the project construction would adhere to SFPUC's construction BMPs to manage stormwater runoff and minimize stormwater runoff impacts. Section E.15 also explains that because the project site is less than 1 acre, a National Pollutant Discharge Elimination System Construction General Permit would not be required, thereby negating the requirement for a stormwater pollution prevention plan.

As discussed in Impact HY-1, once the radar and radio systems are constructed, the site would have additional new permanent impervious surfaces, which include small concrete pads to support tower and building foundations and equipment. Gravel fill would be positioned around these new impervious surfaces to minimize an increase in runoff rates. The project does not require the construction of new stormwater drainage facilities or the expansion of existing facilities. Therefore, the proposed project would have *no impact* on the environment from the construction of new or the expansion of existing drainage facilities.

Impact UT-2. The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

San Mateo County is subject to the California Integrated Waste Management Act, AB 939, which requires each local jurisdiction in the state to meet a 50 percent diversion rate by 2000. Many counties in California adopted policies and ordinances to increase these diversion rates further. San Mateo County Ordinance No. 4099 requires that 100 percent of inert solids (including sand and soil) and 50 percent of the remaining construction debris must be directed to a reuse or recycling facility approved by the County.[61]

As described in Section A, Project Description, the amount of material that would be excavated and hauled offsite is expected to be small, due to the relatively minor extent of grading and excavation. During construction, the proposed project would generate a total of approximately 10 cubic yards of excavated material that would be reused onsite. Other wastes, such as removed vegetation, may be transported to a

[61] San Mateo County Municipal Code. "Chapter 4.105-Recycling and Diversion of Debris from Construction and Demolition." Available online at. https://www2.municode.com/library/ca/san_mateo_county/codes/code_of_ordinances?nodeId=TIT4SAHE_CH4.105REDIDECODE_4.105.030DIRE. Accessed April 2016.

nearby landfill, such as the Ox Mountain Sanitary Landfill in Half Moon Bay, California (San Mateo County).

The generation of nonhazardous solid waste (aside from soils) such as empty containers, packaging waste from construction materials, and miscellaneous wastes generated by the workers onsite, would occur during construction. Disposal of nonhazardous wastes would be subject to and would comply with San Mateo Ordinance No. 4099, and all other applicable statutes and regulations related to nonhazardous solid waste. Multiple regional disposal facilities are available to serve the project's nonhazardous recycling, reuse, and waste disposal needs in San Mateo County. Such wastes would be hauled off site to an approved landfill, where materials would be reused, recycled, or disposed in accordance with facility guidelines, and are not predicted to exceed the capacity of local landfills.

Because permanent staff would not be at the site during operation, the generation of operational wastes is not expected. It is not anticipated that maintenance activities would produce waste. For these reasons, the construction, operation, and maintenance solid waste disposal impacts of the proposed project would be *less than significant*.

Impact UT-3. The project would comply with federal, state, and local statutes and regulations related to solid waste. (No Impact)

As discussed above in Impact UT-2, this project would generate only small quantities of waste during construction. Therefore, no substantial effects on regional landfill capacity are projected. The implementation of this project would not conflict with applicable statutes and regulations associated with the generation of solid waste. The proposed project activities would be required to adhere to all applicable regulations regarding solid waste, such as AB 939, referred to as the California Integrated Waste Management Act of 1989. This bill established a 50 percent diversion rate for waste being discarded into California landfills by 2000 through recycling, source reduction, and waste management.[62] As mentioned above in Impact UT-2, in addition to complying with the statewide California Integrated Waste Management Act, San Mateo County has construction and demolition Ordinance No. 4099, which has a goal of diverting 100 percent of inert solids and diverting 50 percent of the remaining construction debris. By coordinating with local recycling and reuse facilities, the excavated soils would be beneficially reused

[62] SFPUC ((San Francisco Public Utilities Commission)), 2013. Construction Best Management Practices Handbook. August 2013.

in San Mateo County. Therefore, the project would be consistent with San Mateo Ordinance No. 4099, and all other applicable statues and regulations related to solid waste.

During operation and maintenance, this project is not expected to generate waste. Therefore, the project would be in compliance with all applicable local, state, and federal laws and regulations related to solid waste, and the project would have *no impact* with regard to solid waste management.

Impact C-UT. The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative impact on utilities and service systems. (Less than Significant)

The geographic scope of the cumulative impacts analysis for utilities and service systems consists of the project area, its immediate vicinity, and the service areas of regional service and utility providers. The proposed project, the Pilarcitos Dam and Reservoir Improvements Project, and the Miscellaneous Maintenance Projects around Montara Watershed (listed in Table 2) would produce wastes that would necessitate offsite disposal. The majority of the construction waste would be excavated soil, which would be beneficially reused by recycling and reuse facilities in San Mateo County, in accordance with county regulations. The remaining construction wastes would not exceed available landfill capacity in the area. Therefore, the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would result in *less-than-significant* cumulative impacts on utilities and service systems.

E.12 Public Services

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
12. PUBLIC SERVICES					
Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	☐	☐	☐	☒	☐

Impact PS-1. The project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities. (No Impact)

The proposed project would not cause a permanent increase in the local population; therefore, there would be no need to expand any governmental facilities, including schools and parks. The construction duration is expected be short, with a small construction crew (for full construction schedules, please see Section A.6, Construction Activities and Schedule). The potential exists for incidents during construction; however, it is expected that any such problems could be accommodated by existing local service providers without the need to physically expand their facilities.

During operation, there would be no permanent staff at the proposed facility. The facility would be secured by fencing, and operation of the radar and radio equipment would not be considered a high-fire-risk use. Therefore, there would be no permanent increased demand on police and fire services. Maintenance is only expected to occur every 1 to 3 months. If an emergency arises, it is assumed that potential issues would not exceed the capacity of the local police, fire, or emergency services during maintenance activities.

Construction and operation of this project are not anticipated to increase demand on local fire protection, police protection, or other services. The project would not affect the long-term service ratios, response times, or other performance objectives for any public services. Consequently, there would be *no impact* related to the potential need for new or expanded public services facilities.

Impact C-PS. The project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative public services impact. (No Impact)

Implementation of this project would not contribute to any cumulative public service impacts because the proposed project would not increase the demand for any public services, or affect the long-term service ratios, response times, or other performance objectives for any public services. Therefore, the project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in significant cumulative impacts on or relative to the provision of public services (*no impact*).

E.13 Biological Resources

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
13. BIOLOGICAL RESOURCES					
Would the project:					
a) 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?	☐	☒	☐	☐	☐
b) 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?	☐	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐	☐

Approach to Analysis

Baseline conditions for biological resources at the project site are documented in the project's Biological Resources Report,[63] and biological resource surveys,[64] and are summarized in this section. Baseline

[63] BioMaAS, Inc., and URS, 2016. Advanced Rainfall Prediction Project Biological Resources Report. November.

[64] SFPUC, Scott Simono, 2019. Summary of Biological Surveys Performed for proposed Advanced Quantitative Precipitation Information and Water Radio Replacement Project on the North Peak Summit of Montara Mountain. April 30.

biological conditions were assessed by qualified biologists through review of available literature and data, a general biological field investigation of the site, and focused or protocol-level surveys, as needed.

To develop a list of sensitive natural communities, special-status plants, and special-status wildlife potentially occurring in the vicinity of the project site, existing special-status species databases were reviewed. Database queries included all reported observations found in six U.S. Geological Survey (USGS) 7.5-minute quadrangles (quads) for the site. Because of its proximity to the Pacific Ocean, the project site did not have nine quads in the search area. The following data sources were used:

- USFWS Sacramento Field Office Web Site. An official list of federal candidate, proposed, threatened, and endangered species having the potential to occur in the quad search area.[65]
- California Natural Diversity Database (CNDDB). Using a quad search, a list was generated of federal and state special-status, proposed, threatened, and endangered species; California Department of Fish and Wildlife (CDFW)-designated sensitive natural communities; and California Native Plant Society (CNPS)-listed special-status plant species.[66]
- CNDDB Rarefind. A geographic information system mapping exercise of all occurrences within 10 miles of the project site, to include all special-status species occurrences reported in the vicinity.[67]
- CNPS Online Inventory of Rare and Endangered Plants of California. A list of CNPS special-status plant species that may occur in the project site vicinity was generated using a quad search (CNPS, 2014).[68]
- USFWS National Wetland Inventory[69] and USGS[70] – provided information and maps for potential aquatic features;

[65] USFWS (U.S. Fish and Wildlife Service), 2014a. Federal Endangered and Threatened Species. Accessed June 2014.

[66] CDFW (California Department of Fish and Wildlife), 2014. California Natural Diversity Database (CNDDB). Rarefind query of the USGS 7.5-minute quads nine quad review area. Rarefind Version 5. Wildlife and Habitat Data Analysis Branch. June 2014.

[67] CNDDB (California Natural Diversity Database), 2014. Biogeographic Data Branch, CDFW, 2014. RareFind3, Version 3.1.1. Commercial Version – dated June 3, 2014. Report printed on June 6, 2014. Sacramento, California.

[68] CNPS (California Native Plant Society), 2014. Rare Plant Program. CNPS Online Inventory of Rare and Endangered Plants (online edition, v8-02). Available online at. http://www.rareplants.cnps.org/. Accessed June 6, 2014.

[69] USFWS (U.S. Fish and Wildlife Service), 2014b. National Wetlands Inventory. Available online at. http://www.fws.gov.html. Accessed June 2014.

[70] USGS (U.S. Geological Survey), 2014. Coordinated effort between the United States Department of Agriculture-Natural Resources Conservation Service, the USGS, and the U.S. EPA. The Watershed Boundary Dataset was created from a variety of sources from each state, and aggregated into a standard national layer for use in strategic planning and accountability. Watershed Boundary Dataset for Sonoma and San Mateo counties, California. Available online at. http://datagateway.nrcs.usda.gov. Accessed June 3, 2014.

- USFWS Critical Habitat Portal[71] – provided information and maps of designated critical habitat.

More specifically, special-status species considered in this review included:

- Species listed or proposed for listing as threatened or endangered under federal ESA or California Endangered Species Act (CESA);
- Species considered as candidates for listing as threatened or endangered under the ESA or CESA;
- Species identified by CDFW as California Species of Special Concern (SSC);
- Animals fully protected in California under the California Fish and Game Code;
- Bald and golden eagles protected by the federal Bald and Golden Eagle Protection Act;
- Species that meet the definitions of rare or endangered species under Section 15380 of CEQA; and
- CNPS List 1B and 2 plants.

The initial field surveys evaluated the onsite habitat types, including the presence of waters of the state and waters of the United States, and the potential for occurrence of special-status plant and wildlife species. Survey areas, based on agency guidelines, around the core survey area (i.e., project site boundary) included the following: area needed for new access road or road improvements, a 100-foot buffer for coastal wetlands and nonavian wildlife species; a 250-foot buffer for bird nests; and a 500-foot buffer for raptor nests. The surveys were conducted on foot using meandering transects. Surveyors noted plant species, wildlife, and evidence of wildlife, including avian nests. In or near designated critical habitat, the surveyors evaluated the presence of primary constituent elements (such as potential breeding habitat or foraging habitat) and other habitat features in the survey area.

Wildlife and protocol-level rare plant surveys were then conducted for specific species that were deemed likely to occur. These surveys were conducted in March 2016 through June 2016, during the appropriate flowering periods for special-status plants, to maximize the potential for observations. Protocol-level rare plant surveys were conducted according to the survey protocols described by CDFW and CNPS. Reference population surveys were conducted to determine the phenology of rare plants and host plants prior to each survey. Plant surveys were conducted for host plants for special-status butterflies. Additional plant surveys were conducted between October 2018 and January 2019 to confirm earlier mapping and conduct additional mapping of butterfly host/nectar plants.

[71] USFWS (U.S. Fish and Wildlife Service), 2014c. Critical Habitat Portal. Available online at. http://www.fws.gov.html. Accessed June 2014.

Plant and wildlife species and habitat features observed during surveys conducted to date at the site are shown in Figures 5a and 5b.

