



INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

RTI INFRASTRUCTURE, INC. MANCHESTER SUBSEA CABLES PROJECT

April 2019



CEQA Lead Agency:

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, California 95825

Applicant:

RTI Infrastructure, Inc.
268 Bush Street, #77
San Francisco, CA 94104



MISSION STATEMENT

The California State Lands Commission provides the people of California with effective stewardship of the lands, waterways, and resources entrusted to its care through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

CEQA DOCUMENT WEBSITE

www.slc.ca.gov/ceqa/

Geographic Location (Point at Mean High Water Line)

Latitude: 39° 03.0' N
Longitude: 123° 48.05' W
NAD83 Datum

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|-------------------|---|
| °F | Fahrenheit |
| A AC | alternating current |
| ACS | American Community Survey |
| APE | area of potential effects |
| APM | Applicant Proposed Measure |
| Applicant | RTI Infrastructure, Inc. |
| ASBS | Areas of Special Biological Significance |
| B BAAQMD | Bay Area Air Quality Management District |
| BAU | business as usual |
| BLM | Bureau of Land Management |
| BMPs | best management practices |
| BOEM | Bureau of Ocean Energy Management |
| BSA | biological study area |
| C CAA | Clean Air Act (federal) |
| CAAQS | California ambient air quality standards |
| CalEMA | California Emergency Management Agency |
| CAL FIRE | California Department of Forestry and Fire Protection |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CBSC | California Building Standards Code |
| CCC | California Coastal Commission |
| CCR | California Code of Regulations |
| CDFG | California Department of Fish and Game |
| CDFW | California Department of Fish and Wildlife |
| CDPR | California Department of Parks and Recreation |
| CEQ | U.S. Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CH ₄ | methane |
| CHIRP | Compressed High-Intensity Radiated Pulse |
| CLP | cable landing parcel |
| CLS | cable landing station |
| CNDDDB | California Natural Diversity Database |
| CNPPA | California Native Plant Protection Act |
| CO | carbon monoxide |
| CO ₂ | carbon dioxide |
| CO ₂ e | CO ₂ equivalent |
| CRHR | California Register of Historic Resources |

| | |
|-----------------|---|
| CRPR | California Rare Plant Rank |
| CSLC | California State Lands Commission |
| CWA | Clean Water Act |
| CWHR | California Wildlife Habitat Relationship System |
| D dB | decibel |
| DC | direct current |
| DEPM | Division of Environmental Planning and Management |
| District | Mendocino County Air Quality Management District |
| DPM | diesel particulate matter |
| E EFH | essential fish habitat |
| EIR | Environmental Impact Report |
| EPA | U.S. Environmental Protection Agency |
| ESHAs | Environmentally Sensitive Habitat Areas |
| ESU | environmentally significant unit |
| F FEMA | Federal Emergency Management Agency |
| FESA | federal Endangered Species Act |
| FR | Federal Register |
| G G-CA | Guam to California |
| GDP | gross domestic product |
| GHG | greenhouse gas |
| GPS | geographic positioning system |
| GWP | global warming potential |
| H HDD | horizontal directional drilling |
| HFCs | hydrofluorocarbons |
| HK-CA | Hong Kong to California |
| I IPCC | Intergovernmental Panel on Climate Change |
| IS | Initial Study |
| IS/MND | Initial Study/Mitigated Negative Declaration |
| K kW | kilowatt(s) |
| L LCP | Local Coastal Plan |
| LMD | Land Management Division |
| LMH | landing manhole |
| LOS | level of service |
| M MCAQMD | Mendocino County Air Quality Management District |
| MCV2 | <i>Manual of California Vegetation</i> , Second Edition |
| MM | mitigation measure |

| | |
|---------------------------|--|
| MMP | Mitigation Monitoring Program |
| MMPA | Marine Mammal Protection Act |
| MND | Mitigated Negative Declaration |
| MPA | California Marine Protected Area |
| MRMD | Mineral Resources Management Division |
| MSA | marine study area |
| M/V | motor vessel |
| MWMCP | Marine Wildlife Monitoring and Contingency Plan |
| N N ₂ O | nitrous oxide |
| NAAQS | national ambient air quality standards |
| NAHC | Native American Heritage Commission |
| NCAB | North Coast Air Basin |
| NF ₃ | nitrogen trifluoride |
| nm | nautical mile(s) |
| NMFS | National Marine Fisheries Service |
| NO | nitric oxide |
| NO ₂ | nitrogen dioxide |
| NOAA | National Oceanic and Atmospheric Administration |
| NO _x | nitrogen oxides |
| NPDES | National Pollutant Discharge Elimination System |
| NPS | National Park Service |
| NRHP | National Register of Historic Places |
| O OEHHA | Office of Environmental Health Hazard Assessment |
| OGB | ocean ground bed |
| OHP | California Office of Historic Preservation |
| OSHA | Occupational Safety and Health Administration |
| P PFCs | perfluorocarbons |
| PFMC | Pacific Fishery Management Council |
| PG&E | Pacific Gas and Electric Company |
| PM ₁₀ | particulate matter with diameters of 10 microns |
| PM _{2.5} | particulate matter with diameters of 2.5 microns |
| ppm | parts per million |
| R ROC | reactive organic compound |
| ROG | reactive organic gases |
| ROV | remotely operated vehicle |
| ROW | right-of-way |
| RTI | RTI Infrastructure, Inc. |

| | | |
|----------|-----------------|--------------------------------------|
| S | SEA | Significant Ecological Area |
| | SEL | sound exposure level |
| | SF ₆ | sulfur hexafluoride |
| | SMCA | State Marine Conservation Area |
| | SMPs | State Marine Parks |
| | SMR | State Marine Reserve |
| | SO ₂ | sulfur dioxide |
| | SR | State Route |
| | SRA | State Responsibility Area |
| | SVP | Society of Vertebrate Paleontology |
| | SWPPP | Stormwater Pollution Prevention Plan |
| | SWRCB | State Water Resources Control Board |
| T | TAC | toxic air contaminant |
| U | USACE | U.S. Army Corps of Engineers |
| | USCG | U.S. Coast Guard |

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EXECUTIVE SUMMARY

1 This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the
2 California State Lands Commission (Commission or CSLC), as lead agency under the
3 California Environmental Quality Act (Pub. Resources Code, § 21000 et seq.), to analyze
4 and disclose the environmental effects associated with the proposed RTI Infrastructure,
5 Inc. Manchester Subsea Cables Project (Project). The Project would authorize RTI
6 Infrastructure, Inc. (Applicant or RTI) to build the infrastructure in terrestrial and marine
7 areas to be able to connect up to four fiber optic cables coming from Asia and Australia
8 (Figure ES-1).

9 The CSLC prepared an MND because it determined that, while the IS identifies potentially
10 significant impacts related to the Project, mitigation measures (MMs) incorporated into
11 the Project proposal and agreed to by the Applicant will avoid or mitigate those impacts
12 to a point where no significant impacts occur.

13 PROPOSED PROJECT

14 As the world relies on faster digital media and telecommunication systems (cell phones,
15 Internet, voice, streaming videos, banking transactions, shopping online, etc.), the data
16 transferring systems need to be updated to keep up with the technical advancements to
17 transmit uninterrupted telecommunication data. The proposed Project is going to help
18 transmit telecommunication data at a much faster speed with more connections between
19 the United States and Asia and the United States and Australia (Figure ES-1).

20 The Project would be located both on land (terrestrial) and in ocean (marine) areas just
21 north of the unincorporated town of Manchester, Mendocino County. The terrestrial
22 components of the telecommunication cable systems would be located above submerged
23 lands, or above the ordinary high-water mark to the onshore cable landing parcel (CLP)
24 (Figure ES-2). The initial support facilities, including the horizontal directional drilling of
25 four marine steel bore pipes offshore (5 or 6 inches in diameter), would be constructed in
26 2019 and 2020 for all of the cables coming to Manchester from 2020 until 2025. The four
27 different routes in the ocean stabilize and diversify telecommunications connections in
28 case of disasters interrupting data exchange.

29 Each cable would arrive offshore, it would be pulled through a marine steel bore pipe,
30 and then brought on land to the CLP. Each cable would then be routed through an
31 underground conduit system on both sides of State Route 1 (SR 1) and public roads to
32 connect with one of the three existing cable landing stations in Manchester that would
33 transmit signals to the technical hubs in Silicon Valley (south of San Francisco)
34 (Figure ES-2).

35 The marine cables coming from Asia or Australia (Figure ES-1) would cross the Pacific
36 Ocean, cross the continental shelf, would be pulled through the newly installed marine

steel bore pipes under the beach and bluff, and exit on land in the CLP (Figure ES-2). Each cable would be laid directly on the seafloor where the water is deeper than 5,904 feet. If the water is less than approximately 5,904 feet deep, then each cable would be buried. Depending on seafloor substrate, the cable would be plowed or post-lay buried under the seafloor.

ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

The environmental issues checked below in Table ES-1 would be potentially affected by this Project; a checked box indicates that at least one impact would be a “potentially significant impact.” The Applicant has agreed to Project revisions, including the implementation of MMs and Applicant Proposed Measures (APMs) that would reduce the potential impacts to “less than significant with mitigation,” as detailed in Section 3.0, *Environmental Checklist and Analysis*, of this MND. Table ES-2 lists the proposed MMs and APMs designed to reduce or avoid potentially significant impacts. With implementation of the proposed MMs and APMs, all Project-related impacts would be reduced to less than significant levels.

Table ES-1. Environmental Issues and Potentially Significant Impacts

| | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Cultural Resources – Tribal |
| <input type="checkbox"/> Energy | <input checked="" type="checkbox"/> Geology, Soils, and Paleontological Resources | <input checked="" type="checkbox"/> Greenhouse Gas Emissions |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Table ES-2. Summary of Mitigation Measures and Applicant Proposed Measures

| Biological Resources |
|--|
| MM BIO-1: Provide Environmental Awareness Training |
| MM BIO-2: Conduct Biological Surveying and Monitoring |
| MM BIO-3: Delineate Work Limits and Install Temporary Construction Barrier Fencing to Protect Sensitive Biological Resources |
| MM BIO-4: Identify and Avoid Sensitive Biological Resources through Use of Directional Boring |
| MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities |
| MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan |

Table ES-2. Summary of Mitigation Measures and Applicant Proposed Measures

| |
|---|
| MM BIO-7: Prepare and Implement a Site Restoration Plan |
| MM BIO-8: Install Escape Ramps in Open Trenches |
| MM BIO-9: Conduct Surveys for Point Arena Mountain Beaver |
| MM BIO-10: Limit Construction Period to Minimize Impacts on Point Arena Mountain Beaver |
| MM BIO-11: Avoid Point Arena Mountain Beaver Populations and Burrows |
| MM BIO-12: Survey for and Avoid Behren's Silverspot Butterfly and Lotis Blue Butterfly Habitat |
| MM BIO-13: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures |
| MM BIO-14: Conduct Appropriately Timed Floristic Surveys of Remaining Areas |
| MM BIO-15: Inspection and Burial of Cable |
| MM BIO-16: Cable Entanglements and Gear Retrieval |
| MM BIO-17: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan |
| MM BIO-18: Boring Beneath Environmentally Sensitive Habitat Areas |
| MM BIO-19: Locate Work and Staging Areas for the CLP and Associated Facilities outside Wet Meadow Habitat |
| MM BIO-20: Minimize Crossing of Hard Bottom Substrate |
| MM BIO-21: Contribute Compensation to Hard Substrate Mitigation Fund |
| MM BIO-22: Control of Marine Invasive Species |
| MM HAZ-1: Hazardous Materials Management and Contingency Plan |
| MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan |
| Cultural Resources |
| MM CUL-1: Discovery of Previously Unknown Cultural Resources |
| MM CUL-2: Conduct a Pre-Construction Offshore Archaeological Resources Survey |
| MM CUL-3: Conduct a Pre-Construction Offshore Historic Shipwreck Survey |
| MM CUL-4: Prepare and Implement an Avoidance Plan |
| MM CUL-5: Unanticipated Discovery of Human Remains |
| Cultural Resources – Tribal |
| MM TCR-1: Discovery of Previously Unknown Tribal Cultural Resources |
| MM TCR-2: Tribal Cultural Resources Treatment Plan |
| Geology, Soils, and Paleontological Resources |
| MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan |
| Greenhouse Gas Emissions |
| MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions |
| Hazards and Hazardous Materials |
| MM HAZ-1: Hazardous Materials Management and Contingency Plan |
| MM HAZ 2: Contaminated Materials Management Plan |
| MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan |
| MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities |
| MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan |

Table ES-2. Summary of Mitigation Measures and Applicant Proposed Measures

| Hydrology and Water Quality |
|---|
| MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan |
| MM HAZ-1: Hazardous Materials Management and Contingency Plan |
| MM HAZ-2: Contaminated Materials Management Plan |
| MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities |
| MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan |
| MM BIO-7: Prepare and Implement a Site Restoration Plan |
| Noise |
| MM N-1: Restrict Terrestrial Construction Work on Sundays |
| Recreation |
| MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners |
| Transportation |
| MM N-1: Restrict Terrestrial Construction Work on Sundays |
| MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners |
| Commercial Fisheries |
| APM-1: Fishing Agreement |
| APM-2: Marine Anchor Plan |

Figure ES-1. Proposed Cable System Alignments

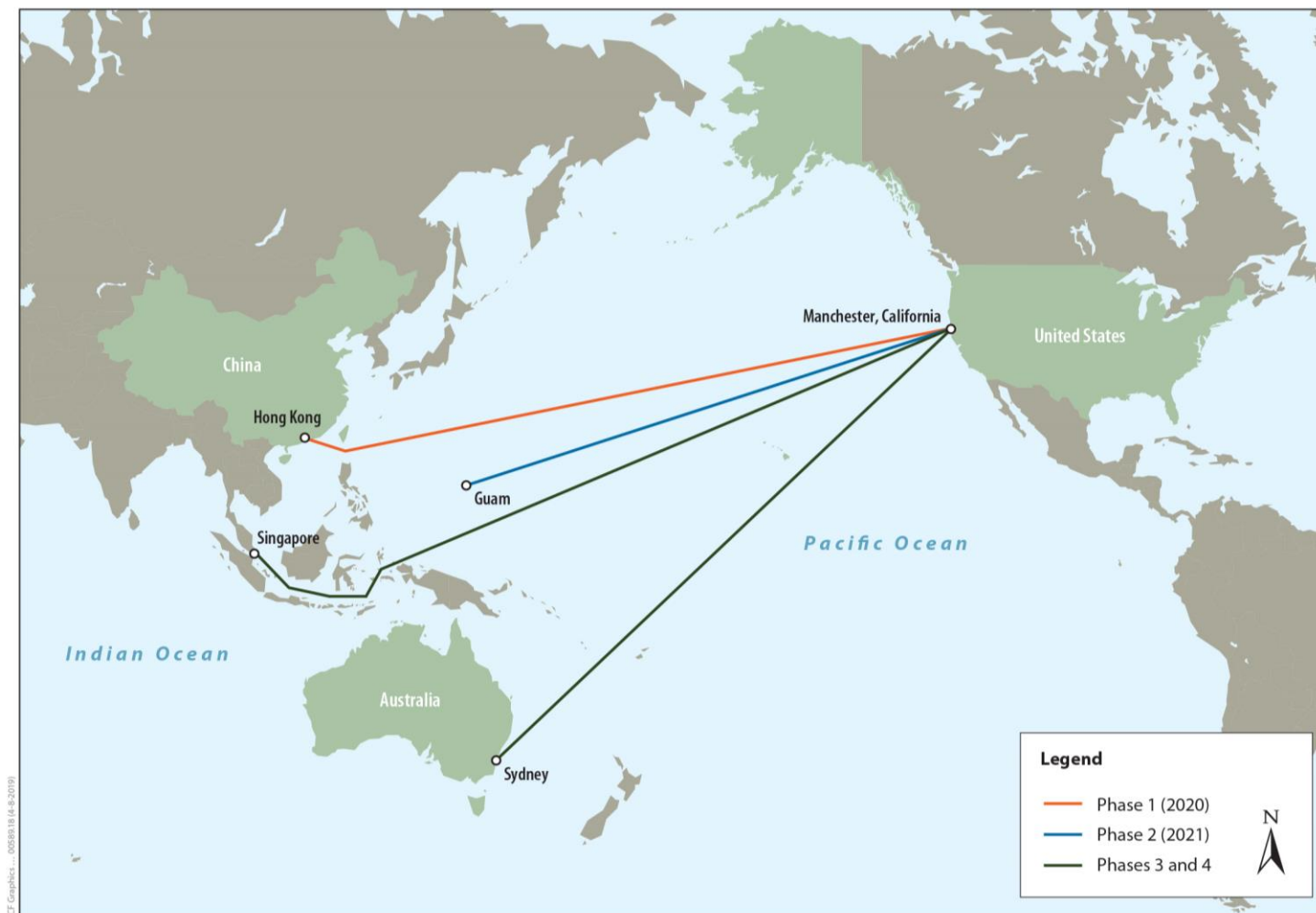
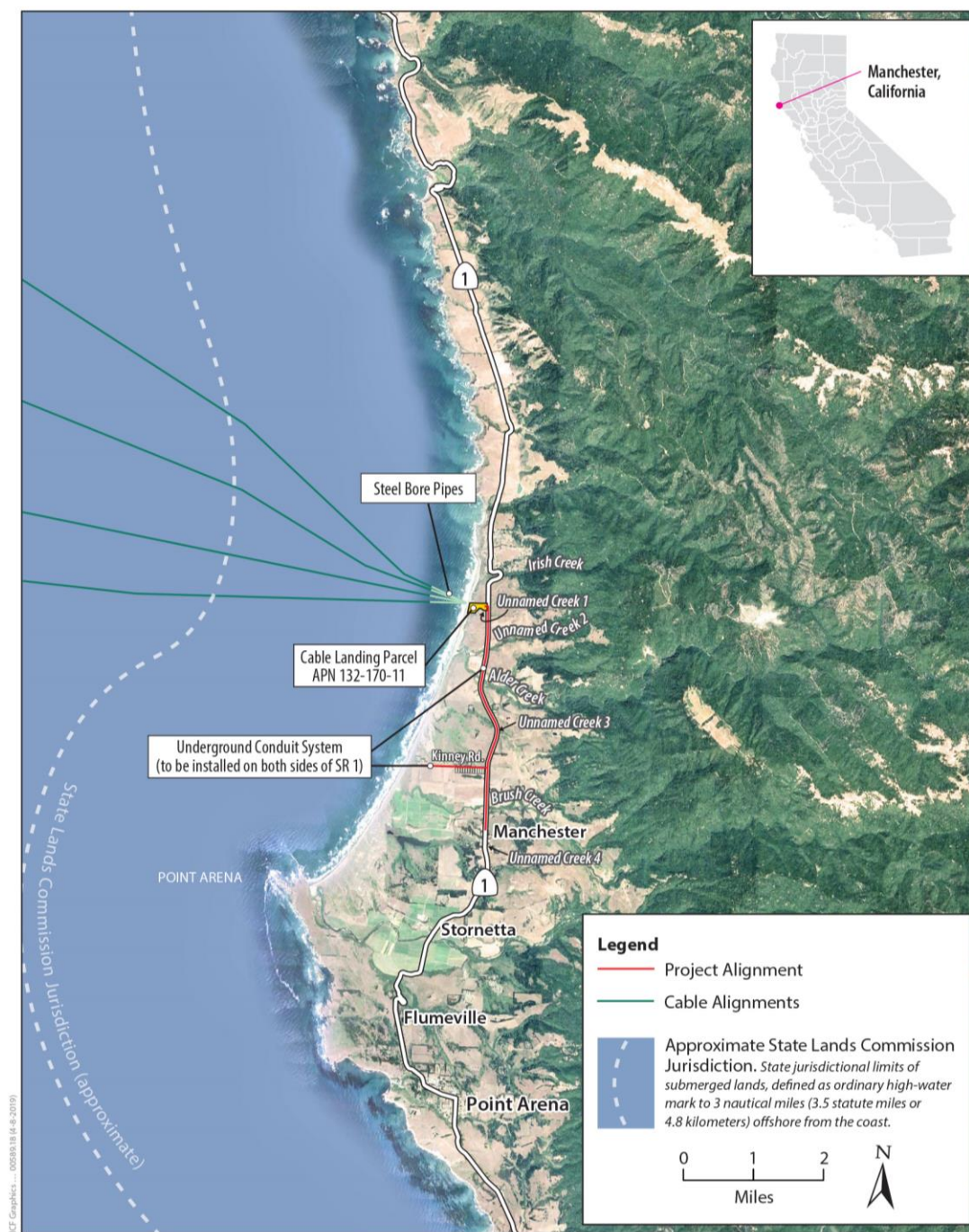


Figure ES-2. Project Location



1.0 PROJECT AND AGENCY INFORMATION

1.1 PROJECT TITLE

RTI Infrastructure, Inc. Manchester Subsea Cables Project (Project)

1.2 LEAD AGENCY AND PROJECT SPONSOR

| | |
|---|---|
| <u>Lead Agency</u> California State Lands Commission 100 Howe Avenue, Suite 100-South Sacramento, CA 95825 | <u>Contact Person</u> Afifa Awan, Senior Environmental Scientist Environmental Planning and Management Division Afifa.Awan@slc.ca.gov (916) 574-1891 |
| <u>Applicant</u> RTI Infrastructure, Inc. 268 Bush Street, #77 San Francisco, CA 94104 | <u>Contact Person</u> Chris Brungardt, Senior Vice President Chris.Brungardt@rticable.com (916) 949-9141 |

1.3 PROJECT LOCATION

The Project would be located both on land (terrestrial) and in ocean (marine) areas just north of the unincorporated town of Manchester, Mendocino County. The on-land Project components include the cable landing parcel, and the general routes of the terrestrial underground conduit systems leading to a final cable landing station (Figure 1-1).

The initial support facilities needed to bring up to four subsea fiber optic cables (cables) would be installed in 2019 and 2020. Once the support facilities would be installed, up to four cables would be brought to Manchester from Hong Kong (Phase 1 in 2020), Guam (Phase 2 in 2021), and Singapore or Sydney (Phases 3 or 4 in 2023 and 2025). Since Phases 3 and 4 are not yet finalized, the origin of the cables during these phases could be either Singapore or Sydney. Figure 1-2 provides the approximate marine routes of the proposed cables coming to Manchester from Hong Kong, Guam, Singapore, and Sydney. These four cables (coming from Asia or Australia) would be directly laid (not buried) on the deep seafloor and the continental shelf¹ when they are in water deeper than 5,904 feet and buried in sand when in water shallower than 5,904 feet. The cables would then be pulled through 5- to 6-inch-diameter steel marine bore pipes (installed by horizontal directional drilling [HDD]) from approximately 0.6 mile offshore under the beach and into the onshore landing manhole (LMH) at the cable landing parcel (CLP) (Assessor's Parcel Number 132-170-11). Once in the LMH, these cables would be carried up to 5 miles through an underground conduit system on both sides of SR 1 and public roads (a total

¹ The continental shelf is the western edge of the North American continent that lies under the ocean. It extends from the coastline to a drop-off point, where deep ocean starts. The water at the edge of the continental shelf at this location is approximately 5,904 feet deep.