Special-Status Plants, Wildlife, and Sensitive Habitats

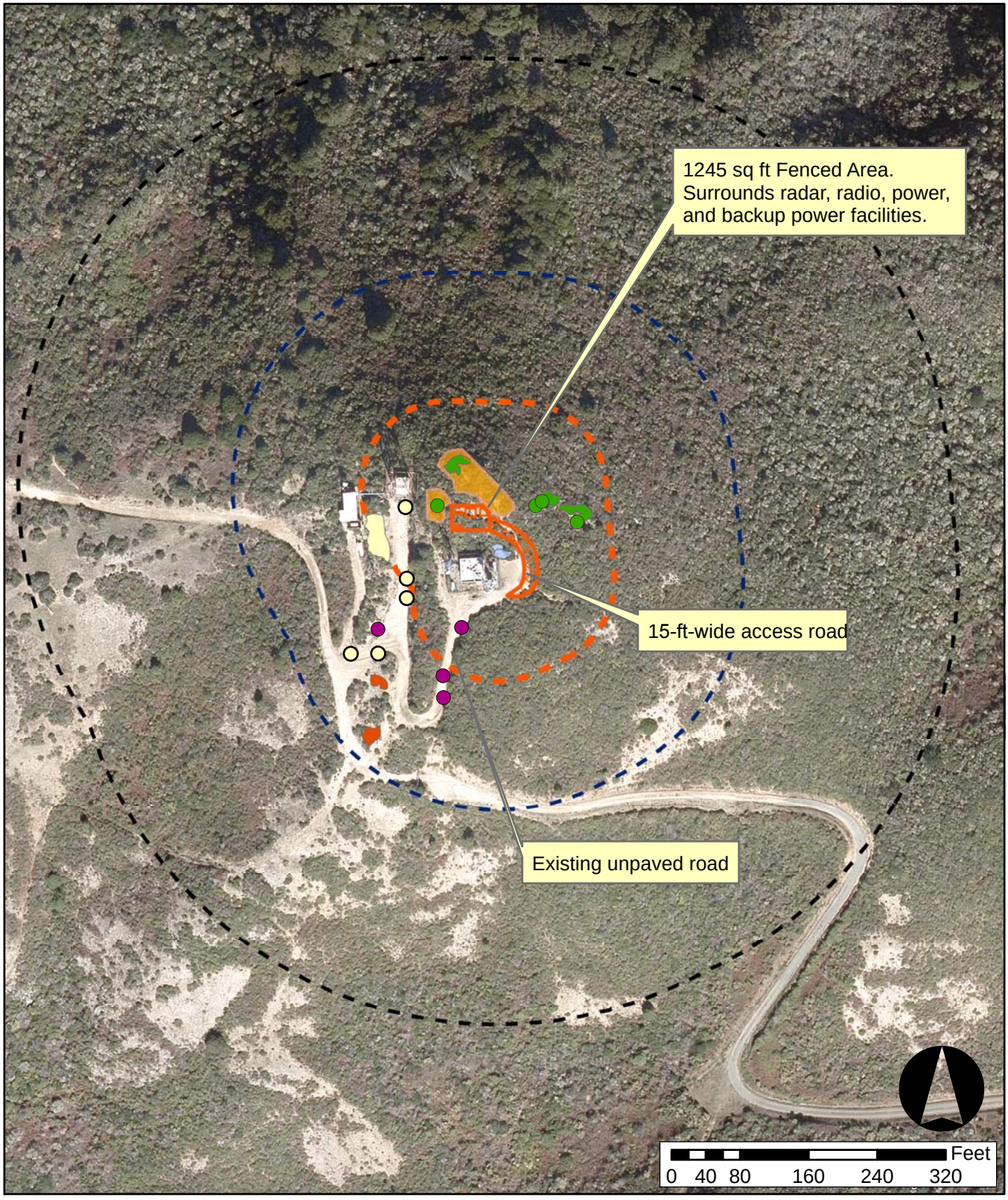
The findings of the background review and field surveys presented in the Biological Resources Report were used to determine the potential for special-status plants, wildlife, sensitive habitats, and wetlands to be present at the project site. Several special-status species have the potential to occur at the project site, as provided in Table 5, which also includes information regarding the location of designated critical habitat for federally listed species in relation to the project site.

Wetlands, Waters, and Natural Resource Management Plans

There were no wetlands or other aquatic features observed in the survey area of the Montara Mountain site.

The Montara Mountain site is in the PWMP area.[72] Species managed under this plan include nine rare, threatened, or endangered species. These species and habitats include three species of butterflies, San Francisco garter snake, and California red-legged frog. Implementation of the project at the Montara Mountain site is a covered activity under Sections 5.2 (stormwater management) and 5.16 (agency coordination and collaboration), and thus subject to the requirements of this plan, including a required assessment of natural and cultural resources (presented in this document), implementation of applicable BMPs and erosion control measures (included as part of the project description or the mitigation measures presented in this document), and the preservation of wildlife movement corridors (the project would not adversely impact wildlife movement).

[72] San Francisco Planning Department, 2001. *Peninsula Watershed Management Plan Final Environmental Impact Report*. File No. 96.222E. State Clearinghouse No. 98082030. Available online at. http://www.sfwater.org/Modules/ShowDocument.aspx?documentID=4343. Accessed August 2014.



Source: AECOM, 2016; Coast Ridge Ecology, 2018; SFPUC, 2018 and 2019. Background image from San Mateo County GIS Team.

100-ft buffer for coastal wetlands & non-avian wildlife species

250-ft buffer for avian species

500-ft buffer for raptor nests

Lupinus variicolor

arctostaphylos montaraensis

plantago erecta

sedum spathuliofium

San Bruno Elfin Butterfly Foraging Habitat

lupinus arboreus sm tree lupine

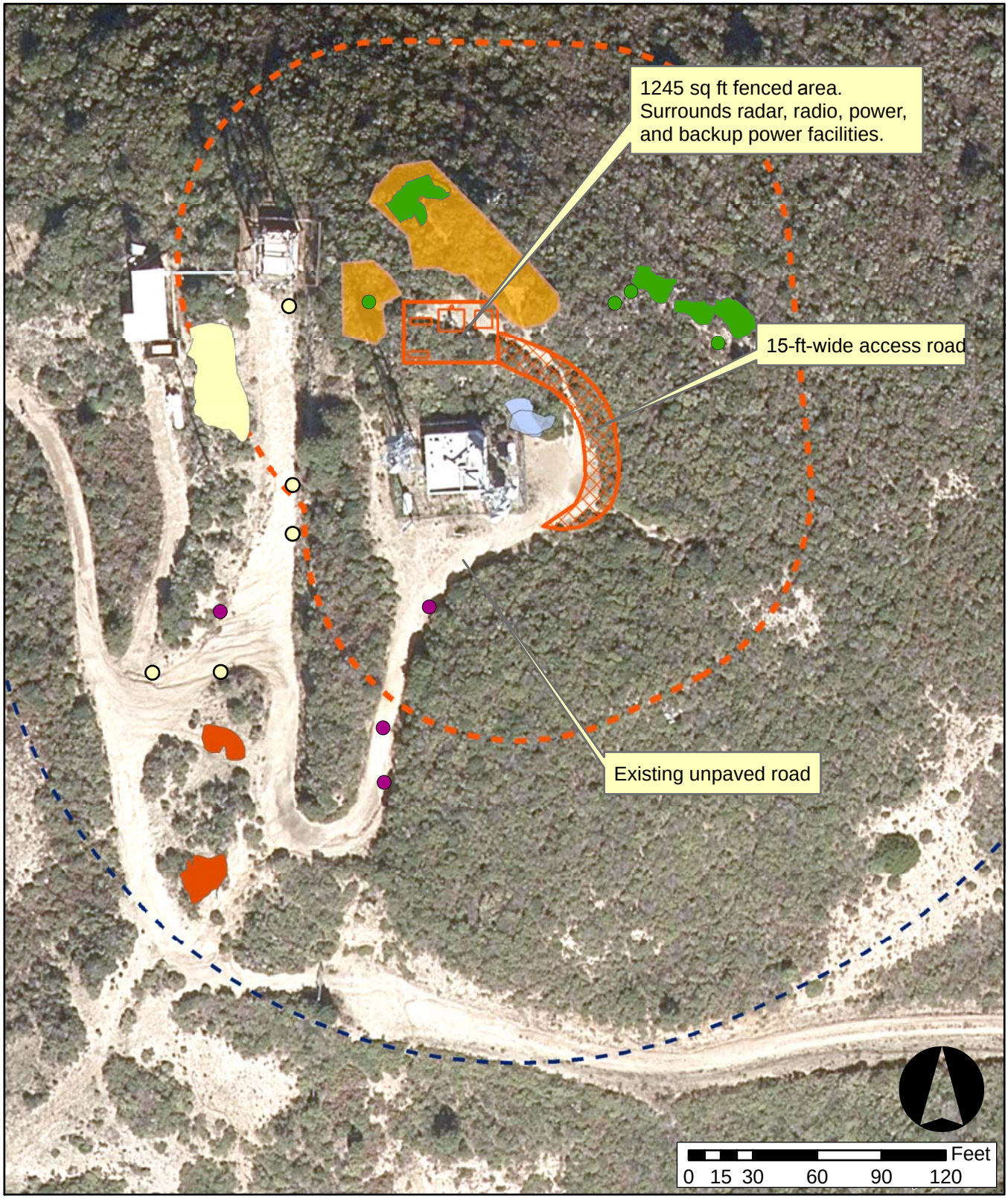
lupinus variicolor

sedum spathulifolium

Montara Mountain Biological Resource Survey Findings

Figure 5A

Note: Locations are approximate and are subject to inherent error in imagery and GPS horizontal accuracy.



Source: AECOM, 2016; Coast Ridge Ecology, 2018; SFPUC, 2018 and 2019. Background image from San Mateo County GIS Team.

- 100-ft buffer for coastal wetlands & non-avian wildlife species
- 250-ft buffer for avian species
- 500-ft buffer for raptor nests
- Lupinus variicolor
- arctostaphylos montaraensis
- plantago erecta
- sedum spathuliofium
- San Bruno Elfin Butterfly Foraging Habitat
- lupinus arboreus sm tree lupine
- lupinus variicolor
- sedum spathulifolium

Montara Mountain Biological Resource Survey Findings

Figure 5B

Note: Locations are approximate and are subject to inherent error in imagery and GPS horizontal accuracy.

Table 5
Special-Status Species with Potential to Occur at the Montara Mountain Site

Common and Scientific Name	Status	Habitat (General Description) Elevation (meters) Blooms (period)	Potential for Occurrence[1]
Special-Status Plants			
Davidson's bush-mallow *Malacothamnus davidsonii*	CNPS 1B.2	**Habitat.** Coastal scrub, riparian woodland, chaparral, cismontane woodland **Elevation.** 185 to 855 **Blooms.** Jun-Jan	**Possible**. An observation was recorded in 2009 within approximately 5 miles of the Montara Mountain quad by CNPS (2013, cn1420).
fragrant fritillary *Fritillaria liliacea*	CNPS 1B.2	**Habitat.** Coastal scrub, valley and foothill grassland, coastal prairie **Elevation.** 3 to 410 **Blooms.** Feb-Apr	**Possible.** SFPUC has recorded this species within approximately 3 miles (EONDX 6264).
Montara manzanita *Arctostaphylos montaraensis*	CNPS 1B.2	**Habitat.** Chaparral, coastal scrub **Elevation.** 150-500 **Blooms.** Jan-Mar	**Present.** This species was detected within the project site boundary during rare plant surveys.
Oregon polemonium *Polemonium carneum*	CNPS 2B.2	**Habitat.** Coastal prairie, coastal scrub, lower montane coniferous forest **Elevation.** 0 to 1,830 **Blooms.** Apr-Sep	**Possible.** Suitable habitat is present. Known occurrences recorded in the Pilarcitos Lake area within approximately 5 miles (CNPS, 2014, cn1429).

Table 5
Special-Status Species with Potential to Occur at the Montara Mountain Site

Common and Scientific Name	Status	Habitat (General Description) Elevation (meters) Blooms (period)	Potential for Occurrence[1]
San Francisco campion *Silene verecunda* ssp. *verecunda*	CNPS 1B.2	**Habitat.** Coastal scrub, valley and foothill grassland, coastal bluff scrub, chaparral, coastal prairie **Elevation.** 30 to 645 **Blooms.** Mar-Aug	**Possible.** Suitable habitat is present but is outside of the typical elevation range of the species. A Montara Mountain recorded occurrence in 1900 is within approximately 3 miles of site. A more contemporary occurrence comes from a ridge approximately 2 miles west of the site.
Special-Status Wildlife			
mission blue butterfly *Plebejus icarioides missionensis*	FE	Inhabits grasslands of the San Francisco peninsula. This species depends on the following host plants for its reproduction. varied, silver, and summer lupine.	**Possible.** Larval host plants (*Lupinis variicolor*) have been observed in the vicinity of the Montara Mountain site, and adult butterflies have been observed there. The nearest known breeding populations are approximately 2 miles northeast on Whiting Ridge Road, and about 3 miles southeast on the Perimeter Access Road.
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	Coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Dependent on stonecrop plants to complete its life cycle.	**Possible**. Suitable habitat is present in the vicinity of the Montara Mountain site, including a population of larval host plants (*Sedum spathulifolium*) and nectar plants (*Berberis pinnata*). Larvae were documented adjacent, but outside of, the project area in 2018. Critical habitat for this species has not been designated.
San Francisco tree lupine moth *Grapholita edwardsiana*	LCP	The San Francisco tree lupine moth is listed in the San Mateo County LCP. The larval stage is found on the tree lupine (*Lupinus arboreus*).	**Possible.** Four individuals of potential host plant (*Lupinus arboreus* var. *eximius*) were observed in the Montara Mountain survey area but not within the project footprint.
White-tailed kite *Elanus leucurus*	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Possible.** Suitable breeding habitat was not observed in or adjacent to the Montara Mountain site.