Figure 1-1. Project Location

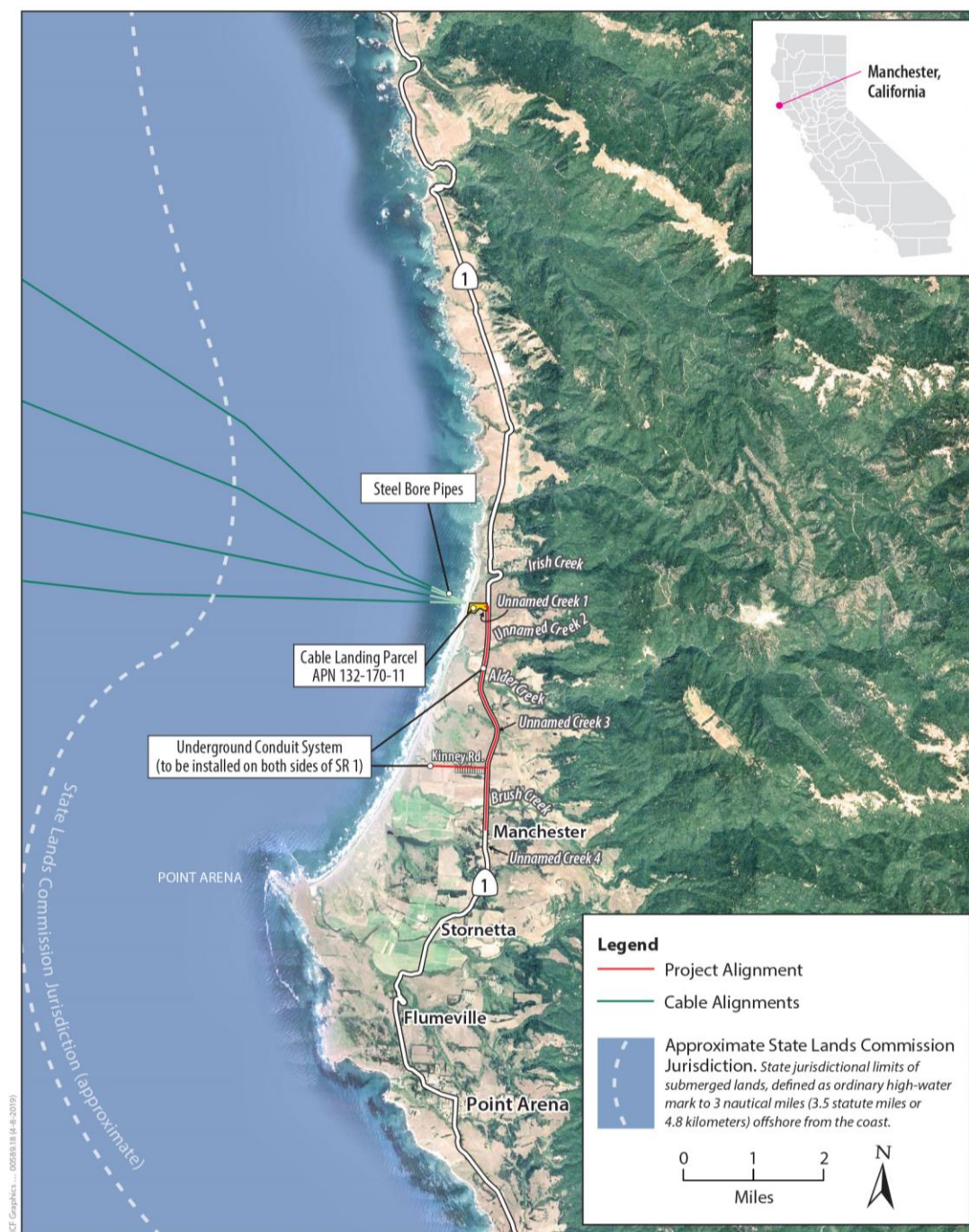
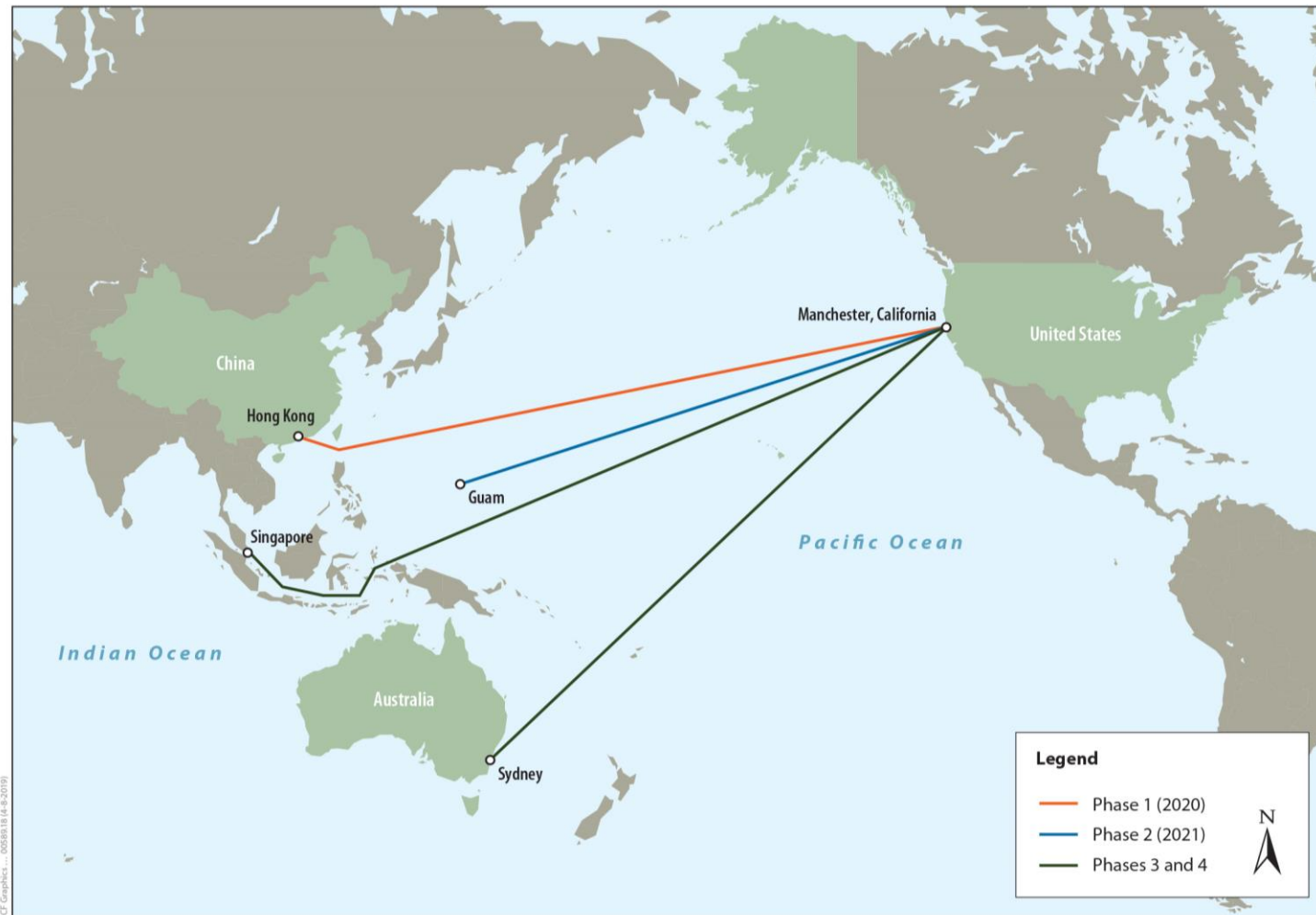


Figure 1-2. Proposed Cable Systems



of approximately 10 miles of conduits) to one of three existing cable landing stations (CLS) in Manchester.

1.4 ORGANIZATION OF THE MITIGATED NEGATIVE DECLARATION

This Initial Study/Mitigated Negative Declaration (IS/MND) is intended to provide the California State Lands Commission (Commission or CSLC), as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and other responsible agencies with the information required to exercise their discretionary responsibilities for the proposed Project. The MND is organized as follows:

- **Section 1** presents the Project background and Project location, agency and Applicant information, Project objectives, anticipated agency approvals, and a summary of the public review and comment process.
- **Section 2** describes the proposed Project—its layout, equipment, and facilities—and provides an overview of the Project’s operations and schedule.
- **Section 3**, the IS, presents the environmental setting, identification and analysis of potential impacts, and discussion of Project changes and other measures that, if incorporated into the Project, would mitigate or avoid those impacts, such that no significant effect on the environment would occur. The CSLC prepared this IS pursuant to State CEQA Guidelines section 15063.²
- **Section 4** presents the Mitigation Monitoring Program.
- **Section 5** discusses other Commission considerations relevant to the Project, such as climate change and sea-level rise, commercial fishing, and environmental justice that are in addition to the environmental review required pursuant to CEQA.
- **Section 6** presents information on report preparation and references.
- **Appendices** include specifications, technical data, and other information supporting the analysis presented in this MND:
 - Appendix A: Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Project
 - Appendix B: Air Quality Analysis Methodology and Results
 - Appendix C1: Habitat Types in the Biological Study Area
 - Appendix C2: Terrestrial Biological Resources Technical Report
 - Appendix C3: Aquatic Resources Delineation Report
 - Appendix C4: Environmentally Sensitive Habitat Areas Memorandum to Mendocino County, Planning and Building Services
 - Appendix C5: Marine Aquatic Habitats and Associated Biological Communities and Resources near Manchester Beach Technical Report
 - Appendix C6: Offshore Map

² The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

- 1 ○ Appendix D: Marine Cultural Resources Report
- 2 ○ Appendix E: Draft Engineering Geotechnical Report
- 3 ○ Appendix F: Fire Hazards Severity Zone Map

4 **1.5 PROJECT BACKGROUND AND OBJECTIVES**

5 **1.5.1 Project Need**

6 The Project is needed to keep up with the increasing demand for telecommunication
7 services between Silicon Valley (south of San Francisco) and both Asia and Australia
8 (Figure 1-2).

9 **1.5.2 Existing Technology and Infrastructure**

10 Existing cable systems that were installed 15 to 20 years ago are operating only at about
11 25 percent of their theoretical operating capacity. At present, 10 operating transpacific
12 cable systems link the West Coast of the United States to Asia (Japan, mainland Asia,
13 and southeast Asia) and Australia.³ The cables connecting the United States to Japan
14 carry 82 percent of existing transpacific telecommunication capacity. The older cable
15 technology limits the amount of telecommunication data that can be transferred between
16 the United States and Asia and Australia. The older cable technology could transmit
17 signals only up to approximately 5,500 miles and requires multiple cables to connect the
18 United States to places such as Hong Kong, Guam, Singapore, and Sydney.

19 **1.5.3 Proposed Technology and Infrastructure**

20 As the use of digital media and communication systems increase globally, there is a need
21 to upgrade and increase the number of fiber optic cables that carry this digital information.
22 Virtually all communications and data transmissions are converted to digital data and
23 transmitted across these lines. For example, telephone conversations, emails, social
24 media, Internet transmissions, photo and video sharing, etc. are transported as digital
25 data along these lines. As the world relies on faster and more bandwidth-intensive data
26 transmission and 4G and 5G⁴ networks, the proposed fiber optic cables are needed to
27 keep up with the technical advancements to transmit uninterrupted data. Worldwide
28 connectivity is essential to the global economy, and data transfer interruption needs to be
29 minimized. While other technologies, such as radio and satellite, can transmit data long
30 distances, only subsea fiber optic cables can supply the volume, speed, reliability, and
31 cost efficiency to meet current and future data demands.

32 The proposed Project cables would:

³ The 10 cable systems are: Pacific Crossing-1 (PC-1); Tata TGN-Pacific; New Cross Pacific (NCP); FASTER; Japan-U.S.; Unity/EAC-Pacific; Southern Cross Cable Network (SCCN); Hawaii; SEA-US; and Asia-America Gateway (AAG).

⁴ This refers to the data bandwidth, meaning the amount of data that can be moved (uploaded or downloaded) through a network over a certain time.

- Use newer cable technology since the current technology only uses 25 percent of capacity
- Allow direct transmission of telecommunication data across the entire distance from the United States to Hong Kong, Guam, Singapore, and Australia
- Provide a more resilient transmission system to be able to carry uninterrupted telecommunication data signals
- Provide multiple routes to transmit telecommunication data for near-instantaneous data rerouting during a mechanical failure caused by seismic events, extreme weather, or cable damage

1.5.4 Project Objectives

The proposed Project would help achieve the following objectives:

- Respond to the increasing need for connectivity between Asia, Australia, and the United States by installing modern cables with higher telecommunications data transmission capacity and direct connections between termini
- Increase telecommunications data transmission speeds
- Avoid identified seismically unstable zones
- Provide the first direct telecommunications link between Hong Kong and the United States
- Create diverse telecommunication pathways between the United States and Pacific Rim cities and countries

1.6 PUBLIC REVIEW AND COMMENT

Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must issue a proposed MND for a minimum 30-day public review period. Agencies and the public will have the opportunity to review and comment on the document. Responses to written comments received by CSLC during the 30-day public review period will be incorporated into the MND, if necessary, and provided in the Commission's staff report. In accordance with State CEQA Guidelines section 15074, subdivision (b), the Commission will review and consider the MND, together with any comments received during the public review process, prior to taking action on the MND and Project at a noticed public hearing.

1.7 APPROVALS AND REGULATORY REQUIREMENTS

1.7.1 California State Lands Commission

All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust. The State of California acquired sovereign ownership of all tidelands and submerged lands and beds

of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to, waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space.