Table 5
Special-Status Species with Potential to Occur at the Montara Mountain Site

Common and Scientific Name	Status	Habitat (General Description) Elevation (meters) Blooms (period)	Potential for Occurrence[1]
Long-eared owl *Asio otus*	SSC	Nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands. Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas.	**Possible.** Suitable breeding habitat was not observed in or adjacent to the Montara Mountain site.
Loggerhead shrike *Lanius ludovicianus*	SSC	In California, Loggerhead Shrikes breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground.	**Possible.** Suitable foraging and breeding habitat is available in and adjacent to the project site. This species has been observed at Rancho Corral de Tierra.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	SSC	Prefers forest habitats with moderate canopy, year-round greenery, a brushy understory, and suitable nest building materials. Feeds mainly on woody plants, especially live oak, maple, coffeeberry, alder, and elderberry, when available (Linsdale and Tevis, 1951).	**Possible.** Suitable habitat is present, but no middens were observed in or adjacent to the site.
Pallid bat *Antrozous pallidus*	SSC	Roosts in caves, mine tunnels, crevices in rocks, bridges, buildings, and hollowed trees.	**Possible.** Rock crevices adjacent to the Montara Mountain site may provide suitable roost habitat for this species.
Hoary bat[2] *Lasiurus cinereus*	—	The hoary bat is the most widespread North American bat. Generally roosts in dense foliage of medium to large trees. Solitary species – winters along the coast and in southern California, breeding inland and north of the winter range. WBWG – Medium– Priority species.	**Possible.** Suitable roost habitat was not observed in or adjacent to the Montara Mountain site.

Notes:

[1] Potential for occurrence is defined using the following standard categories:

None – Habitat requirements do not occur in the project site.
Not Expected – Existing conditions or poor habitat quality make it unlikely that the species is present.
Possible– Suitable habitat is present, and documented occurrences have been recorded in the survey area or nearby.
Present – Species or species' sign was observed on the project site.

[2] Although not classified as federal or state special-status, this species is included in the table because it is considered a WBWG Priority Species.

Sources:

CNDDB (2014)
CNPS (2014)
USGS 7.5 Minute Quads (2014)
USFWS Endangered Species Portal (2014a)

Status Codes:

FEDERAL. (U.S. Fish and Wildlife Service)
FE = *Endangered* – Listed as being in danger of extinction.
FT = *Threatened* – Listed as likely to become endangered within the foreseeable future.
FP = *Proposed* – Officially proposed in the Federal Register for listing as endangered or threatened.
FC = *Candidate* – Candidate to become a proposed species.

STATE. (California Department of Fish and Wildlife)
SE = Endangered
ST = Threatened
SC = Candidate
SSC = Species of Special Concern
FP = Fully Protected Species
CR = Rare

WBWG = Western Bat Working Group – medium and high priority species
LCP = Species identified in Local Coastal Plan

CNPS California Rare Plant Ranks
1A. Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B. Plants Rare, Threatened, or Endangered in California and Elsewhere
2A. Plants Presumed Extirpated in California, But More Common Elsewhere
2B. Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3. Plants About Which More Information is Needed – A Review List
4. Plants of Limited Distribution – A Watch List Species

Impact BI-1. Construction of the project could 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 with Mitigation)

Project construction could have an adverse effect on one or more special-status species that have potential to occur at the project site, such as migratory birds and special-status wildlife and plant species, as noted in Table 5. The effects could be direct (e.g., harassment or take of an individual) or indirect (e.g., modifying existing habitat, disrupting foraging and nesting efforts, or interfering with movement). Construction activities that could cause direct impacts on special-status wildlife species include ground disturbance (e.g., grading and excavation) to accommodate the use of staging areas and access roads, the installation of radio, radar and data transmission systems, and the transportation of materials along project access roads. These activities would occur during the approximately 4- to 6-month construction period. As discussed in Section A.6.1, Access Road and Grading, approximately 2,000 square feet of vegetation would be cleared for installation of an access road and components at the project site. To properly assess the significance of Impact BI-1, potential impacts to specific resource types are discussed separately in Impacts BI-1a and BI-1b.

Impact BI-1a. Special-status plants and invertebrates – Construction of the project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status plant or invertebrate species and sensitive plant communities 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 with Mitigation)

The dominant habitat at the Montara Mountain site is Northern Maritime Chaparral with developed, bare, and ruderal areas in the survey area. The CNDDB search identified four sensitive natural communities potentially occurring in the quad search area of the Montara Mountain site, including Northern Maritime Chaparral; none of the other identified sensitive natural communities are present on the site. The area surrounding the project site was rich in plant species, and included host and nectar plants (i.e., varied-colored lupine [*Lupinus variicolor*], broadleafed stonecrop [*Sedum spathulifolium*]), and California barberry (*Berberis pinnata)*, for protected butterfly species such as the federally endangered mission blue butterfly (*Plebejus icarioides missionensis*) and the federally endangered San Bruno elfin butterfly (*Callophrys mossii bayensis*)[73]. Background research found that special-status plant species were documented on Montara

[73] *Lupinus variicolor* serves as larval host plant for the Mission blue butterfly. *Sedum spathulifolium* is the larval host plant for the San Bruno elfin butterfly. *Berberis pinnata* is the primary nectar plant species for the San Bruno elfin butterfly.

Mountain, and the survey area consists of suitable habitat for special-status plant species. Protocol-level surveys detected one sensitive plant species in the project site: Montara manzanita (*Arctostaphylos montaraensis*), a California Rare Plant Rank (CRPR) list 1B.2 species. Additionally, this site is within the range of two federally endangered butterfly species, the mission blue butterfly and the San Bruno elfin butterfly, and supports their host plants, as described above.

The project would not remove any host plants for the two federally endangered butterflies and thus would not result in direct mortality of larvae or pupae on the plant, nor would it remove any nectar plants used as food resources. Dust from construction activities could settle on host plants and degrade federally endangered butterfly habitat, although dust impacts would be reduced by implementation of dust control measures pursuant to SFPUC's Standard Construction Measures. Debris on construction equipment may introduce invasive plant seeds to the site, potentially leading to the loss of host plants or degradation of the Northern Maritime Chaparral sensitive community. Such impacts may have a significant impact on rare plants, special-status butterflies, and sensitive natural communities. Implementation of **Mitigation Measures M-BI-1a, General Mitigation Measures during Construction, M-BI-1b, Rare Plant Avoidance and Minimization of Impacts to Sensitive Communities during Construction, M-BI-1d, Avoidance and Protection for Special-Status Butterflies, M-BI-1g, Worker Environmental Awareness Program (WEAP) Training for Construction, and M-BI-1h, Onsite Biological Monitoring during Construction Activities,** would reduce the potential for such impacts to occur by implementing general measures during construction to prevent and minimize impacts on special-status species, establishing no-disturbance buffers around rare plants or butterfly host plants, avoiding construction during the adult flight periods (between February and July) of special-status butterflies if possible (no helicopter deliveries would occur during this period), preventing the introduction of invasive plants, conducting environmental awareness training for workers, and having an onsite biological monitor present to ensure that mitigation measures are properly implemented. If work must be completed during the adult flight periods of special-status butterflies, a qualified biological monitor shall be present during construction activities; the construction team shall temporarily cease work if one or more butterflies are observed in the work area, until the butterfly leaves the area, unless the biologist determines that work activities will not directly affect the individual(s); and the SFPUC or its contractor shall ensure that dust is controlled by watering down the construction area.

The U.S. Fish and Wildlife Service has reviewed the biological assessment and concurs with the determination that the project may affect, but is not likely to adversely affect, the federally endangered Mission blue butterfly and San Bruno elfin butterfly. The project is outside of designated critical habitat for the endangered butterflies.[74]

Removal of a small area of Northern Maritime Chaparral is unavoidable; however, this sensitive natural community is widespread in the vicinity of the site, and the footprint is largely situated on ground that is already disturbed by foot traffic from nearby trails.

With implementation of the proposed mitigation measures, impacts to these resources would not be significant (*less than significant with mitigation*).

Impact BI-1b. Other special-status wildlife species – Construction of the project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status mammal, reptile, or amphibian 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 with Mitigation)

San Francisco dusky-footed woodrats (*Neotoma fuscipes annectens*) may use this habitat around the project site, although no middens were observed in or adjacent to the site. Rock crevices or existing structures in the vicinity of this site may provide suitable roost habitat for pallid bats, although no signs of use were detected in focused surveys. Although not surveyed, sensitive habitat may also be located along Perimeter Road, which is the primary access road for SFPUC's watershed, and would be used to access the Montara Mountain site. Nesting birds may be present on and around the project site.

The Montara Mountain site is in California red-legged frog designated critical habitat; however, the project site does not provide suitable upland, dispersal, or breeding habitat for this species.

At the Montara Mountain site, grading and vegetation removal may also result in direct mortality of special-status wildlife that may be present, or may introduce invasive plants to the site, leading to altered habitat characteristics that would constitute a significant impact on such species, if they are present. Construction noise may also disturb nesting birds. Implementation of **Mitigation Measures M-BI-1a, General Mitigation Measures during Construction**, **M-BI-1c, Nesting Bird Survey and Protection during**

[74] U.S. Department of Interior Fish and Wildlife Service, 2018. Letter to Anny Byar, National Oceanic and Atmospheric Administration, Concurrence with Not Likely to Adversely Affect Determination for the Advanced Rainfall Prediction Project in San Mateo and Sonoma County, California. Jan 11.

Construction, **M-BI-1e, Preconstruction Survey and Midden Relocation for San Francisco Dusky-Footed Woodrat during Construction**, **M-BI-1f, Avoidance of Bat Roosts during Construction**, **M-BI-1g, Worker Environmental Awareness Program (WEAP) Training for Construction**, and **M-BI-1h, Onsite Biological Monitoring during Construction Activities,** would reduce the potential for such impacts to occur by implementing general measures during construction to prevent and minimize impacts on special-status species, conducting preconstruction surveys for nesting birds and San Francisco dusky-footed woodrat middens, establishing flagging at potential bat roosts, conducting environmental awareness training for workers, and having an onsite biological monitor present to ensure that mitigation measures are properly implemented. The U.S. Fish and Wildlife Service has reviewed the biological assessment and discussed follow-up project details regarding the presence of San Bruno elfin and Mission blue butterflies adjacent to the project area, and concurs with the determination that the project may affect, but is not likely to adversely affect, the federally threatened California red-legged frog and its critical habitat.[75,76] With implementation of the proposed mitigation measures, impacts to these resources would not be significant (*less than significant with mitigation*).

Mitigation Measure M-BI-1a. General Mitigation Measures during Construction

The SFPUC shall ensure that the following general measures are implemented by the contractor during construction to prevent and minimize impacts on special-status species:

- SFPUC shall provide environmental awareness training to all construction personnel prior to their starting work on the Project (see **Mitigation Measure M-BI-1g, Worker Environmental Awareness Program [WEAP] Training for Construction**).
- Project-related vehicles shall observe a 15-mile-per-hour speed limit on unpaved roads in the project site.
- No firearms or pets shall be allowed in the project site.
- The contractor shall provide closed garbage containers for the disposal of all food-related trash items. All garbage shall be collected daily from the project site and placed in a closed container

[75] Ibid.
[76] Green, Deborah, SFPUC Permit Manager, 2019. Communication with USFWS staff. March.

from which garbage shall be removed weekly. Construction personnel shall not feed or otherwise attract wildlife to the project site.