On tidal waterways, the State's sovereign fee ownership extends landward to the ordinary high-water mark, which is generally reflected by the mean high-tide line, except for areas of fill or artificial accretion. For this Project, the State's sovereign fee ownership extends from the ordinary high-water mark to 3 nautical miles (nm) offshore from the coast as seen in Figure 1-1. The CSLC's authority is set forth in Division 6 of the Public Resources Code and California Code of Regulations, title 2, sections 1900–2970. The CSLC has authority to issue leases or permits for the use of sovereign land held in the Public Trust, including all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, as well as certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). The CSLC must comply with CEQA when it undertakes an activity defined by CEQA as a “project” that must receive discretionary approval (i.e., the CSLC has the authority to approve or deny the requested lease, permit, or other approval) and that may cause either a direct physical change or a reasonably foreseeable indirect change in the environment. CEQA requires the CSLC to identify the significant environmental impacts of its actions and to avoid or mitigate those impacts, if feasible.

The Applicant submitted an application to CSLC to use the area under CSLC's jurisdiction from the ordinary high-water mark to 3 nm (3.5 statute miles) offshore from the coast (Figure 1-1). Therefore, the CSLC would be issuing a new General Lease – Right-of-Way Use for the Project.

1.7.2 Other Agencies

In addition to CSLC, the Project is subject to the review and approval of other local, State, and federal entities with statutory or regulatory jurisdiction over various aspects of the Project as provided in Table 1-1. The applicant has commenced coordination with some of the relevant regulatory permitting agencies, including the U.S. Fish and Wildlife Service (USFWS), Mendocino County, and Caltrans. In nearly all cases, the analysis of impacts and mitigation identified in this document are based on experience working with the relevant regulatory permitting agencies on prior fiber optic cable projects. As part of the Project, all permits required for construction would be obtained before starting construction.

Table 1-1. Anticipated Agencies with Review/Approval over Project Activities

| | Permitting Agency | Anticipated Approvals/Regulatory Requirements |
|----------------|--|---|
| Local | County of Mendocino | Coastal Development Permit, Conditional Use Permit, Encroachment Permit |
| State | California State Lands Commission | General Lease – Right-of-Way Use |
| | California Coastal Commission | Coastal Zone Management Act Consistency Certification for the USACE Section 404 Authorization, Coastal Development Permit |
| | North Coast Regional Water Quality Control Board | Clean Water Act (CWA) Section 401 Water Quality Certification |
| | State Water Resources Control Board | CWA Section 402/NPDES Permit |
| | State Historic Preservation Office | Section 106 Compliance |
| | California Department of Fish and Wildlife | Section 1602 Lake or Streambed Alteration Agreement |
| | Mendocino County Air Quality Management District | Authority to Construct and Permit to Operate |
| | California Department of Transportation | Encroachment Permit |
| Federal | U.S. Army Corps of Engineers | CWA Section 404 and Section 10 Permit (under Nationwide Permit No. 12) |
| | U.S. Fish and Wildlife Service | Federal Endangered Species Act (FESA) Section 7 consultation, if required |
| | National Marine Fisheries Service | FESA Section 7 consultation, if required; consultation on marine mammal/sea turtle protection |
| | U.S. Coast Guard | Notice to Mariners |

2.1 PROJECT WORK AREAS

The proposed RTI Infrastructure, Inc. Manchester Subsea Cables Project (Project) would require work in both terrestrial (land) and marine (ocean) areas to connect the United States with Asia (Hong Kong, Guam, and Singapore) and Australia (Sydney) with telecommunication services (Figure 1-2).

2.1.1 Summary of Terrestrial Project Components

The following terrestrial Project components (see detailed discussion in Section 2.3) would be on land above ordinary high water (Figure 2-1).

- **Cable Landing Parcel (CLP).** The CLP is a private parcel (Assessor's Parcel Number 132-170-11) on a coastal bluff, where cable landing activities will occur in an approximate 100 by 150 feet area and would include the following components:
 - **Staging Area.** A temporary staging area would be used to park vehicles and store other construction equipment for both terrestrial and marine Project components.
 - **Landing Manhole (LMH).** The four cables would be pulled into an LMH through four marine steel bore pipes that would be installed using horizontal directional drilling (HDD) under the bluff, private beach, and near-shore areas in the ocean.⁵ The LMH also would provide access to the marine steel bore pipes.
 - **Ocean Ground Bed (OGB).** Each cable would carry electricity and would need to be grounded through an OGB system that would provide cathodic protection to control corrosion.
- **Underground Conduit System.** An underground conduit system would connect the LMH with the cable landing station (CLS). Separation of the cable systems is necessary to facilitate reliability and security of the independent systems. Depending on the final location of the CLS, a total of approximately 10 miles of underground conduit is expected to be needed for the two parallel alignments on both sides of SR 1, and, if selected, along Kinney Road to the AT&T CLS. The underground conduit system would be buried at least 3 feet deep, with periodic manholes for maintenance access.⁶
- **Cable Landing Station (CLS).** Telecommunications and power equipment for all four cables would be located at one of three existing CLSs (Figure 2-1). Three potential CLS sites are analyzed in this MND. If the Private CLS site is selected

⁵ Each marine steel bore pipe would be approximately 4,000 feet long. The total bored length for all four bores would be approximately 16,000 feet.

⁶ These manholes would be spaced every 1,200 to 2,500 feet along the underground conduit system.

(Figure 2-1), the cables would still need to be taken from there to either the AT&T CLS or Level3 CLS because only those two CLSs have existing connections to transmit data to the Bay Area.

- **Staging Area in Manchester.** An additional staging area would be located somewhere in Manchester (location not yet determined) to hold most of the Project-related equipment before it would be brought to the staging area in the CLP.

2.1.2 Summary of Marine Project Components

The marine Project components (detailed discussion in Section 2.4) would be constructed from the shoreline to the outer limit of the continental shelf approximately 36 miles offshore (Figure 2-2). The continental shelf at this location is approximately 5,904 feet⁷ deep.

- **Steel Marine Bore Pipes.** Four steel marine bore pipes (5 to 6 inches in diameter) would be directionally bored by HDD from the CLP to approximately 3,280 feet offshore. These steel marine bores would be buried at least 35 feet deep (Figure 2-2). The steel marine bores would exit offshore at an ocean depth of approximately 30 to 40 feet.
- **Marine Cables.** The four cables would be coming from Hong Kong, Guam, Singapore, and Sydney from 2020 until 2025. Where the water is deeper than 5,904 feet, these cables would be placed directly on the seafloor. Where the water is less than 5,904 feet deep, the cables would be installed by plowing or by post-lay burial method (depending on seafloor characteristics). The cable lay ship (with the help of a work boat and divers) would bring the cables to the end of the steel marine bore pipes out at about 3,280 feet offshore. Then, these cables would be pulled through their own individual steel marine bore (constructed in Phase 1) to the LMH.

2.2 PROJECT WORK PHASES AND WORK SCHEDULE

2.2.1 Work Phases

Up to four independent cable systems would connect the United States to Hong Kong, Guam, Singapore, and Sydney (Figure 1-2). The first two phases of the cable systems would connect to Hong Kong and Guam. In either Phase 3 or 4, the Singapore or Sydney connections would be installed. Regardless of the cable systems' ultimate destination, all four would have similar environmental impacts in the Project area.

⁷ U.S. federal jurisdiction extends to the edge of the continental shelf under the Outer Continental Shelf Lands Act.

Figure 2-1. Terrestrial Project Components

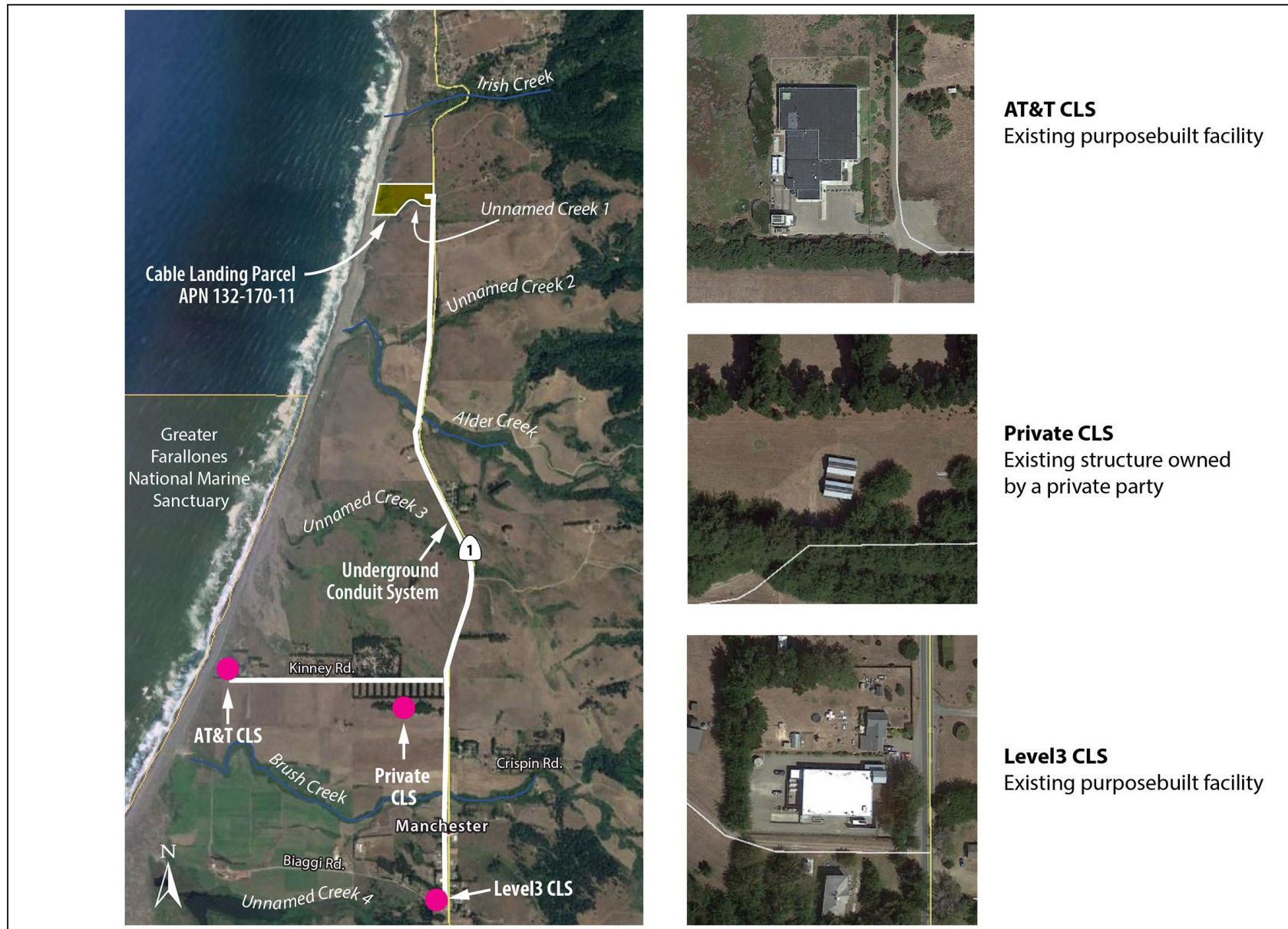
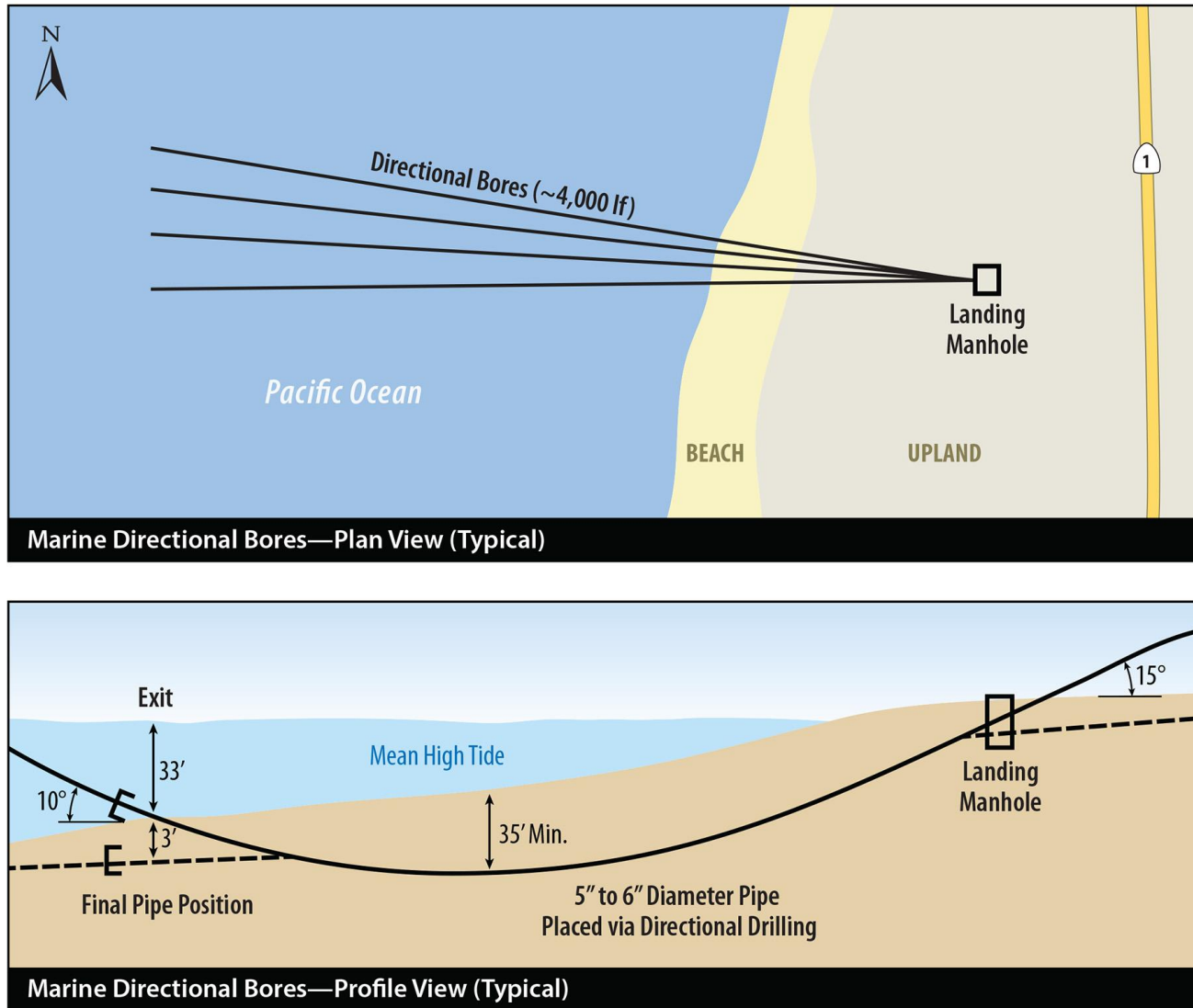


Figure 2-2. Marine Project Components



The initial support facilities and the four phases are summarized below:

- Initial Support Facilities Constructed in 2019 and 2020:** Before the first cable can be brought from Hong Kong to California, all of the initial support facilities would need to be constructed. These facilities also are required before the second, third, or fourth cables can be brought to the United States:

 - Set up CLP (including staging area and LMH)
 - HDD four marine steel bore pipes for the proposed four cables
 - Upgrade one of the CLS facilities from the inside and test it, so it would be ready to receive additional facilities once a cable is brought to CLS
 - Install two terrestrial underground conduit systems, one on each side of SR 1 and public roads that would carry all four cables from the LMH to the final CLS facility in Manchester that is already connected to the local telecommunication carrier (Figure 2-1).
- Phase 1: Hong Kong to California (HK-CA) Expected in 2020.** The first phase would connect Hong Kong to California with the following major being installed as Phase 1:

 - Install the HK-CA cable system, including the marine fiber optic cable, the terrestrial fiber optic cable, and associated ground and power cables
 - Install additional facilities for the HK-CA cable system in the CLS
 - Install one OGB for the HK-CA cable system at the CLP.
- Phase 2: Guam to California (G-CA) Expected in 2021.** The second phase would connect Guam to California with the following major facilities being installed as Phase 2:

 - Install the G-CA cable system, including the marine fiber optic cable, the terrestrial fiber optic cable, and associated ground and power cables
 - Install additional facilities for the G-CA cable system in the CLS
 - Install one OGB for the G-CA cable system at the CLP.
- Phase 3: Singapore or Sydney to California Expected in 2023.** The third phase would connect Singapore or Sydney (not yet determined which would be installed first) to California with the following major facilities being installed as Phase 3:

 - Install the third cable system, including the marine fiber optic cable, the terrestrial fiber optic cable, and associated ground and power cables
 - Install additional facilities for this cable in the existing CLS
 - Install one OGB for the third cable system at the CLP.
- Phase 4: Singapore or Sydney to California Expected in 2025.** The fourth phase would connect either Singapore or Sydney not yet determined which would be installed first) to California with the following major facilities being installed as Phase 4:

- 1 ○ Install the fourth cable system, including the marine fiber optic cable,
- 2 terrestrial fiber optic cable, and associated ground and power cables
- 3 ○ Install additional facilities for the fourth cable in the existing CLS
- 4 ○ One OGB for the fourth system at the CLP.

5 2.2.2 Work Schedule

6 Table 2-1 below provides the anticipated work schedules for the Project's different
7 phases. The Applicant proposes to conduct terrestrial and nearshore activities during
8 daylight hours 7 days per week. The conduit installation and cable pulling work would
9 require up to 48 hours of continuous effort. Terrestrial construction would take
10 approximately 4 months for Phase 1 and only 1 to 2 weeks each for Phases 2, 3, and 4.
11 CLS equipment installation and testing would take approximately 5 months for each cable
12 phase. Offshore construction activities such as the cable laying would happen on a
13 continuous 24-hour basis.

**Table 2-1. Proposed Initial Support Facilities and Phases
with Construction Schedule**

| Phase and Component | Proposed Start Date | Proposed Hours | Duration |
|---|---------------------------|---------------------------|-----------|
| Initial Support Facilities and Phase 1 | | | |
| Terrestrial conduit installation | Fall 2019/ Winter 2020 | Daylight, 7 days/week | 12 weeks |
| Directional bores—marine | Fall 2019/ Winter 2020 | 24 hours/day, 7 days/week | 3–4 weeks |
| OGB and LMH | Fall 2019/ Winter 2020 | Daylight, 7 days/week | 2 weeks |
| Terrestrial cable pulling | Fall 2019/ Winter 2020 | Daylight, 7 days/week | 1 week |
| CLS facility (construction and testing) | Fall 2019/ Winter 2020 | Daylight, 7 days/week | 5 months |
| Pre-lay grapnel run | Fall 2019/ Winter 2020 | 24 hours/day, 7 days/week | 1 week |
| Marine cable landing | Spring 2020 | 24 hours/day, 7 days/week | 2 days |
| Marine cable lay | Spring 2020 | 24 hours/day, 7 days/week | 4 weeks |
| Marine cable burial (diver-assisted) | Spring 2020 | Daylight, 7 days/week | 1 week |
| Marine cable burial (ROV-assisted) | Spring 2020 | 24 hours/day, 7 days/week | 2 weeks |
| Phase 2 | | | |
| OGB installation | Fall 2021 | Daylight, 7 days/week | 2 weeks |
| Terrestrial cable pulling | Fall 2021 | Daylight, 7 days/week | 1 week |
| CLS facility (construction and testing) | Fall 2021 | Daylight, 7 days/week | 5 months |
| Pre-lay grapnel run | Fall 2021 | 24 hours/day, 7 days/week | 1 week |
| Marine cable landing | Fall 2021 | 24 hours/day, 7 days/week | 2 days |

**Table 2-1. Proposed Initial Support Facilities and Phases
with Construction Schedule**

| Phase and Component | Proposed Start Date | Proposed Hours | Duration |
|---|---------------------|---------------------------|----------|
| Marine cable lay | Fall 2021 | 24 hours/day, 7 days/week | 4 weeks |
| Marine cable burial (diver-assisted) | Fall 2021 | Daylight, 7 days/week | 1 week |
| Marine cable burial (ROV-assisted) | Fall 2021 | 24 hours/day, 7 days/week | 2 weeks |
| Phase 3 | | | |
| OGB installation | Fall 2023 | Daylight, 7 days/week | 2 weeks |
| Terrestrial cable pulling | Fall 2023 | Daylight, 7 days/week | 1 week |
| CLS facility (construction and testing) | Fall 2023 | Daylight, 7 days/week | 5 months |
| Pre-lay grapnel run | Fall 2023 | 24 hours/day, 7 days/week | 1 week |
| Marine cable landing | Fall 2023 | 24 hours/day, 7 days/week | 2 days |
| Marine cable lay | Fall 2023 | 24 hours/day, 7 days/week | 4 weeks |
| Marine cable burial (diver-assisted) | Fall 2023 | Daylight, 7 days/week | 1 week |
| Marine cable burial (ROV-assisted) | Fall 2023 | 24 hours/day, 7 days/week | 2 weeks |
| Phase 4 | | | |
| OGB installation | Fall 2025 | Daylight, 7 days/week | 2 weeks |
| Terrestrial cable pulling | Fall 2025 | Daylight, 7 days/week | 1 week |
| CLS facility (construction and testing) | Fall 2025 | Daylight, 7 days/week | 5 months |
| Pre-lay grapnel run | Fall 2025 | 24 hours/day, 7 days/week | 1 week |
| Marine cable landing | Fall 2025 | 24 hours/day, 7 days/week | 2 days |
| Marine cable lay | Fall 2025 | 24 hours/day, 7 days/week | 4 weeks |
| Marine cable burial (diver-assisted) | Fall 2025 | Daylight, 7 days/week | 1 week |
| Marine cable burial (ROV-assisted) | Fall 2025 | 24 hours/day, 7 days/week | 2 weeks |

Terms:

CLS = cable landing station

LMH = landing manhole

OGB = ocean ground bed

ROV = remotely operated vehicle

1 2.3 DETAILED TERRESTRIAL PROJECT COMPONENTS

2 Terrestrial construction activities would be above the ordinary high-water mark and would
3 include delivering staging materials and equipment, clearing and grading, trenching,
4 conduit placement, backfilling, trenchless installation, directional boring (trenchless
5 method), conventional boring (typically used for roads), manhole installation, conduit and
6 cable pulling, and surface restoration.

7 2.3.1 Cable Landing Parcel (CLP)

8 As seen in Figure 2-1, the CLP would be used to receive the marine cables. There would
9 be no permanent aboveground structures at the CLP. The CLP would be used for staging

1 areas, marine steel directional bores, LMH, surface access vault, OGB, and other
2 components like boring equipment, bore entry, generator, water tank, and dumpster sites
3 (Figure 2-3).

4 The following components would be in the CLP.

- 5 • **Staging Areas:** The following two staging areas are expected to be required:
 - 6 ○ At the CLP — Figure 2-3 provides a conceptual layout of the staging area
7 at the CLP.
 - 8 ○ Near Manchester — the specific location of a staging area near Manchester
9 has not been finalized.

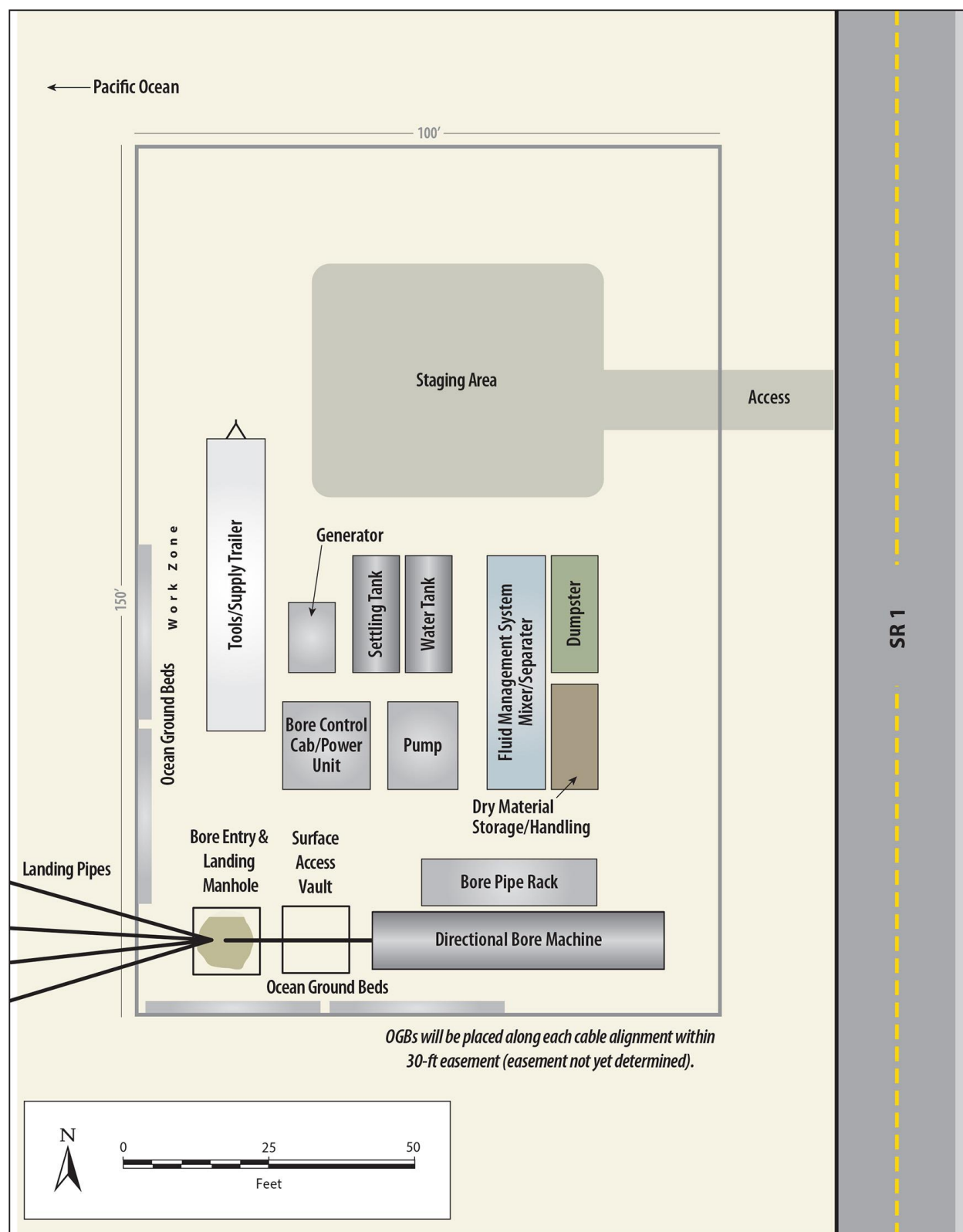
10 Equipment and materials (e.g., backhoes, pipe, conduit, and cable) needed to
11 install the terrestrial components of the work would be brought to the staging areas
12 and then distributed to the job site during each day's work. Trucks would access
13 the Project site using existing highways and roads. The two staging areas would
14 be occupied from approximately 2 weeks prior to the beginning of construction until
15 approximately 2 weeks following the end.