- Any vehicle or equipment maintenance shall be performed in the designated staging areas, and spill kits containing cleanup materials shall be available onsite.
- The spread of invasive non-native plant species shall be avoided or minimized by implementing the following measures:
  - All off-road construction equipment shall arrive at the project clean and free of soil, seed, and plant material to reduce the likelihood of introducing new weed species.
  - Certified weed-free imported erosion control materials (or rice straw in upland areas) shall be used exclusively.
  - To reduce the movement of invasive weeds into uninfested areas, the contractor shall stockpile topsoil removed during excavation (e.g., during grading of staging areas or excavation to accommodate installation of the temporary stair system and work platform) and shall subsequently reuse the stockpiled soil for re-establishment of disturbed project areas.

Mitigation Measure M-BI-1b. Rare Plant Avoidance and Minimization of Impacts to Sensitive Communities during Construction

Rare plants that have been identified within 15 feet of construction areas shall be avoided by the contractor by placing barrier fencing at least 5 feet from the population. A qualified biologist shall direct and inspect the placement of such fencing.

Impacts to sensitive communities (i.e., Northern Maritime Chaparral at the Montara Mountain site) shall be minimized by reducing vegetation clearing and ground disturbance to the maximum extent practicable. Prior to construction, the contractor shall place barrier fencing along the project footprint boundary to minimize encroachment into the sensitive community. A qualified biologist shall direct and inspect the placement of such fencing. Sensitive habitat may also be located along Perimeter Road, which is the primary access road for SFPUC's Peninsula Watershed and would be used to access the Montara Mountain site. Prior to construction, sensitive areas along the access road shall be flagged or

fenced, in coordination with Natural Resources and Land Management Division staff, so that these areas will be avoided by construction-related vehicle traffic.

Mitigation Measure M-BI-1c. Nesting Bird Survey and Protection during Construction

To protect nesting birds and their nests, the SFPUC shall retain a qualified wildlife biologist to conduct pre-construction surveys for nesting raptors and migratory birds prior to the commencement of construction activities that occur between March 1 and August 31 of any given year. The surveys shall be conducted a maximum of 14 days prior to the start of construction during the nesting season. The project area, plus, as allowed based on access by the property owner, a 500-foot survey area surrounding the project area, shall be surveyed for nesting raptors; a 150-foot survey area in addition to the project area shall be surveyed for other nesting birds. A nest is defined to be active for raptors if there is a pair of birds displaying reproductive behavior (i.e., courting) at the nest, and/or if the nest contains eggs or chicks. For other migratory birds and passerines, a nest is defined as active if the nest contains eggs or chicks. If no active nests are detected, no additional mitigation measures would be required.

If active nests are found during the pre-construction bird nesting survey, the wildlife biologist shall evaluate whether the schedule of construction activities could affect the active nest, and the following measures shall be implemented based on the biologist's determination:

- If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect, and may revise the determination at any time during the nesting season.

- If construction may affect the active nest, the biologist shall establish a no-disturbance buffer, taking into account the species involved, and whether the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e., adjacent to a road or active trail).

- No-disturbance buffers for passerines may be 25 feet or greater, and for raptors 300 feet or greater. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, or SSC), an SFPUC representative, supported by the wildlife biologist, shall consult with the USFWS and/or CDFW regarding appropriate nest buffers.

- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.

- Any birds that begin nesting in the project area and survey buffers during construction are assumed to be habituated to construction-related or similar noise and disturbance levels, and no work exclusion zones shall be required.

Mitigation Measure M-BI-1d. Avoidance and Protection for Special-Status Butterflies

Host plants for endangered, threatened, and rare butterflies were observed around the Montara Mountain site. To avoid and minimize disturbance to these communities, the following actions shall be implemented prior to any activities involving ground disturbance or vegetation clearing:

- Place flagging around populations and/or individual plants to prevent accidental damage; and

- Conduct work in August through January, outside of the adult flight season of such butterfly species. If work must be done during the adult flight season (February through July), then the following measures shall be implemented:

  – A qualified biologist who is familiar with local endangered, threatened, and rare adult butterflies shall be present during construction activities during the flight season in areas identified as dispersal habitat. If one or more adult butterflies are observed in the work area, work activities shall temporarily cease, until the butterfly leaves the area, unless the biologist determines that work activities will not directly affect the individual(s).

  – The SFPUC or its contractor shall ensure that dust is controlled during construction by periodically watering down construction areas within 100 feet of butterfly habitat, as necessary. Watering down the construction area should prevent dirt from becoming airborne and accumulating on larval host plants and adult food source plants.

Mitigation Measure M-BI-1e. Preconstruction Survey and Midden Relocation for San Francisco Dusky-Footed Woodrat during Construction

The SFPUC shall ensure that a qualified biologist conducts a survey for woodrat middens (i.e., nests) within all limits of construction prior to the initiation of clearing or grading. To avoid and minimize disturbance to this species, the following actions shall be implemented:

- Conduct surveys for woodrat nests approximately 1 month prior to construction, so that any middens requiring removal can be addressed before construction.
- If no middens are found in such areas, no further action would be required.
- If middens are found and can be avoided, barrier fencing shall be placed at least 2 feet from the midden, to avoid disturbance.
- If the middens cannot be protected and/or avoided, the following methods are recommended for relocation of the woodrat middens:
  - A qualified biologist shall disassemble the middens and relocate woodrats out of the construction area (using a passive approach or live traps) prior to the start of construction.
  - The biologists shall attempt to relocate the disassembled midden to the same area where the woodrats are released.
  - Woodrats breed predominantly in late winter and spring (January to May), and every effort shall be made to schedule active relocation efforts in the late spring to fall months, outside of the breeding season.
  - In the event that relocation efforts cannot be scheduled outside of the breeding season, all stick nests shall be carefully dismantled under the supervision of a qualified biologist; the entire stick nest site, including the aboveground stick nest and the belowground basement area, shall be carefully examined, and the basement filled in, to ensure that no adult or young-of-the-year woodrats are present. If young are encountered during dismantling of the nest, the material shall be replaced and the biologist shall return within approximately 24 hours to see if the young have been relocated. If the young have not been relocated, the biologist shall make an age determination and return when it is likely that the young have been weaned, to determine occupancy.

Mitigation Measure M-BI-1f. Avoidance of Bat Roosts during Construction

Prior to construction at the Montara Mountain site, a qualified biologist shall survey the project surroundings for the presence of potential bat roosts within rock outcrops containing crevices that are within 50 feet of the construction footprint. If special-status bat roosts or a maternity roost are found

in this area, flagging shall be placed by a qualified biologist to ensure that disturbance to the site does not occur.

Mitigation Measure M-BI-1g. Worker Environmental Awareness Program (WEAP) Training for Construction

A project-specific WEAP training shall be developed by a qualified biologist for the project, and attended by all construction personnel prior to beginning work onsite. As part of the training, brochures may be given to provide reference material to contractors. The training may be provided by the qualified biologist or by designated SFPUC staff trained by the biologist to provide this training using the materials developed by the qualified biologist. The WEAP training shall generally include, but not be limited to, the following:

- Applicable state and federal laws, environmental regulations, project permit conditions, and penalties for non-compliance;
- Special-status plant and wildlife species with potential to occur at or in the vicinity of the project site, avoidance measures, and a protocol for reporting the discovery, harm, injury, or mortality of any such species, including a detailed communication chain;
- Pre-construction surveys and biological monitoring requirements associated with each phase of work;
- Known sensitive resource areas in the project vicinity that are to be avoided and/or protected, as well as approved project work areas; and
- BMPs and their location on the project site for erosion control and/or species exclusion.

Mitigation Measure M-BI-1h. Onsite Biological Monitoring during Construction Activities

A qualified biological monitor shall be onsite during initial ground disturbance (i.e., vegetation removal, grading of work areas, and installation of construction exclusion fencing and/or silt fencing). Following these activities, the biological monitor shall conduct weekly site visits throughout the duration of project construction to ensure implementation of and compliance with project mitigation measures, such as inspecting the integrity of any exclusion construction fencing (including sensitive habitat that is flagged or fenced along Perimeter Road).

The biological monitor shall have authority to stop construction activities and develop alternative work practices, in consultation with SFPUC construction personnel and resource agencies, if construction activities could have an imminent adverse effect on special-status species or other sensitive biological resources.

Only the qualified biological monitor shall relocate listed species that may enter work areas outside of the project site boundaries. Federally and state-listed species shall be relocated by qualified biologists as authorized by the USFWS and CDFW. If a special-status species enters the project site while the qualified biological monitor is not on site, the construction supervisor shall stop all work within the vicinity of the individual and contact the SFPUC project construction manager. SFPUC construction personnel shall attempt to allow the individual to leave the work area of its own volition (i.e., temporarily remove the exclusion fence so that the individual can exit). If not feasible, the SFPUC project construction manager shall contact a qualified biological monitor to relocate the species. If relocation is not timely or feasible, the construction supervisor shall monitor the individual, and no work shall recommence until the special-status species moves beyond the active work area on its own accord.

Impact BI-2. The operation of the project would not 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)

Operation of the proposed radio, radar and data transmission systems would involve periodic access of the site by vehicle, calibrating instruments, or using hand tools to repair elements of the equipment. None of these activities would create a substantial adverse effect on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Therefore, the proposed project's operational impacts on special-status species would be *less than significant*.

Impact BI-3. The project could 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. (Less than Significant with Mitigation)

The findings of the background review and field surveys presented in the Biological Resources Report identified one sensitive natural community (Northern Maritime Chaparral) at the Montara Mountain site.

Debris on construction equipment may introduce invasive plant seeds to the site, potentially leading to the loss of host plants or degradation of the Northern Maritime Chaparral sensitive community, constituting a significant impact on this sensitive natural community. Implementation of **Mitigation Measures M-BI-1a, General Mitigation Measures during Construction, M-BI-1b, Rare Plant Avoidance and Minimization of Impacts to Sensitive Communities during Construction, M-BI-1g, Worker Environmental Awareness Program (WEAP) Training for Construction, and M-BI-1h, Onsite Biological Monitoring during Construction Activities,** would reduce the potential for such impacts to occur by implementing general measures during construction to prevent and minimize impacts on special-status species, preventing the introduction of invasive plants, minimizing disturbance to sensitive communities, and having an onsite biological monitor present to ensure that mitigation measures are properly implemented. Removal of a small area of Northern Maritime Chaparral is unavoidable at the Montara Mountain site; however, this sensitive natural community is widespread in the vicinity of the site, and the footprint is largely situated on ground that is already disturbed by foot traffic from nearby trails. With implementation of the proposed mitigation measures, impacts to this sensitive community would not be significant (*less than significant with mitigation).*

Impact BI-4. The project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (No Impact)

Field surveys conducted for the proposed project did not identify any wetlands or waters at the project site. The project construction activities would not encroach on wetlands or other waters of the United States. No removal, filling, hydrological interruption, or other direct impacts to federal- or state-regulated wetlands or other waters are anticipated. Therefore, the project would have *no impact* on wetlands or waters.

Impact BI-5. The project would not 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. (No Impact)

The project construction would be on upland hilltop areas away from waterways. Based on the location of the project site and the relatively small scale of the proposed improvements, the project would not create any barriers to the movements of terrestrial or flying animals. In addition, the project would not substantially change existing noise or lighting conditions that could adversely affect the movement of

wildlife. Therefore, the project would have *no impact* on the movement of wildlife species and would not impede the use of native wildlife nursery sites.

Impact BI-6. The project could conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (Less than Significant with Mitigation)

The Montara Mountain site is in the SFPUC's PWMP area. As described in Section C, Compatibility with Existing Zoning and Plans, the project would not conflict with the primary or secondary goals of the PWMP, and this analysis presumes that the SFPUC would implement the project in a manner consistent with the requirements of the PWMP (see Section C.2.3, Peninsula Watershed Management Plan, above). No tree removal or trimming of heritage trees as classified by San Mateo County Ordinance Number 2427 (Regulation of the Removal and Trimming of Heritage Trees on Public and Private Property) would occur.

Potential significant impacts to the biological resources protected under the PWMP are described above in **Impacts BI-1** and **BI-2**. These types of direct and indirect impacts would be minimized to less-than-significant levels through the implementation of **Mitigation Measures M-BI-1a** through **M-BI-1h**, described above.

Compliance with regulatory requirements and implementation of the mitigation measures identified above would ensure that the proposed project would not conflict with any local policies or ordinances protecting biological resources (*less than significant with mitigation)*.