- 16 • **Marine Steel Directional Bores:** All boring equipment for the marine steel
17 directional bores would be placed at the CLP site (Figure 2-3). The CLP site would
18 be the place where the bore entry to HDD all four marine steel bore pipes (5 to
19 6 inches in diameter) would occur. The marine cable also would be pulled through
20 the LMH as provided in Figure 2-3.

- 21 • **Landing Manhole (LMH):** The LMH would house the splice where the terrestrial
22 cables and the marine cables connect. The LMH would be connected to the CLS
23 through the underground conduit system (Figure 2-1). The LMH would be
24 approximately 8 feet wide by 12 feet long by 9 feet deep and would be buried with
25 a cast-iron manhole cover 36 inches in diameter at grade level. The manhole cover
26 would be marked with appropriate identification and would be secured (i.e., locked
27 and bolted). The LMH would be installed in 2 days by excavating with a rubber-
28 tired backhoe or excavator, placing the manhole in the excavation, and backfilling
29 around the manhole. Operators then compact the material using a hand-operated
30 vibratory compactor.

- 31 • **Surface Access Vault:** In addition to the LMH, a separate access vault would be
32 placed on the land side of the manhole. The surface access vault would be a
33 4-foot-wide by 5-foot-long by 2.5-foot-deep concrete box with a steel traffic lid
34 (Figure 2-3). The surface access vault would allow for installation of the marine
35 cables without additional surface disturbance.

Figure 2-3. Cable Landing Parcel



- **Ocean Ground Bed (OGB):** OGB would be installed after each cable is pulled onshore to ground that cable (Figure 2-3). As seen in Figure 2-4, the OGB is needed for cathodic protection to control corrosion and to provide a ground for the electricity that powers the marine cable amplifiers. Each OGB would consist of four to six anodes installed into holes drilled down to the seawater level. A copper ground cable (direct current [DC]) would connect the tops of the anodes to one another and back to the ground cable in the LMH.

2.3.2 Underground Conduit System

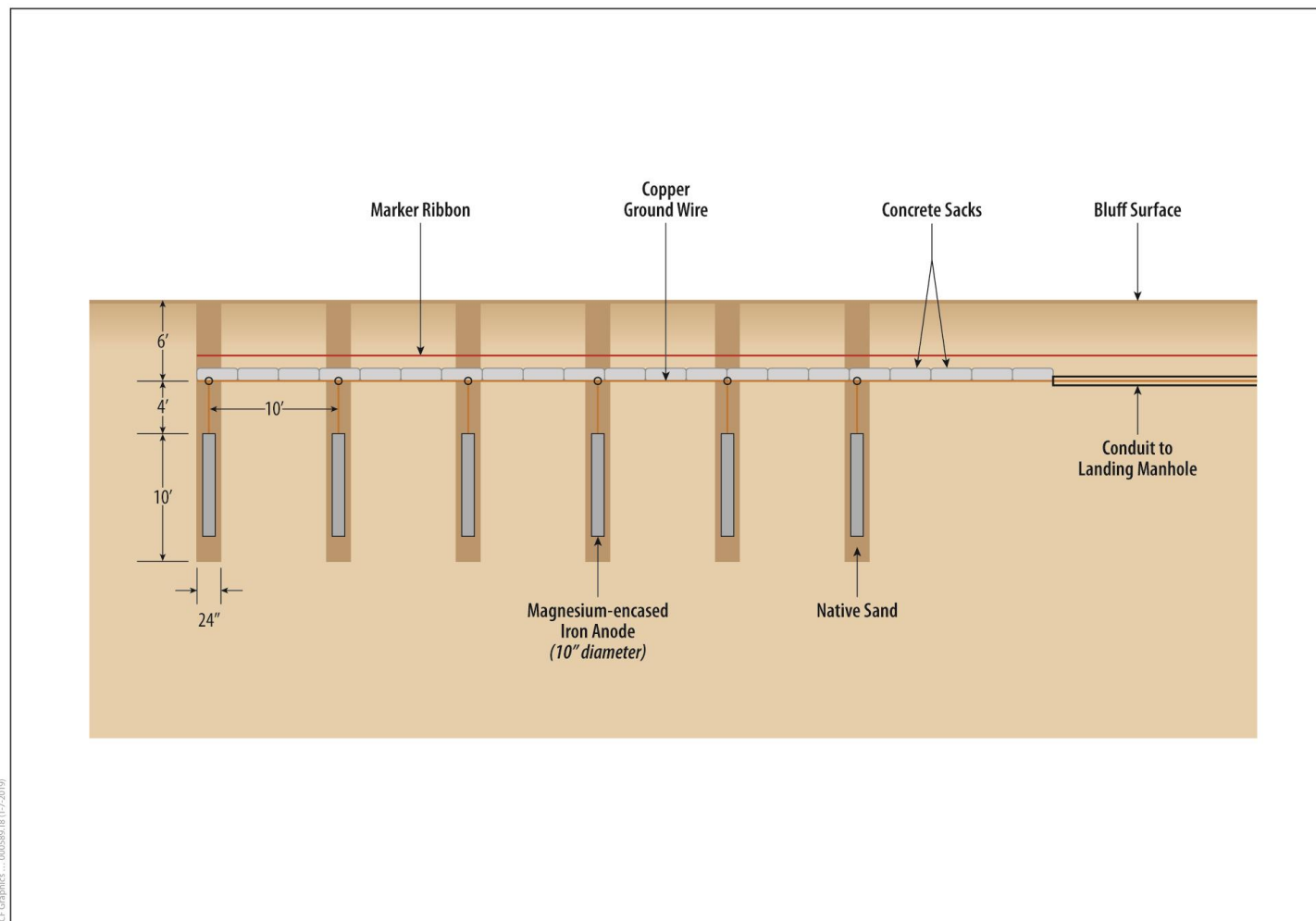
An underground conduit system would connect the LMH with the CLS (Figure 2-1). Separation of the cable systems is necessary to facilitate reliability and security of the independent systems. The alignment of these underground conduits would follow the Caltrans right-of-way (ROW) on both sides of SR 1 and on public roads (depending on the final CLS location selected) from the LMH location to the CLS. The Applicant is coordinating with Caltrans and the County. Depending on the final location of the CLS, a total of approximately 10 miles of underground conduit is expected to be needed for the two parallel alignments on both sides of SR 1, and, if selected, along Kinney Road to the AT&T CLS. Construction techniques are discussed in Section 2.3.4. Each terrestrial cable system would consist of three cables:

1. Fiber optic cable—the fiber optic cable transmits telecommunications data.
2. Power cable—the insulated copper power cable transmits power from the CLS facility to the marine cable.
3. Ground cable—the insulated copper ground cable is part of the electrical equipment ground system and connects the CLS to the OGB at the CLP.

Each cable would be contained in a 1- to 2-inch-diameter high-density polyethylene conduit. Each underground conduit system on either side of SR 1 and other public roads would contain seven conduits including one maintenance conduit.

Because the completed Project would include four cable systems, the two underground conduit systems on both sides of SR 1 and other public roads would include a total of 12 conduits for cable systems and two maintenance conduits, for a total of 14 installed conduits. As stated in Section 2.2.1, the preferred method to install all the underground conduit system would be by directional boring under waterways and roadways (Table 2-2) when the infrastructure would be constructed. Only after consultations with the appropriate agencies, it would be decided that the cables along SR 1 would be bored under any water streams or would be hung on the bridges crossing those water streams. After the infrastructure is in place, the first cable would be pulled through the underground conduit system in Phase 1. In subsequent phases, the additional cables would be pulled through the terrestrial conduit system.

Figure 2-4. Cross Section of Ocean Ground Bed



1 The trenchless boring or trench boring for the underground conduit system would include
2 the following components.

- 3 • **Marker Ribbon:** During installation of the underground conduit system, a marker
4 ribbon consisting of an orange warning tape would be buried approximately 1 foot
5 deep to alert individuals digging above the cable.⁸
 - 6 • **Surface Cable Markers:** Cable markers would be located along the terrestrial
7 route at intervals of 500 to 1,000 feet to mark the location of the cable in open
8 areas. The markers would consist of wood poles measuring 4 to 6 inches square
9 by 4 feet tall. They would be placed at the edge of the ROW along all terrestrial
10 cable alignments (i.e., on both sides of SR 1). Signs would be placed on the posts
11 to indicate the presence of a buried cable.
 - 12 • **Intermediate Manholes:** Precast concrete manholes would be placed at intervals
13 of approximately 1,200 to 2,500 feet along the routes between the CLS and the
14 LMH. The manholes are necessary to allow access to the underground conduit
15 system for cable installation and maintenance. Typically, the manholes would be
16 approximately 4 feet square and 6 feet deep, with a cast-iron manhole cover
17 36 inches in diameter at grade level (i.e., flush with the ground). All manhole covers
18 would be marked with appropriate identification and would be secured (i.e., locked
19 and bolted). Depending on the final alignments, approximately 40 intermediate
20 manholes are anticipated.
- 21 Activities around each manhole pit, such as the laydown of equipment and
22 material, would encompass approximately 1,000 square feet. A typical manhole
23 placement crew can install one to two intermediate manholes per day.

24 2.3.3 Cable Landing Station (CLS)

25 All four cables coming to Manchester would end at one of the three CLS locations
26 (Figure 2-1) with its own dedicated equipment space. The three suitable CLS sites
27 identified are analyzed in the MND. The equipment installed at the CLS site would be
28 housed in an already existing structure at one of the three potential CLS sites. If the
29 Private CLS site is selected, then the cables would still need to go from there to either the
30 AT&T CLS or Level3 CLS because these are the only sites with existing connections that
31 would transmit data to the Bay Area.

⁸ The location of the fiber optic line also is entered into the databases used to support the utility location services that can be accessed by calling 811 before digging.