Impact C-BI. The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project sites, could result in a cumulatively considerable contribution to a significant cumulative impact to biological resources. (Less than Significant with Mitigation)

The improvements to existing SFPUC facilities in the Peninsula Watershed, which are in the vicinity of the Montara Mountain site, are the only reasonably foreseeable projects in close proximity to the project sites. These improvements would entail ground-disturbing activities that may have impacts to biological resources. In the absence of mitigation measures and regulatory controls, the primary cumulative effect of these projects and the proposed project on biological resources would be to alter the extent of natural habitats in the area through ground-disturbing activities, to disturb important wildlife behaviors such as nesting, or to result in injury of special-status wildlife, which could result in significant impacts. However,

as with the proposed project, such facility improvements would be conducted in accordance with the PWMP and the SFPUC Standard Construction Measures, which include provisions to protect biological resources. Furthermore, impacts of the proposed project would be avoided or minimized with implementation of **Mitigation Measures M-BI-1a** through **M-BI-1h**. Therefore, the proposed project, as mitigated, in conjunction with past, present, and reasonably foreseeable future projects in the vicinity of the project site would not have significant cumulative impacts on biological resources (*less than significant with mitigation*).

E.14 Geology and Soils

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
14. GEOLOGY AND SOILS					
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)					
ii) Strong seismic ground shaking?					
iii) Seismic-related ground failure, including liquefaction?					
iv) Landslides?					
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☒	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☐	☒
f) Change substantially the topography or any unique geologic or physical features of the site?	☐	☐	☐	☐	☒
g) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐	☐

The project would not include use of septic tanks or alternative onsite wastewater disposal systems; and there are no designated unique geologic or physical features on or in the vicinity of the project site. For these reasons, criteria 14(e) and 14(f) are *not applicable*, and are not discussed further in this section.

Impact GE-1. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving rupture of a known earthquake fault, seismic groundshaking, seismically induced ground failure, or landslides. (Less than Significant)

Fault Rupture

The major active faults in the area are the San Andreas and San Gregorio faults, both of which are identified under the Alquist-Priolo Earthquake Fault Zone Act of 1972.[77] The San Andreas fault zone is approximately 3 miles east of the Montara Mountain site and the San Gregorio fault zone is approximately 3 miles southwest of the Montara Mountain site. Minor faults in the area include the Pilarcitos fault, which is approximately 1 mile east of the Montara Mountain site.[78,79]

Although active faults are present within 1 mile of the project site, the project site is not in earthquake fault zones, as defined by the Alquist-Priolo Earthquake Fault Zones;[80] and no known active or potentially active faults exist at the project sites. Based on the distance of the project site from active faults and the types of structures and construction activities proposed, the project would not be expected to increase risks, including the risk of loss, injury, or death, associated with fault rupture (*no impact*).

Groundshaking

During a major earthquake on a segment of one of the faults near the project site, strong to very strong shaking is expected to occur.[81] The intensity of the earthquake ground motion would depend on the characteristics of the generating fault; distance to the earthquake epicenter; magnitude and duration of the earthquake; and specific site geologic conditions.

Installation of radar and radio structures without proper investigation of soil conditions and engineering assessment could result in a potentially significant impact related to soil instability. Installation of other proposed facilities, such as equipment building and appurtenant structures, are not anticipated to be affected by potential soil instabilities. Structures would be designed according to basic guidelines of the

[77] California Geological Survey, 2007. Seismic Hazard Zone Maps database. Available online at. http://www.quake.ca.gov/gmaps/WH/regulatorymaps.htm. Accessed September 2, 2015.

[78] USGS (U.S. Geological Survey) and California Geological Survey, 2006. Quaternary fault and fold database for the United States. Available online at. http//earthquakes.usgs.gov/regional/qfaults. Accessed August 28, 2015.

[79] Association of Bay Area Governments, Interactive Seismic Hazard Maps. http://quake.abag.ca.gov/earthquakes. Accessed September 2015.

[80] California Geological Survey, 2007. *Op. cit*.

[81] Association of Bay Area Governments, *Op. cit.*

San Francisco Building Code and the SFPUC's General Seismic Design Requirements. Under these requirements, SFPUC and/or its contractor shall conduct appropriate site-specific geotechnical investigations, including, as necessary, subsurface exploration and soil testing. Approved geotechnical recommendations for foundation design would become part of the proposed project. With implementation of a geotechnical investigation and the General Seismic Design Requirements, the project would not significantly impact soil stability (*less than significant*).

Liquefaction, Lateral Spreading, and Earthquake-Induced Settlement

Liquefaction is a phenomenon whereby soil deposits temporarily lose shear strength, and collapse. Liquefaction can result in a loss of foundation support, and settlement of overlying structures, ground subsidence, and translation due to lateral spreading, lurch cracking, and differential settlement of affected deposits. Lateral spreading occurs when a soil layer liquefies at depth and causes horizontal movement or displacement of the overlying mass on sloping ground or towards a free face such as a stream bank or excavation.

The project site is in an area of very low to low liquefaction potential identified by the U.S. Geological Survey.[82] Because the risk of liquefaction at the site is considered to be low, the risk from lateral spreading is also deemed low. Based on the low liquefaction potential at the project site and the types of structures and construction activities proposed, with implementation of a geotechnical investigation and the General Seismic Design Requirements, impacts related to ground failure, including liquefaction, would be *less than significant*.

Earthquake-Induced Landslides

Areas that are most susceptible to earthquake-induced landslides are steep slopes in highly fractured rocks; areas underlain by loose, weak soils; and areas on or adjacent to existing landslide deposits. The California Geological Survey has not indexed the Montara Mountain area,[83] however, its location atop steep terrain indicates a high likelihood of landslide susceptibility. Because the project would comply with the International Building Code, San Francisco Building Code and the SFPUC's General Seismic Design

[82] USGS (U.S. Geological Survey), 2000. Liquefaction Susceptibility Map, Nine-County San Francisco Bay Region, California.

[83] California Geological Survey, 2015. Landslide Map Index. Available online at. http://www.quake.ca.gov/gmaps/WH/landslidemaps.htm. Accessed September 9, 2015.

Requirements, the project would not result in soil destabilization and would not result in an increased risk of landslides (*no impact*).

By complying with the aforementioned requirements, the project would not expose people or structures not associated with the project to a substantial risk of loss, injury, or death (*less than significant*).

Impact GE-2. The project would not result in substantial soil erosion or the loss of topsoil. (Less than Significant)

Project construction activities have the potential to result in increased soil erosion or loss of topsoil due to ground disturbance associated with excavation, minor grading, and material staging areas. A certain rate of soil erosion occurs naturally in the environment; however, the preliminary stages of construction, especially initial site grading, excavation, and soil stockpiles, leave loose soil exposed to the erosive forces of rainfall and high winds. The project would implement erosion and sediment controls tailored to the site, as required by SFPUC's construction BMPs,[84] which would minimize the potential for erosion during construction (see Section A.6.7, SFPUC Standard Construction Measures, above).

Because the project site would be stabilized following construction, and no ground-disturbing activities would be associated with project operation, no soil erosion is expected to occur during project operation and maintenance. For these reasons, the impact of construction, operation, and maintenance of the project on accelerated soil erosion would be *less than significant*.

Impact GE-3. The project would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project, and would not result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. (Less than Significant)

The geology and soil types underlying the project site could contain adverse or undesirable soil conditions, such as expansive, corrosive, compressible, liquefiable, or collapsible soils. As discussed under Impact GE-1, soil conditions could contain geologic units that are unstable, or become unstable as a result of the project. However, by complying with applicable building codes and design requirements, impacts related to unstable geologic units would be *less than significant*.

[84] SFPUC (San Francisco Public Utilities Commission), 2013. *Op. cit.*

Impact GE-4. The project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, that could create substantial risks to life or property. (Less than Significant)

Expansive soil is a fine-grained clay that occurs naturally and is generally found in areas that historically were floodplains or lake areas. Expansive soil is subject to swelling and shrinkage, varying in proportion to the amount of moisture present in the soil. Expansion takes place as water is initially introduced into the soil by rainfall or watering. The soil will contract if dried out, often leaving small fissures or cracks.

Because the project site is located on a well-drained hillside, it is not anticipated that expansive soils would be encountered. Additionally, by complying with applicable building codes and design requirements, potential impacts from expansive soils would be *less than significant*.

Impact GE-5. The project could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant)

Paleontological resources include fossils, fossil localities, and stratigraphic units that contain the preserved remains or traces of fossil organisms. Any construction activity involving subsurface soil excavation has the potential to disturb or destroy these resources. However, the probability for impacts to paleontological resources depends on both the paleontological potential of the underlying geology, and the magnitude and depth of excavation that would be required at any one site. Because they are largely buried resources, the exact location or presence of fossils in unexposed and undisturbed geologic units cannot be determined; but the relative likelihood of encountering fossils can be estimated based on the paleontological potential of the rock unit. The Society of Vertebrate Paleontology has established criteria[85] for rating the paleontological potential of rock units, indicating that rock units where fossil resource have not been recovered in the past have a low paleontological potential.

High-sensitivity paleontological resources are categorized as rock units dating older than Holocene (i.e., more than 10,000 years old) for which vertebrate or significant invertebrate or suite of plant fossils have been recovered. Of particular importance are fossils that are unique or unusual and that may make significant contributions to taxonomy, systematics, evolutionary theory, paleoecology, or stratigraphy; or enhance our understanding of regional geologic history. In areas of high paleontological sensitivity, full-time monitoring is recommended during ground-disturbing activities.

[85] SVP (The Society of Vertebrate Paleontology), 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources*.

The Montara Mountain site is underlain by granitic rocks or alluvial soils that are Holocene in age and are therefore unlikely to yield paleontological resources.[86,87,88] Impacts on paleontological resources would be *less than significant* at the site because it overlies geologic units of low paleontological potential.

Impact C-GE. The project, in combination with other past, present, and reasonably foreseeable future projects, could result in a cumulatively considerable contribution to a significant cumulative impact related to geologic hazards or paleontological resources. (Less than Significant)

The geographic scope for potential cumulative impacts related to geology and soils is generally site-specific, because the potential hazards related to seismically induced ground failure, erosion, or loss of topsoil, soil subsidence, collapsible soils, and expansive soils are based on local site-specific soil conditions. Geologic and soil conditions inherent at the project site would not contribute to geologic and soil conditions or related hazards at other cumulative project sites. Structures proposed at any sites in the vicinity must conform to the requirements of applicable state and local building codes, which would reduce the potential for impacts resulting from site-specific geologic and soil conditions.

The geographic scope for potential cumulative impacts related to paleontological impacts is the project sites and their immediate surroundings. Potential project impacts on paleontological resources would be less than significant. Because neither of the cumulative projects identified on Table 2 would occur within this geographic scope, there would be no significant cumulative impact on paleontological resources to which the project could contribute.

Therefore, the proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would result in cumulative impacts on geologic and paleontological resources that are *less than significant*.

[86] Pampeyan, E.H., 1994. Geologic Map of the Montara Mountain and San Mateo 7-1/2' Quadrangles, San Mateo County, California. U.S. Geological Survey Map I-2390.

[87] Questa Engineering Corporation, 2015. Geotechnical Report for Green Valley Creek, Montara, California. Memorandum prepared for San Mateo County Parks Department. April 21.

[88] MHA Environmental Consulting, Inc., 2005. *Op cit*.

E.15 Hydrology and Water Quality

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
15. HYDROLOGY AND WATER QUALITY					
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	☐	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	☐	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	☐
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	☐

The proposed project does not involve the construction of any housing; therefore, significance criterion 15(g) is *not applicable*, and is not discussed further in this section.

Impact HY-1. The project would not violate any water quality standards or waste discharge requirements. (Less than Significant)

Construction

Potential impacts to water quality resulting from the project would occur primarily as a result of ground-disturbing activities during construction. Site preparation, clearing, grading, excavation, soil stockpiling, backfilling, compacting, and site restoration activities would occur. These activities could result in the discharge of sediment or construction materials into nearby surface waters during storm events. The closest surface water body is Brooks Creek, approximately 0.25-mile from the Montara Mountain site.

Stormwater discharges from construction sites are regulated under the federal Clean Water Act. The Clean Water Act requires that discharges to the waters of the United States be permitted under the National Pollutant Discharge Elimination System. In California, stormwater discharges from construction sites must comply with the conditions contained in the State Water Resources Control Board's Construction General Permit. Project construction would disturb approximately 0.1 acre. Because the construction and staging areas would disturb less than 1 acre of land, the project is not required to obtain a Construction General Permit.

Preparation and use of the construction and staging areas may make soil surfaces vulnerable to erosion during rain events. The project site is fairly small, as are the footprints for the proposed access road, radar and radio systems, therefore the extent of ground disturbance would be relatively minor. Project construction would adhere to SFPUC's own Standard Construction Measures[89] and construction BMPs[90] to prevent erosion or other environmental impacts (see Section A.6.7, SFPUC Standard Construction Measures, above). The SFPUC's proposed implementation of construction BMPs would prevent the discharge of stored construction materials and would minimize the discharge of eroded sediment and other pollutants from the staging areas, by requiring that disturbed areas are stabilized, slopes are protected, and sediment is retained. As a result, impacts would be *less than significant.*

[89] SFPUC (San Francisco Public Utilities Commission), 2015. *Op. cit.*
[90] SFPUC (San Francisco Public Utilities Commission), 2013. *Op. cit.*

Operation and Maintenance

Long-term impacts to water quality associated with the project would be limited to minor increases in impervious surfaces. Installation of small structures and access road improvements would not appreciably change the topography of the project site, because no substantial cuts or fills would be required. New impervious surfaces would consist of small concrete pads supporting radar and monopole foundations and equipment structures. This analysis assumes that any increase in runoff rates or velocity caused by impervious surfaces would be adequately absorbed by surrounding gravel ground cover, and would infiltrate directly into the ground. For these reasons, the long-term impacts to water quality associated with new facilities would be *less than significant*.

Impact HY-2. The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge to the extent that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). (No Impact)

The proposed project would not require any groundwater dewatering or the use of groundwater for any purposes. The project would result in the addition of minor areas of impervious surfaces (described in HY-1 above), but these would not be impediments to groundwater recharge at the project site because they would be small and surrounded by pervious soils. As a result, the project would have *no impact* with respect to groundwater depletion or recharge.

Impact HY-3. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial onsite or offsite erosion or siltation. (Less than Significant)

The project would not result in a substantial alteration of topography or alteration of drainage patterns. Site preparation would involve minor leveling and grading, where necessary. There would be no construction in creeks or in undeveloped areas adjacent to creeks. As discussed under Impact HY-1, the project would implement BMPs during construction to minimize erosion and prevent the discharge of sediment off site. Therefore, any impacts related to drainage causing erosion or siltation would be *less than significant*.

Impact HY-4. The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in onsite or offsite flooding. (Less than Significant)

The project would not substantially alter existing drainage patterns of the site or vicinity and would not alter the course of any stream or river. The project would result in localized drainage pattern alterations due to grading and construction of new facilities, but these impacts would be minimal because of the relatively small area of ground disturbance and new impervious surfaces in the context of the surrounding landscapes. Therefore, any impacts associated with potential onsite or offsite flooding would be *less than significant.*

Impact HY-5. The project would not create or contribute runoff water that could exceed the capacity of existing or planned stormwater drainage systems or provide substantial addition sources of polluted runoff. (Less than Significant)

There are no existing stormwater drainage systems on or adjacent to the project site. As described under Impact HY-2, impervious surfaces would be surrounded by pervious soils, and would not impede infiltration. As described in Section E.16, Hazards and Hazardous Materials, the project would adhere to regulatory controls for hazardous materials storage. Therefore, potential impacts associated with increased runoff would be *less than significant.*

Impact HY-6. The project would not otherwise substantially degrade water quality. (No Impact)

All potential water quality impacts of the proposed project are characterized above under items a) through e). No additional impact to water quality would occur as a result of the project (*no impact*).

Impact HY-7. The project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows. (No Impact)

The Montara Mountain site has not been mapped by the Federal Emergency Management Agency (FEMA);[91] however, based on its elevation, topography, and distance to the nearest water body, it is reasonable to assume it is not in a flood hazard area. Several concrete foundations for the equipment and building would have footprints of up to 10 feet by 12 feet, which would not be sufficient to impede or redirect any flood flows. Therefore, there would be *no impact* with respect to this criterion.

[91] Ibid.

Impact HY-8. The project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (No Impact)

As stated under Impact HY-7, the project site is not located in a mapped 100-year floodplain. The proposed facilities would neither be manned nor accessible to the public, and once constructed, human presence at the sites would be limited to infrequent maintenance visits. The Montara Mountain site is in the Peninsula Watershed, which includes the Pilarcitos and Crystal Springs Reservoirs, and San Andreas Lake. However, due to its elevation, the project site itself is not in a dam inundation area.[92] The project would not increase the risk of dam or levee failure. Therefore, there would be *no impact* with respect to this criterion.

Impact HY-9. The project would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow. (No Impact)

Tsunamis (seismic sea waves) are long-period waves typically caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides. The project site is not in tsunami inundation areas,[93,94] thereby precluding any potential flooding impacts from a tsunami.

A seiche is caused by oscillation of the surface of an enclosed body of water, such as the Crystal Springs Reservoir, during an earthquake. As discussed under Impact HY-8, although the Montara Mountain site is in close proximity to reservoirs, its elevation minimizes its potential for seiche inundation.

Mudflows are a combination of fast-moving water and a great volume of sediment that surges downslope with tremendous force, particularly after heavy rainfall. Due to its location on the hilltop, the Montara Mountain site is unlikely to be susceptible to mudflows. Further, the project does not substantially increase human exposure to these risks because the facility would neither be manned nor accessible to the public. For these reasons, the proposed project would have *no impact* involving these hazards.

Impact C-HY. The project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to a significant cumulative hydrology and water quality impact. (Less than Significant)

The geographic context for the cumulative impacts associated with surface water hydrology and water quality is the watershed area contributing to the same receiving waters as the proposed project. Projects in

[92] County of San Mateo Planning and Building, 2005. Dam Failure Inundation Areas – San Mateo County. April 25.
[93] California Geological Survey, 2009. Tsunami Inundation Map for Emergency Planning Bodega Head Quadrangle/Valley Ford Quadrangle. February 15.
[94] California Geological Survey, 2009. Tsunami Inundation Map for Emergency Planning Montara Mountain Quadrangle. June 15.

the cumulative scenario include improvements to various existing SFPUC facilities that would entail ground-disturbing activities. Hydrologic and water quality effects of these projects could possibly include sedimentation or non-point source pollution in downstream receiving waters, particularly during the construction phases; or effects on the underlying groundwater aquifer, including decreases in recharge areas or degradation of groundwater quality in the event of a contaminant release. The primary cumulative effect of these projects would be to alter the natural hydrology of the San Francisco Bay region through increases in the area covered by impervious surfaces, and to increase the potential for the release of non-point source pollutants (i.e., motor fuels, trash, and sediment). All of these projects would be subject to the same federal and state regulations protecting water quality as the proposed project. In addition, SFPUC projects would all implement BMPs to control sediment and erosion pursuant to the SFPUC's Standard Construction Measures. Compliance with existing regulatory requirements and implementation of SFPUC's Standard Construction Measures would prevent significant cumulative impacts on water quality.

Moreover, the proposed project's contribution to cumulative hydrology and water quality impacts would not be cumulatively considerable for a number of reasons. The project would not violate water quality standards or waste discharge requirements; the project would have no effects on groundwater supplies, quality, and recharge; the project would only minimally alter existing drainage patterns; the project would not contribute runoff that would exceed available drainage capacity; the project does not substantially increase human exposure to seiche or mudflow risks; and project construction would be of short duration, and comply with construction water quality BMPs.

Therefore, the project's contribution to any cumulative impact on hydrology and water quality would not be cumulatively considerable *(less than significant).*

E.16 Hazards and Hazardous Materials

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
16. HAZARDS AND HAZARDOUS MATERIALS					
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	☐	☐	☒	☐	☐

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5[95] and is not within 2 miles of a public airport or private airstrip. Therefore, significance criteria 16(d) through (f) are not applicable to the project and are not discussed further in this section.

[95] California Department of Toxic Substances Control. Online Envirostor Database. Available online at. http://www.envirostor.dtsc.ca.gov/public/. Accessed September 9, 2015.

Approach to Analysis

The term "hazardous materials" refers to both hazardous substances and hazardous wastes. Under federal and state laws, any material may be considered hazardous if it is specifically listed by statute as such, or if it is toxic (causes adverse human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases). A hazardous material is defined as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment if released into the workplace or the environment.[96]

Impact HZ-1. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)

Limited amounts of hazardous materials would be used during construction, including fuels, lubricants, and solvents for construction vehicles and equipment. Small quantities of these materials could be stored at the project site during project construction. Storage and use of hazardous materials at the construction site could result in accidental release of small quantities of hazardous materials, which could degrade soil and/or groundwater quality locally in the project area. However, this analysis assumes that any hazardous materials needed for construction would be stored in accordance with applicable regulations and SFPUC construction BMPs[97] for hazardous materials storage and handling requirements, such as proper container types, spill containment, and usage methods for minimizing the potential for releases and harmful exposures.

With implementation of SFPUC construction BMPs and conformance with applicable local, state, and federal regulations, impacts from the use and storage of hazardous materials would be *less than significant.*

Impact HZ-2. The project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant)

No project-related processes or operations would create reasonably foreseeable upset and accident conditions involving the release of large amounts of hazardous materials into the environment. This analysis assumes that hazardous materials used during construction, such as fuel for construction

[96] California Health and Safety Code, Section 25501.
[97] SFPUC (San Francisco Public Utilities Commission), 2013. *Op. cit.*

equipment and vehicles, would be managed in accordance with applicable laws and regulations as described under Impact HZ-1, including having spill containment and cleanup kits available onsite. Because project construction and operation would involve relatively minor quantities of hazardous materials and include mandatory compliance with existing hazardous materials laws and regulations, the potential hazard of a release of hazardous materials resulting from an upset or accident would be *less than significant*.

Impact HZ-3. The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Less than Significant)

The project is not within one-quarter mile of an existing or proposed school and would not handle hazardous or acutely hazardous materials, substances, or waste; however, the project would involve the operation of radars systems that would generate electromagnetic fields, or EMFs. Electric and magnetic fields are invisible areas of energy that are produced by electricity, which is the movement of electrons, or current, through a wire. An electric field is produced by voltage; a magnetic field results from the flow of current through wires. Together, they are referred to as electromagnetic fields or EMFs.

Naturally occurring EMFs include the Earth's magnetic field, cosmic radiation, and electric fields created by the build-up of electric charges during thunderstorms. Manmade EMFs include radio and television broadcasts, cellular telephone transmissions, radio signals, use of scientific and medical equipment, and EMFs generated by power lines and electronic equipment. Electromagnetic interference (EMI) occurs when the EMFs produced by a source adversely affect operation of another device.

Radar is a form of radiolocation, or the use of radio signals to locate a distant object (i.e., targets). Commonplace emitters of radio frequency (RF) EMFs include cellular telephone towers; broadcast towers for radio and television; airport radars, navigation, and communication systems; high-frequency and very-high-frequency communication systems used by police, fire, emergency medical technicians, utilities, and governments; and local wireless systems such as wireless fidelity (Wi-Fi) or cordless telephone. The project radar would emit RF EMFs.

Human exposure to high-power RF signals may result in harmful health effects. A number of governmental and scientific organizations have established quantitative exposure limits designed to prevent health effects from human exposure to RF energy. These organizations include the IEEE, FCC, OSHA; and ICNIRP. Safety levels have been established for both occupational and general public

exposure. The safety levels are set at 10 to 50 times below the levels at which scientific research has shown harmful effects may occur, thereby incorporating a conservative safety factor.

As discussed in Section A.5, Project Components and Operating Characteristics, the project would include a number of standard operating practices to ensure that human exposure to EMF is below MPE levels and that the potential for EMI to occur or persist is avoided during operation of the radars. Additionally, the proposed project includes security measures to prevent unauthorized persons from directly accessing the antennas, and the installation of required warning signs to alert the public against attempting unauthorized entry.

Exposure levels that would be generated during operation were calculated for the radar system based on the operational parameters described in Section A.5, Project Components and Operating Characteristics. RF emissions from the proposed radar system during the normal mode of operation would comply with FCC, IEEE OSHA, and ICNIRP safety standards for both general public and occupational exposure.[98]

During normal mode, the X-band radar operates with a rotating antenna; however, during testing and calibration of the radar signal, which would occur approximately once per year, the radar would be operated with a stationary antenna. Based on the calculations performed; testing and maintenance of the X-band radar with a stationary, horizontal antenna would have the potential to result in exposure levels above general public safety levels; however, these maintenance activities would be infrequent (once per year) and would be done in a manner, that would avoid exposure of persons above the public safety levels beyond the exclusion fence at the site.[99] For example, either the transmitter would be shut off, the transmitted power would be directed into a dummy load (not projected outward from the antenna), or the antenna would be pointed vertically (90-degree elevation angle) if the antenna is in fixed position and the transmitted power is projected outward from the antenna. Therefore, with implementation of the project's proposed maintenance protocols, general public safety levels would not be exceeded during testing and maintenance of the X-band radar.