As seen in Figure 2-5, the CLS equipment would require a total structural space of approximately 1,240 square feet:

- 1,000 square feet to house the equipment
- 240 square feet on an enclosed pad to support two backup generators

The following equipment would be housed in the CLS (Figure 2-5):

- Submarine line termination equipment also referred to as “switching equipment”—connects the marine cable to the terrestrial cable
- Batteries
- Diesel generators—two 150-kilowatt (kW) (200 horsepower) diesel generators for backup power
- Fuel (diesel) tank—one 1,000-gallon diesel fuel tank for the diesel generators
- Air conditioning units—four 6 kW air conditioning units for cooling the equipment
- Pad-mounted transformer—one 150 kW pad-mounted transformer for transforming current from AC to DC
- Fire suppression—equipment for suppressing a fire
- Other electrical equipment—other equipment to handle electrical connections and power, including power feed equipment and batteries
- Signal amplification equipment for the fiber optic cable

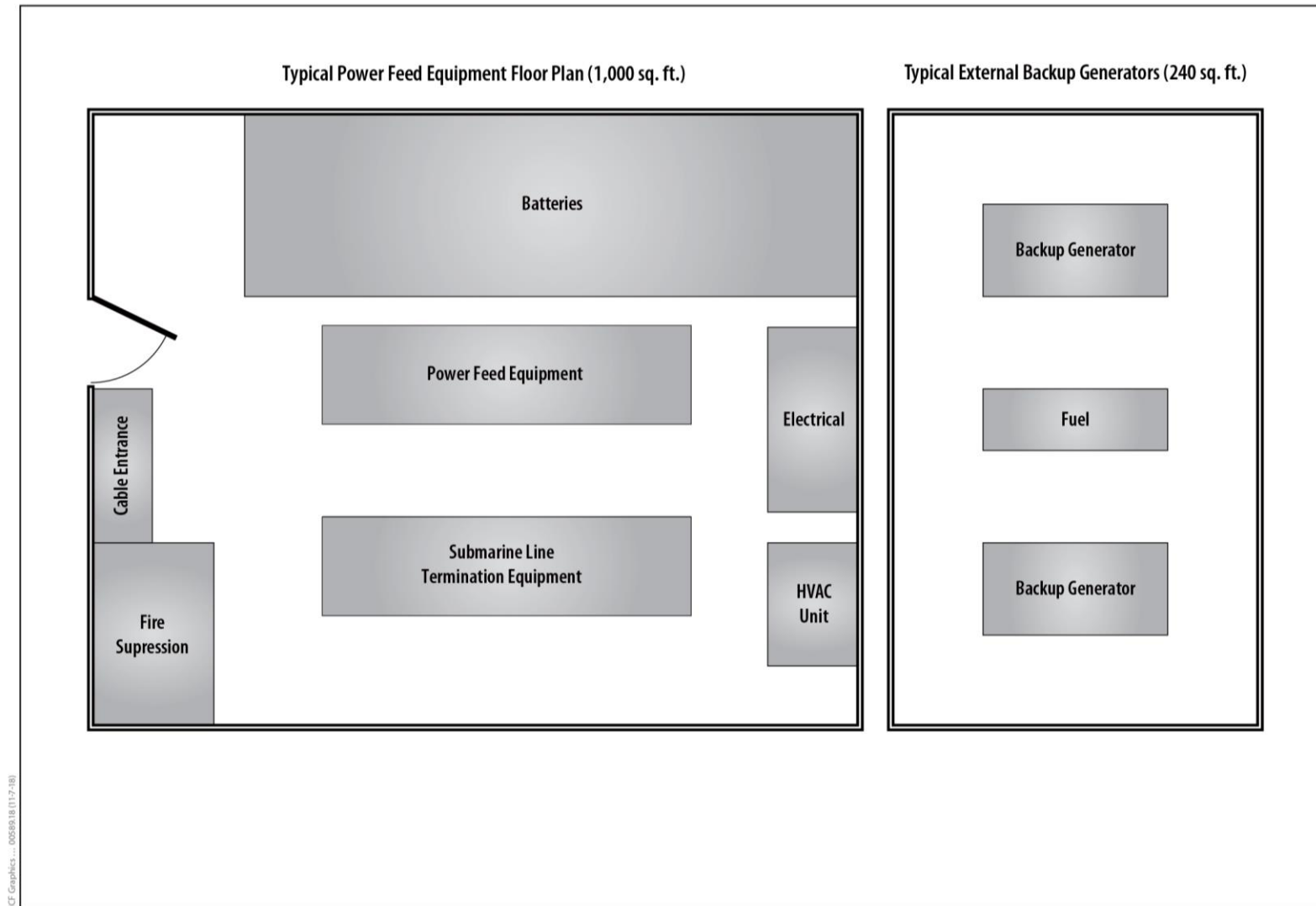
2.3.3.1 Electrical Signal in the Fiber Optic Cable

The cables contain a copper electrical conductor necessary to regenerate the light signal being transmitted through the fiber optic cable as it crosses the ocean. Standard commercial electrical power sources on the terrestrial end of the cable would supply the electrical power. Normal operations at the CLS would require approximately 80 kW of 480-volt AC service, or approximately 170 amps. The commercial power is converted to DC, and the voltage and amperage are converted to match the needs of the signal regenerating technology. The marine fiber optic cable carries the converted DC electrical current.

2.3.3.2 Cable Landing Station Operating Staff

The CLS would not be permanently staffed. A technician would make periodic service calls to each facility as needed and during weekly routine system testing. The facilities typically would be accessed during normal working hours (i.e., Monday through Friday, 8 a.m. to 5 p.m.) except in emergencies.

Figure 2-5. Cable Landing Station Components



2.3.4 Terrestrial Features and Construction Techniques

2.3.4.1 Permanent Easement at the Cable Landing Parcel

Preliminary design calls for a permanent easement of approximately 0.9 acre on the CLP from above the ordinary high-water mark under the beach up to the bluff, where cables would land at the LMH area. This easement area would encompass the footprint of the cables from the beach to the LMH, the LMH, the OGBs, and the terrestrial cable route to SR 1 and surface roads.

2.3.4.2 Traffic Control

Because the terrestrial alignment (Figures 2-1 and 2-3) would be mainly within public road ROWs (SR 1 and possibly Kinney Road), traffic would be controlled and coordinated with the California Department of Transportation (Caltrans) and Mendocino County. Traffic control would conform to the specifications of those jurisdictions.

Materials needed for the Project would be delivered to the staging area in Manchester at the beginning of construction. Initially, approximately 30 tractor-trailer loads of construction equipment and materials would be delivered. In addition, one fuel truck would make a daily delivery of fuel, and there would be about three deliveries of materials and supplies weekly.

Each load would take approximately 10 to 20 minutes to unload. Standard traffic and pedestrian control measures would be implemented to ensure that vehicle and pedestrian access is not unduly disrupted.

2.3.4.3 Terrestrial Equipment and Personnel

Table 2-2 provides the equipment and personnel likely to be required for terrestrial construction activities, such as clearing the construction areas of vegetation, grading, and constructing trenches. Each of the construction activities are described in detailed below.

Table 2-2. Equipment and Personnel for Terrestrial Work

| Equipment | Personnel |
|--|------------------|
| Marine Directional Bores | |
| 1 HDD powerplant | 1 foreperson |
| 1 excavator or front-end loader | 3 operators |
| 1 pickup truck | 6 laborers |
| 1 welder | |
| 1 generator | |
| 1 tractor trailer | |
| 1 fluid management system | |
| 1 directional bore machine | |
| 1 control shack (10 feet X 10 feet) | |
| 1 equipment and supply trailer | |
| Manhole Installation | |
| 1 excavator | 1 foreperson |
| 1 delivery truck with boom | 2 operators |
| 1 dump truck | 1 laborer |
| 1 equipment and supply trailer | 1 inspector |
| 1 handheld vibratory compactor | |
| Terrestrial Trenchless Conduit Installation (by directional bore) | |
| 1 bore machine with self-contained water mixing tank | 1 foreperson |
| 1 one-ton truck | 1 operator |
| 1 pickup truck | 3 laborers |
| 1 supply and equipment trailer | 1 inspector |
| 1 handheld vibratory compactor | |
| Conventional Boring | |
| 1 bore machine | 1 foreperson |
| 1 backhoe or excavator | 1 operator |
| 1 supply and equipment trailer | 3 laborers |
| 1 pickup truck | 1 inspector |
| 1 saw cutter | |
| 1 handheld vibratory compactor | |
| Trench Construction | |
| 1 concrete/asphalt saw | 1 foreperson |
| 1 backhoe, trencher, or excavator | 2 operators |
| 1 pickup truck | 3 laborers |
| 1 dump truck | 1 inspector |
| 1 asphalt truck | |
| 1 pavement roller | |
| 1 equipment and supply trailer | |
| 2 handheld vibratory compactors | |
| 1 concrete/asphalt saw | 1 foreperson |

Table 2-2. Equipment and Personnel for Terrestrial Work

| Equipment | Personnel |
|--|------------------|
| Cable Landing Station Power Feed Equipment Construction | |
| 1 crane | 1 foreman |
| 1 backhoe | 2 operators |
| 1 equipment truck | 3 laborers |
| 1 pickup truck | 1 inspector |
| Marine Cable Pulling | |
| 1 backhoe | 3 forepersons |
| 1 pickup truck | 2 operators |
| 1 hydraulic winch | 2 laborers |
| 1 crane or boom truck | 3 inspectors |
| 1 generator | |
| 1 equipment and supply trailer | |
| Ocean Ground Bed Installation | |
| 1 backhoe | 1 foreperson |
| 1 well-drilling machine | 2 operators |
| 1 one-ton truck | |
| 1 pickup truck | 2 laborers |
| 1 equipment and supply trailer | |
| Conduit and Terrestrial Cable Pulling | |
| 1 cable-pulling truck | 1 foreperson |
| 1 pickup truck with cable reel trailer | 3 laborers |
| 1 supply and equipment truck | 1 inspector |

Term:

HDD = horizontal directional drilling

1 2.3.4.4 Marine Steel Bores and Horizontal Directional Drilling (HDD) Methods

2 The four steel marine bore pipes (5 to 6 inches in diameter) would be installed from the
3 CLP to offshore approximately 3,280 feet using the HDD technique, which would avoid
4 impacts on the surface area of the private beach, surf zone, and sea floor. The HDD
5 would install these marine steel bore pipes approximately between 35 to 50 feet below
6 the beach and the seafloor (Figure 2-2).

7 Prior to HDD operations, engineers would produce a detailed engineering plan and profile
8 drawing. The drawing would depict the horizontal and vertical alignment that would best
9 fit the site conditions based on previous surveys of the land and sea floor (Appendix E:
10 Draft Engineering Geotechnical Report). In addition, the engineering team would take soil
11 boring samples to determine the subsurface geology; this information is necessary to
12 select the correct boring depths, mud mixes, and drilling head types. Soil samples would
13 be taken deep enough to cover the potential subsurface stratum where the HDD route
14 would possibly pass through.

1 The bore site for the marine steel bore pipes would measure approximately 100 by
2 150 feet, or 15,000 square feet of work space (Figure 2-3). The bore site would be large
3 enough to accommodate materials storage needs.

4 The entry pit for the marine bore pipes would measure approximately 10 feet wide by
5 12 feet long by 4 feet deep. The entry pit also would serve as the fluid return pit that would
6 collect the drilling fluid that returns to the bore site. Once the directional bore is complete,
7 the bore pit would be expanded to allow for installation of the LMH.

8 The underground conduit system would be installed under the streams⁹ using boring
9 technique (Figure 2-1).

10 **Horizontal Directional Drilling (HDD) Technique**

11 The HDD would be guided by a drill head fitted with a steering tool using magnetometers
12 and inertial devices to track the direction of advance (horizontal and vertical) and the
13 absolute location. Two types of drill heads could be used, depending on geologic
14 conditions: a spud jet or an in-hole mud motor. Spud jets force the drilling fluid through
15 the jet bit to erode the earth material and create the bore hole into which the conduit is
16 inserted. This type of drill head is used in soft soils such as sands, silts, and clays—the
17 expected composition of material to be encountered during marine steel bore pipe
18 installation. An in-hole mud motor uses drilling fluids to rotate a drill head through hard
19 rock such as limestone, sandstone, and granite; this type of head would be used if such
20 conditions were encountered.

21 The marine steel bore pipe would be advanced in 30-foot sections through the boreholes
22 as they are created. Surveys would be conducted in 15- and 30-foot increments to verify
23 the drill position and path. The directional bore machine would occupy the bore entry site,
24 drilling steel casing into the ground at an angle. Once the bore pipe reaches the desired
25 depth, the direction would level out as the drilling continues to push the pipe horizontally
26 through the ground. Once the marine bore reaches the appropriate distance offshore, the
27 drill head would be guided to the surface. This operation would be undertaken four times
28 for installation of the marine steel bore pipes—once for each cable system. These drill
29 heads would stay at the exit point offshore until the divers take them off and cap the
30 marine steel bore pipes so that ocean water does not enter into them. Once the cables
31 come from Asia or Australia at the bore exit point, the caps would be taken off and feeder
32 tubes would be installed so that the cables could be pulled through these marine steel
33 bore pipes and brought onshore at the LMH in the CLP.

⁹ Conduit would be installed at the six streams along the terrestrial conduit routes either by boring under the stream or attaching to existing bridges. No streams would be trenched.