Strong RF fields can cause interference (i.e., EMI) with the operation of implantable medical devices, such as cardiac pacemakers and implantable cardioverter defibrillators. Frequencies greater than

[98] AECOM Technical Services, Inc., and Sensor Environmental LLC, 2017. Electromagnetic Effects Analysis for the Advanced Rainfall Prediction Project.

[99] Ibid.

3,000 megahertz (MHz) are considered to have a very low potential to cause harmful EMI with implanted medical devices.[100] The X-band radar would operate at frequencies above 3,000 MHz and therefore would be very unlikely to cause harmful EMI with implantable medical devices. Therefore, the project would have *less than significant impacts* related to hazardous emissions.

Impact HZ-4. The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (No Impact)

Project construction could interfere with an adopted emergency response plan or emergency evacuation plan if construction activities were to involve the complete or partial closure of important roadways, interfere with identified evacuation routes, restrict access for emergency response vehicles, or restrict access to critical facilities such as hospitals or fire stations. Construction and staging areas would be limited to the project site and would not interfere with any major roadways. Worker trips and equipment deliveries would be few in number and cause minimal increases in traffic on public roads; no roadway closures would be required. Project-related traffic would not be expected to interfere with identified evacuation routes, restrict access for emergency response vehicles, or restrict access to critical facilities such as hospitals or fire stations. Therefore, the project would have *no impact* related to interference with an adopted emergency response plan or emergency evacuation plan.

Impact HZ-5. The project would not expose people or structures to a significant risk of loss, injury, or death involving fires. (Less than Significant)

Fire-prone areas include any forest-, brush-, or grass-covered land. The Montara Mountain site is in a very high fire hazard severity zone.[101] Construction vehicles and equipment, and the temporary onsite storage and use of small quantities of diesel fuel, gasoline, and lubricants could pose a fire risk. In addition, the project would install a propane tank for backup generator operations.

Regulations governing the use of construction equipment in fire-prone areas are designed to minimize the risk of wildland fires. These regulations restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that has an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided for various types of work in fire-prone areas. The project would also be subject

[100] AAMI. American National Standard, Active Implantable Medical Devices – Electromagnetic compatibility – EMC test protocols for cardiac pacemakers and implantable cardioverter defibrillators, AAMI PC69:2007 [2007].

[101] Cal Fire, 2007. Fire Hazard Severity Zones in SRA, San Mateo County, November 6, 2007.

to the requirements of the California Fire Code, which requires measures such as appropriate storage of materials susceptible to ignition (such as flammable and combustible liquids, liquefied petroleum gases, and oily rags), and maintenance of portable fire extinguishers and water for firefighting, and California Code of Regulations Title 8 aboveground storage tank regulations. The propane tank would be mounted on a concrete pad and protected from impact from vehicles and ignition sources. With adherence to these mandatory requirements, impacts related to fires from project construction would be *less than significant*.

Impact C-HZ. The project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a cumulatively considerable contribution to a significant cumulative impact related to hazards and hazardous materials. (Less than Significant)

Impacts could result from the project's use of hazardous materials. These impacts would be primarily restricted to the project area and immediate vicinity; therefore, the geographic scope for cumulative impacts from hazards is the project area and immediate vicinity.

The project would use common construction-related hazardous materials (fuels, lubricants, and solvents), as would both of the cumulative projects listed in Table 2. However, these future projects are not in the immediate vicinity of the project site. Additionally, the cumulative projects listed in Table 2 would be subject to the same requirements for hazardous materials storage and handling. Therefore, the project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would result in *less-than-significant* cumulative impacts related to the use of hazardous materials during construction.

E.17 Mineral and Energy Resources

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
17. MINERAL AND ENERGY RESOURCES					
Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒	☐
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	☐	☐	☐	☒	☐

Impact ME-1. The proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. (No Impact)

Within the project area, no important known mineral deposits or mining activities for oil, coal, natural gas, sand, gravel, and crushed stone occur.[102,103] Additionally, the project site is in a coastal resource land use district that are not currently available for mineral resource extraction. For these reasons, the project would have *no impact* on mineral resources that are important to the region and residents of the state.

Impact ME-2. The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. (No Impact)

According to local plans and policies, the project site is not designated as a locally important mineral resource recovery site.[104] Therefore, the project would not result in the loss of availability of a locally important mineral resource recovery site (*no impact*).

[102] California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, 2001, California Oil, Gas, and Geothermal Fields in California.

[103] USGS (U.S. Geological Survey), 2015. Mineral Resources Data System. Internet website. http://mrdata.usgs.gov/mineral-resources/mrds-us.html. Accessed December 2, 2015.

[104] County of San Mateo Planning and Building Department, 2012b. *Op. cit.*

Impact ME-3. The project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or that use these in a wasteful manner. (No Impact)

Minor quantities of fuel, water, and energy would be required to power and properly maintain new communication equipment and backup generator. These quantities would be negligible when compared to typical research and telecommunications facilities

Fuel and energy would be used by construction workers' vehicles, and by construction equipment and vehicles during project development. Based on the relatively small scale of construction activities, quantities used would not be substantial. SFPUC's construction BMPs would be implemented to ensure that these resources would be used conservatively and would not be wasteful. Therefore, the project's use of fuel, water, and energy would be minimal, and would not be wasteful; and the project would have *no impact* relative to this criterion.

Impact C-ME. The proposed project, in combination with other past, present, or reasonably foreseeable projects, would not result in a cumulatively considerable contribution to a significant impact to mineral and energy resources. (No Impact)

Implementation of the proposed project would have no impact on mineral and energy resources, and therefore would not contribute to cumulative impacts on these resources (*no impact*).

E.18 Agriculture and Forest Resources

Topics:	*Potentially Significant Impact*	*Less than Significant with Mitigation Incorporated*	*Less-than-Significant Impact*	*No Impact*	*Not Applicable*
18. AGRICULTURE AND FOREST RESOURCES					
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	☐	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?	☐	☐	☐	☒	☐

The project site is not located on forest land or timberland, or on land zoned for forest land or timberland; therefore, significance criteria 18(c) and 18(d) are not applicable to the project and are not discussed further in this section. According to San Mateo County Important Farmland 2012 map,[105] the Montara Mountain site is mapped as Other Land.

Impact AG-1. The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources

[105] California Department of Conservation, 2012. *San Mateo County Important Farmland 2012* (map). Map published August 2014.

Agency to nonagricultural use, or conflict with existing zoning for agricultural use or a Williamson Act contract (No Impact)

The project site is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or on a Williamson Act contract land for agricultural land preservation; therefore, the project would result in *no impact* with regard to this criterion.

Impact AG-2. The project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to nonagricultural use or forest land to nonforest use. (No Impact)

The project would not result in changes to the existing environment (for instance, by creating conflicting land use or operational activities) that could indirectly cause the conversion of farmland to nonagricultural use or forest land to nonforest use. The project would have *no impact* with regard to this criterion.

Impact C-AG. The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not result in a cumulatively considerable contribution to a significant cumulative impact related to agriculture and forest resources. (No Impact)

Because the project would have no impact on agricultural and forest resources, it would not contribute to any potential cumulative impact on these resources *(no impact)*.

E.19 Mandatory Findings of Significance

Topics:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact	Not Applicable
19. MANDATORY FINDINGS OF SIGNIFICANCE					
Would the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	☐
b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐	☐
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐	☐

As discussed in this IS, the proposed project, as mitigated, would have a less-than-significant impact on the environment. The foregoing analysis identifies potentially significant impacts on the environment related to cultural and biological resources that would be reduced to a less-than-significant level with implementation of mitigation measures, as described below.

a) As discussed in Impact BI-1 in Section E.13, Biological Resources, project impacts on special-status plant and wildlife species (including special-status butterflies, special-status nesting and migratory birds, special-status bats, California red-legged frog, and San Francisco dusky-footed woodrat) would be less than significant with implementation of the following mitigation measures. **M-BI-1a, General Mitigation Measures during Construction; M-BI-1b, Rare Plant Avoidance and Minimization of Impacts to Sensitive Communities during Construction; M-BI-1c, Nesting Bird Survey and Protection during Construction; Mitigation Measure M-BI-1d, Avoidance and Protection for Special-Status Butterflies; Mitigation Measure M-BI-1e, Preconstruction Survey and Midden Relocation for San Francisco Dusky-Footed Woodrat; Mitigation Measure M-BI-1f,**

Avoidance of Bat Roosts during Construction; Mitigation Measure M-BI-1g, Worker Environmental Awareness Program (WEAP) Training for Construction; and Mitigation Measure M-BI-1h, Onsite Biological Monitoring during Construction Activities.

b) As discussed in Impact CR-1, project impacts on historic architectural resources would be less than significant. As discussed in Impacts CR-1, CR-2, CR-3, and CR-4, construction activities associated with the proposed project could result in potential impacts on unknown archeological resources, human remains and associated or unassociated funerary objects. These impacts would be less than significant with implementation of **Mitigation Measures M-CR-2, Accidental Discovery Measures; M-CR-3, Accidental Discovery of Human Remains and Associated or Unassociated Funerary Objects; and M-CR-4, Tribal Cultural Resources Interpretive Program.** This initial study determined that the proposed project would have no impact or is not applicable for the following issues: population and housing; wind and shadow; public services; mineral and energy resources; agricultural and forest resources. Therefore, the proposed project would not contribute to cumulative impacts related to these issue areas.

The assessment of potential cumulative impacts for the remaining environmental issue areas is provided in the relevant subsections of Section E, Evaluation of Environmental Effects. However, for the reasons described in Sections E.1 through E.18, with implementation of mitigation measures to address potentially significant project-level impacts, the proposed project's contribution to all cumulative impacts on the environment would not be cumulatively considerable.

c) As identified in this IS, the proposed project, as mitigated, would not directly or indirectly cause adverse effects to human beings. No impacts or less-than-significant impacts were identified for topics that could affect the human environment such as population and housing, transportation and circulation, noise, air quality, greenhouse gas emissions, wind and shadow, recreation, utilities and service systems, and public services.

F. Mitigation Measures and Improvement Measures

The following mitigation measures have been adopted by the project sponsor and are necessary to avoid potential significant impacts of the proposed project.

Mitigation Measure M-CR-2. Accidental Discovery Measures

The following mitigation measure is required to avoid any potential adverse effect from the proposed project on accidentally discovered buried or submerged historical resources as defined in CEQA Guidelines Section 15064.5(a) and (c). The SFPUC shall distribute the Planning Department archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor (including demolition, excavation, grading, foundation, pile driving, etc., firms); or utilities firm involved in soils disturbing activities in the project site. Prior to any soils-disturbing activities being undertaken, each contractor is responsible for ensuring that the "ALERT" sheet is circulated to all field personnel including, but not limited to, machine operators, field crew, pile drivers, and supervisory personnel. The SFPUC shall provide the ERO with a signed affidavit from the responsible parties (prime contractor, subcontractor[s], and utilities firm) to the ERO, confirming that all field personnel have received copies of the Alert Sheet.

Should any indication of an archeological resource be encountered during any soils-disturbing activity of the project, the project Head Foreman and/or SFPUC shall immediately notify the ERO and shall immediately suspend any soils-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken.

If the ERO determines that an archeological resource may be present in the project site, the SFPUC shall retain the services of an archeological consultant who meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61); consultants will be selected in consultation with the ERO while meeting the criteria or specialization required for the resource type as identified by the ERO in a manner consistent with SFPUC's on-call contracting requirements. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource, retains sufficient integrity, and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this

information, the ERO may require, if warranted, specific additional measures to be implemented by the project sponsor.

Measures might include preservation *in situ* of the archeological resource; an archeological monitoring program; or an archeological testing program. If an archeological monitoring program or archeological testing program is required, it shall be consistent with the Environmental Planning division guidelines for such programs. The ERO may also require that the SFPUC immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions.

The project archeological consultant shall submit a Final Archeological Resources Report (FARR) to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert in the final report.

Copies of the Draft FARR shall be sent to the ERO for review and approval. Once approved by the ERO, copies of the FARR shall be distributed as follows. California Archeological Site Survey NWIC shall receive one copy, and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound copy, one unbound copy, and one unlocked, searchable PDF copy on CD, along with copies of any formal site recordation forms (CA DPR 523 series) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest or interpretive value, the ERO may require a different final report content, format, and distribution than that presented above.

Mitigation Measure M-CR-3. Accidental Discovery of Human Remains and Associated or Unassociated Funerary Objects

The treatment of human remains and of associated or unassociated funerary objects discovered during any soils-disturbing activity shall comply with applicable State and federal laws. This shall include immediate notification of the county Coroner:

San Mateo County Coroner
50 Tower Road
San Mateo CA 94402

(650) 312-5562

In the event of the appropriate Coroner's determination that the human remains are Native American remains, the California State NAHC shall be notified, and shall appoint a Most Likely Descendent (MLD) (PRC §5097.98). The archeological consultant, project sponsor, ERO, and MLD shall have up to but not beyond 6 days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing State regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of an MLD. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects, as specified in the treatment agreement if such an agreement has been made or, otherwise, as determined by the archeological consultant and the ERO.

Mitigation Measure M-CR-4. Tribal Cultural Resources Interpretive Program

If the ERO determines that preservation-in-place of previously unidentified archeological resources pursuant to **Mitigation Measure M-CR-2, Accidental Discovery Measures**, is not a sufficient or feasible option, and if in consultation with the affiliated Native American tribal representatives, the ERO determines that the resource constitutes a TCR, the project sponsor shall implement an interpretive program of the TCR in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.

Mitigation Measure M-BI-1a. General Mitigation Measures during Construction

The SFPUC shall ensure that the following general measures are implemented by the contractor working during construction to prevent and minimize impacts on special-status species:

- SFPUC shall provide environmental awareness training to all construction personnel prior to their starting work on the Project (see **Mitigation Measure M-BI-1g, Worker Environmental Awareness Program [WEAP] Training for Construction**).
- Project-related vehicles shall observe a 15-mile-per-hour speed limit on unpaved roads in the project site.
- No firearms or pets shall be allowed in the project site.
- The contractor shall provide closed garbage containers for the disposal of all food-related trash items. All garbage shall be collected daily from the project site and placed in a closed container from which garbage shall be removed weekly. Construction personnel shall not feed or otherwise attract wildlife to the project site.
- Any vehicle or equipment maintenance shall be performed in the designated staging areas, and spill kits containing cleanup materials shall be available onsite.
- The spread of invasive non-native plant species shall be avoided or minimized by implementing the following measures:
  - All off-road construction equipment shall arrive at the project clean and free of soil, seed, and plant material to reduce the likelihood of introducing new weed species.
  - Certified weed-free imported erosion control materials (or rice straw in upland areas) shall be used exclusively.
  - To reduce the movement of invasive weeds into uninfested areas, the contractor shall stockpile topsoil removed during excavation (e.g., during grading of staging areas or excavation to accommodate installation of the temporary stair system and work platform) and shall subsequently reuse the stockpiled soil for re-establishment of disturbed project areas.

Mitigation Measure M-BI-1b. Rare Plant Avoidance and Minimization of Impacts to Sensitive Communities during Construction

Rare plants that have been identified within 15 feet of construction areas shall be avoided by the contractor by placing barrier fencing at least 5 feet from the population. A qualified biologist shall direct and inspect the placement of such fencing.

Impacts to sensitive communities (i.e., Northern Maritime Chaparral at the Montara Mountain site) shall be minimized by reducing vegetation clearing and ground disturbance to the maximum extent practicable. Prior to construction, the contractor shall place barrier fencing along the project footprint boundary to minimize encroachment into the sensitive community. A qualified biologist shall direct and inspect the placement of such fencing. Sensitive habitat may also be located along Perimeter Road, which is the primary access road for SFPUC's Peninsula Watershed, and would be used to access the Montara Mountain site. Prior to construction, sensitive areas along the access road shall be flagged or fenced, in coordination with Natural Resources and Land Management Division staff, so that these areas will be avoided by construction-related vehicle traffic.

Mitigation Measure M-BI-1c. Nesting Bird Survey and Protection during Construction

To protect nesting birds and their nests, the SFPUC shall retain a qualified wildlife biologist to conduct pre-construction surveys for nesting raptors and migratory birds prior to the commencement of construction activities that occur between March 1 and August 31 of any given year. The surveys shall be conducted a maximum of 14 days prior to the start of construction during the nesting season. The project area, plus, as allowed based on access by the property owner, a 500-foot survey area surrounding the project area, shall be surveyed for nesting raptors; a 150-foot survey area in addition to the project area shall be surveyed for other nesting birds. A nest is defined to be active for raptors if there is a pair of birds displaying reproductive behavior (i.e., courting) at the nest, and/or if the nest contains eggs or chicks. For other migratory birds and passerines, a nest is defined as active if the nest contains eggs or chicks. If no active nests are detected, no additional mitigation measures would be required.

If active nests are found during the pre-construction bird nesting survey, the wildlife biologist shall evaluate whether the schedule of construction activities could affect the active nest, and the following measures shall be implemented based on the biologist's determination:

- If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect, and may revise the determination at any time during the nesting season.

- If construction may affect the active nest, the biologist shall establish a no-disturbance buffer, taking into account the species involved, and whether the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e., adjacent to a road or active trail).

- No-disturbance buffers for passerines may be 25 feet or greater, and for raptors 300 feet or greater. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, or SSC), an SFPUC representative, supported by the wildlife biologist, shall consult with the USFWS and/or CDFW regarding appropriate nest buffers.

- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.

- Any birds that begin nesting in the project area and survey buffers during construction are assumed to be habituated to construction-related or similar noise and disturbance levels, and no work exclusion zones shall be required.

Mitigation Measure M-BI-1d. Avoidance and Protection for Special-Status Butterflies

Host plants for endangered, threatened, and rare butterflies were observed around the Montara Mountain site. To avoid and minimize disturbance to these communities, the following actions shall be implemented prior to any activities involving ground disturbance or vegetation clearing:

- Place flagging around populations and/or individual plants to prevent accidental damage; and

- Conduct work in August through January, outside of the adult flight season of such butterfly species. If work must be done during the adult flight season (February through July), then the following measures shall be implemented:

  – A qualified biologist who is familiar with local endangered, threatened, and rare adult butterflies shall be present during construction activities during the flight season in areas identified as dispersal habitat. If one or more adult butterflies are observed in the work area,

work activities shall temporarily cease, until the butterfly leaves the area, unless the biologist determines that work activities will not directly affect the individual(s).

- The SFPUC or its contractor shall ensure that dust is controlled during construction by periodically watering down construction areas within 100 feet of butterfly habitat, as necessary. Watering down the construction area should prevent dirt from becoming airborne and accumulating on larval host plants and adult food source plants.

Mitigation Measure M-BI-1e. Preconstruction Survey and Midden Relocation for San Francisco Dusky-Footed Woodrat

The SFPUC shall ensure that a qualified biologist conducts a survey for woodrat middens (i.e., nests) within all limits of construction prior to the initiation of clearing or grading at the Montara Mountain site. To avoid and minimize disturbance to this species, the following actions shall be implemented:

- Conduct surveys for woodrat nests approximately 1 month prior to construction, so that any middens requiring removal can be addressed before construction.
- If no middens are found in such areas, no further action would be required.
- If middens are found and can be avoided, barrier fencing shall be placed at least 2 feet from the midden, to avoid disturbance.
- If the middens cannot be protected and/or avoided, the following methods are recommended for relocation of the woodrat middens:
  - A qualified biologist shall disassemble the middens and relocate woodrats out of the construction area (using a passive approach or live traps) prior to the start of construction.
  - The biologists shall attempt to relocate the disassembled midden to the same area where the woodrats are released.
  - Woodrats breed predominantly in late winter and spring (January to May), and every effort shall be made to schedule active relocation efforts in the late spring to fall months, outside of the breeding season.

– In the event that relocation efforts cannot be scheduled outside of the breeding season, all stick nests shall be carefully dismantled under the supervision of a qualified biologist; the entire stick nest site, including the aboveground stick nest and the belowground basement area, shall be carefully examined, and the basement filled in, to ensure that no adult or young-of-the-year woodrats are present. If young are encountered during dismantling of the nest, the material shall be replaced and the biologist shall return within approximately 24 hours to see if the young have been relocated. If the young have not been relocated, the biologist shall make an age determination and return when it is likely that the young have been weaned, to determine occupancy.

Mitigation Measure M-BI-1f. Avoidance of Bat Roosts during Construction

Prior to construction at the Montara Mountain site, a qualified biologist shall survey the project surroundings for the presence of potential bat roosts within rock outcrops containing crevices that are within 50 feet of the construction footprint. If special-status bat roosts or a maternity roost are found in this area, flagging shall be placed by a qualified biologist to ensure that disturbance to the site does not occur.

Mitigation Measure M-BI-1g. Worker Environmental Awareness Program (WEAP) Training for Construction

A project-specific WEAP training shall be developed by a qualified biologist for the project, and attended by all construction personnel prior to beginning work onsite. As part of the training, brochures may be given to provide reference material to contractors. The training may be provided by the qualified biologist or by designated SFPUC staff trained by the biologist to provide this training using the materials developed by the qualified biologist. The WEAP training shall generally include, but not be limited to, the following:

- Applicable state and federal laws, environmental regulations, project permit conditions, and penalties for non-compliance;
- Special-status plant and wildlife species with potential to occur at or in the vicinity of the project site, avoidance measures, and a protocol for reporting the discovery, harm, injury, or mortality of any such species, including a detailed communication chain;

- Pre-construction surveys and biological monitoring requirements associated with each phase of work;
- Known sensitive resource areas in the project vicinity that are to be avoided and/or protected, as well as approved project work areas; and
- BMPs and their location on the project site for erosion control and/or species exclusion.

Mitigation Measure M-BI-1h. Onsite Biological Monitoring during Construction Activities

A qualified biological monitor shall be onsite during initial ground disturbance (i.e., vegetation removal, grading of work areas, and installation of construction exclusion fencing and/or silt fencing). Following these activities, the biological monitor shall conduct weekly site visits throughout the duration of project construction to ensure implementation of and compliance with project mitigation measures, such as inspecting the integrity of any exclusion construction fencing (including sensitive habitat that is flagged or fenced along Perimeter Road).

The biological monitor shall have authority to stop construction activities and develop alternative work practices, in consultation with SFPUC construction personnel and resource agencies, if construction activities could have an imminent adverse effect on special-status species or other sensitive biological resources.

Only the qualified biological monitor shall relocate listed species that may enter work areas outside of the project site boundaries. Federally and state-listed species shall be relocated by qualified biologists as authorized by the USFWS and CDFW. If a special-status species enters the project site while the qualified biological monitor is not on site, the construction supervisor shall stop all work within the vicinity of the individual and contact the SFPUC project construction manager. SFPUC construction personnel shall attempt to allow the individual to leave the work area of its own volition (i.e., temporarily remove the exclusion fence so that the individual can exit). If not feasible, the SFPUC project construction manager shall contract a qualified biological monitor to relocate the species. If relocation is not timely or feasible, the construction supervisor shall monitor the individual, and no work shall recommence until the special-status species moves beyond the active work area on its own accord.

G. Public Notice and Comment

A "Notification of Project Receiving Environmental Review" was mailed on February 10, 2015 to property owners and residents of property within 300 feet of the project sites[106], responsible and trustee agencies, and interested parties; this notification included project site alternatives that were subsequently eliminated from consideration prior to preparation of this IS. The following comments were received in response to the notification, and were considered in the preparation of this IS, as appropriate:

- Federal Aviation Administration – Discussed compliance requirements should the ARO system be located at the Half Moon Bay Airport. This site alternative was subsequently removed from the project.
- National Park Service, GGNRA – Requested more information pertaining to the Montara Mountain site. Commented that GGNRA holds Scenic and Recreation Easements over SFPUC watershed lands, and that NPS concurrence is required for projects that would install new structures and potentially impact the visual character of the landscape.
- Sonoma County Permit and Resource Management Department – Commented on the need for a coastal development permit for project construction at the Bay Hill site. This site was subsequently removed from the project.
- Sonoma County Regional Parks – Commented on the undeveloped trail easements in the vicinity of a previously assessed site (Hill Top). This site alternative was subsequently removed from the project.
- California Department of Conservation, Division of Land Resource Protection – Requested to be added to the notification list for future project documents. Indicated specific interest if the sites will be located on Land Conservation (Williamson Act) land or any agricultural and open space designations.
- San Mateo County Communications Services, Information Services Department – Commented that the project could create interference issues with County of San Mateo communications equipment at the Montara Mountain site. Requested more information regarding specific frequency, power density, and system specifications for the X-band radar.

[106] An earlier version of the project included three project sites.

- Midcoast Community Council – Requested to be added to the notification list for future project documents.

- Federated Indians of Graton Rancheria – Requested additional information on the scope of the proposed project.

H. Determination

On the basis of this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

Lisa Gibson

Lisa Gibson
Environmental Review Officer
for
John Rahaim
Director of Planning

DATE 6/12/19

I. Initial Study Authors and Project Sponsor Team

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