Horizontal Directional Drilling (HDD) Fluids

HDD drilling fluid (a non-toxic, inert material, typically a solution of bentonite clay and water) would be circulated into the bore hole to prevent it from caving in; the fluid would coat the wall of the bore hole to minimize fluid losses to permeable rock and soil types. Drilling fluid also serves as a lubricant for the drill head and carries the cuttings (pieces of drilled rock) back to the entry pit, where the cuttings (rock, sand, and other materials) are removed so the drilling fluid can be recirculated into the bore hole. The drilling fluid would be used for drilling all but the final approximately 30 feet of the bore hole. To minimize the potential for release of silty material into the marine environment, the last section of the bore hole would be drilled using potable water as a drilling fluid. Spent drilling fluids (except for those lost to the surrounding subsurface material) and cuttings would be collected and disposed of at a permitted landfill.

Given the variety of geologic conditions that may be encountered, it is possible that some of the drilling fluids would be absorbed into fractures in the surrounding subsurface material. In cases where the fracture is lateral and subterranean, lost fluids would not rise to the surface. In other cases, drilling fluids may reach the surface (e.g., if the fracture comes close enough to the surface that the pressure causes the release of drilling fluid above the ground surface in a terrestrial location or above the ocean bottom in the marine environment).

The potential for substantial releases of drilling fluids into the environment would be minimized through several measures. Prior to drilling, the geologic characteristics of the substrate would be evaluated to determine the most appropriate route for the conduit installation. During drilling, the potential for losing drilling fluids to the substrate would be assessed by monitoring the volume of the drilling fluid that is returning to the bore entry point and monitoring for changes in the drilling fluid's pressure. If a loss of fluid volume or pressure is detected, drilling may be stopped or slowed to allow close observation for a surface release in the ocean. If a release is discovered, the driller would take feasible measures to reduce the quantity of fluid released by lowering drilling fluid pressures, thickening the drilling fluid, or both, depending on geologic conditions. Any surface releases above the high-tide line would be contained with sand bags and collected for reuse or disposal. Containment and collection are impractical for releases below the mean higher high water; consequently, some drilling fluids might dissipate in the sea water. These measures are included in the Inadvertent Returns Contingency Plan (MM BIO-6).

2.3.4.5 Manhole Installation

The intermediate manholes along the terrestrial underground conduit system would be installed by excavating with a rubber-tired backhoe or excavator, placing the manhole in the excavation, and backfilling around the manhole. A rubber-tired backhoe/loader places

backfill material; operators then compact the material using a hand-operated vibratory compactor.

2.3.4.6 Trenchless Underground Conduit Installation (by directional bore)

Approximately 50 percent (or about 5 miles) of underground conduit installation is expected to involve trenchless construction rather than trenching. Directional boring would be used to cross under streams along the terrestrial underground conduit system routes or at other locations. Trenchless technology uses small guided bores that can be steered. This approach allows the bore machine to sit at normal ground level and bore down under an obstruction or along an alignment. The machine can then steer the bore back to the surface at a distance. Once the bore reaches the opposite side of the resource or obstruction being avoided, the conduit is attached to the bore pipe and pulled back through the bore opening. The bore machines would drill approximately 600 linear feet per day.

Trenchless construction disturbs only the ground surface at the bore entry and exit pits, which would be spaced approximately 300 feet apart.¹⁰ Entry and exit pits, excavated at each end of the bore, would measure approximately 4 feet wide by 8 feet long by 5 feet deep, encompassing 32 square feet. Activities around each pit, such as the laydown of equipment and material, would occupy approximately 500 square feet.

Similar to HDD, directional drilling installation technique uses a drilling fluid (i.e., bentonite and water) as described above.

Backfilling of the entry and exit pits would use the same procedures as when trenching. Backfill material and compaction would meet the specifications of the permitting authority (such as Caltrans) but nominally would be native material compacted to a relative compaction of at least 95 percent unless otherwise required.

2.3.4.7 Conventional Boring

It is not expected that conventional boring would be widely used on this Project; however, because it is a possibility, the technique is described here.¹¹ Conventional boring entails simultaneously boring a horizontal hole and pushing a casing under an obstruction (e.g., a road). A push pit approximately 6 feet wide and 25 feet long is excavated to the bore depth, which can vary depending on what is being bored beneath. The pit accommodates the drilling and jacking equipment and the equipment operators. The actual boring process involves driving (or pushing) a rotating auger in a casing from the push pit under the obstruction. As the auger and casing are advanced, excavated material is carried out

¹⁰ Assuming 5 miles of trenchless installation, there would be approximately 88 pits.

¹¹ Conventional boring, might be used if the conditions called for boring but there were constraints concerning directional drilling such as incompetent or unstable material in which directional drilling might be infeasible or unadvisable.

1 of the excavation through the casing. The process continues until the bore is completed
2 into the receiving pit, an excavation that permits access to the auger and casing. In the
3 final step, the auger is extracted, and the conduit is installed within the casing.

4 Conventional boring disturbs the ground surface at entry and exit pits. Each pit would
5 encompass approximately 150 square feet. Activities around each pit, such as the
6 laydown of equipment and material, would occupy approximately 500 square feet.

7 2.3.4.8 Trench Construction

8 Approximately 50 percent of the terrestrial underground conduit systems (or about
9 5 miles) are expected to be installed using conventional trenching methods (Figure 2-6).
10 The trenches would typically be from 12 to 18 inches wide and from 36 to 48 inches deep.
11 These trenches would be excavated with a rubber-tired backhoe or similar excavating
12 equipment. Once excavated, the crew would start placing the conduit right away. If there
13 are existing utilities in the trench path, a minimum clearance of 12 inches would be
14 maintained between the utility and the conduit. Generally, where existing utilities are
15 encountered, the new facilities would be placed below the existing utilities to avoid
16 interfering with the future maintenance of the utilities.

17 **Bridge Attachment over Streams**

18 The preferred method to install the underground conduit system under streams would be
19 using a trenchless boring. If trenchless boring is not possible, then conduit system may be
20 installed by attaching to the existing bridges (over streams such as Alder Creek and Brush
21 Creek) instead of boring beneath the stream. A conduit would be placed on the side of or
22 underneath the bridge and secured to steel brackets. The approach to the bridge would
23 depend on the type and style of bridge being crossed and would be installed in
24 compliance with Caltrans standards for utilities on bridge structures. In some cases, the
25 buried conduit system would approach the bridge from the roadway, the bridge abutment
26 would be core drilled, and the conduit would be installed. In other cases, the underground
27 system would approach the side of the bridge from the road shoulder and the conduit
28 would transition to the side of the bridge. Once the conduits are placed, the cable would
29 be installed into the conduits. No equipment would be set in the streams while installing
30 the conduits and no concrete debris would fall into the streams.

31 **Trench Construction in Wetlands and Drainages**

32 While the six drainages (Figure 2-1) along the terrestrial conduit route would be avoided
33 by boring under them or using bridge attachments (if boring under is not possible),
34 drainage ditches along SR 1 may be trenched to install the underground conduit system.
35 If water is present, these drainages would be dewatered to facilitate cable installation and
36 minimize effects on water quality. Dewatering would involve the use of trucks equipped
37 with vacuum/construction pumps.

1 In wetland areas and areas with shallow groundwater, the trench would be dewatered
2 using temporary sumps in the trench bottom, and water would be pumped out into vacuum
3 trucks.

4 Double Trenching Technique

5 When trenching is required in wetland areas, the *double trenching* technique would be
6 used. Double trenching, frequently used in utility projects, is the process of removing a
7 layer of topsoil over the trench and then trenching the subsoil. Once the pipeline is
8 installed in the trench, the subsoil is placed back in the trench and compacted, and the
9 topsoil is spread over the top. The width and depth of topsoil removal would vary along
10 the route depending on vegetation sensitivity, soil characteristics, slope, land use,
11 potential safety hazards, and construction techniques. The topsoil would be removed to
12 the appropriate depth to preserve the soil and seed bank. The locations and depths of
13 topsoil to be removed and replaced would be specified in the contract documents.
14 Generally, a minimum of 6 inches and a maximum of 12 inches of topsoil would be
15 removed and stockpiled.

16 Topsoil would be stockpiled separately from excavated subsoil and subsequently
17 replaced with a minimum of handling. Topsoil would not be piled in a manner that
18 increases its water content, although this is not expected to be an issue. No drains or
19 ditches would be blocked by topsoil or subsoil stockpiles. The following additional
20 measures would be implemented to protect the topsoil:

- 21 • Gaps would be left in topsoil piles where drainages, drains, ditches, and livestock
22 and vehicle crossings are located.
- 23 • Topsoil would not be used as padding in the trench or for any other use as a
24 construction material.
- 25 • Topsoil would be stored on the uphill side of the disturbance away from the subsoil
26 pile.

27 **Backfilling Trenches and Bore Pits**

28 Trench and bore pit backfilling would begin immediately after installing the conduits and
29 would involve using a rubber-tired backhoe or similar equipment. The backfill material
30 would then be compacted to eliminate erosion and soil settlement.

31 The backfill material would consist of native soil, imported aggregate base, or sand-
32 cement slurry, and would conform to the specifications of the local jurisdiction. Material
33 removed during trenching that would not be used to backfill would be disposed of at
34 locations approved to receive clean fill.

1 The backfill would be compacted with a pneumatic drum roller, backhoe-mounted
2 vibratory compactor, or hand-operated vibratory compactor. Water would be added to the
3 material, as necessary, to obtain the relative density required by State or county
4 specifications. Unless otherwise specified, compaction would be at least 95 percent
5 relative compaction.

6 The excavation crew typically conducts backfilling activities. The equipment and labor
7 needed to carry out the work are included in the allocations for bores, trenches, and
8 manholes (Table 2-2).

9 **Restoration of Terrestrial Surfaces**

10 Surface restoration is the final step in the construction process. Generally, restoration
11 involves returning the Project site to its pre-construction condition or better.

12 In unpaved areas, restoration would entail grading to restore original contours, installing
13 erosion control devices at locations susceptible to erosion, and finally seeding, mulching,
14 and fertilizing to return the site to pre-construction conditions.

15 In paved surfaces, restoration would entail pavement repair, curb and gutter
16 reconstruction, and pavement re-striping, if needed. Typical pavement repair involves
17 cutting and removing a strip of asphalt wider than the trench along its entire length. This
18 is then replaced with new asphalt after backfilling and compaction are completed.

19 Figure 2-6 provides techniques for trenching underground and trenching under asphalt,
20 conduit placement, and backfilling.

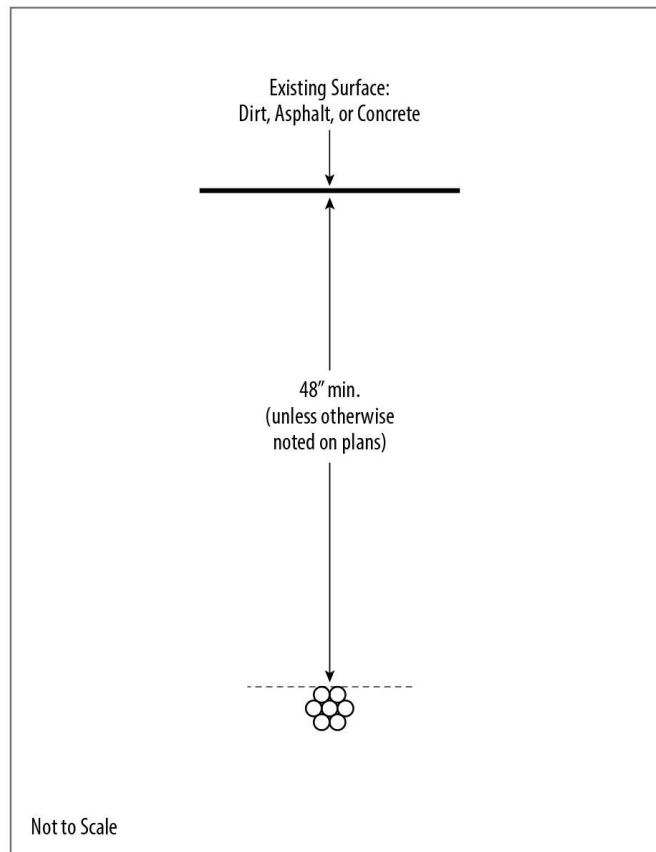
21 **2.3.4.9 Construction of Cable Landing Station's Power Feed Equipment**

22 As noted above, power feed equipment would be installed within and adjacent to an
23 existing structure at one of the three possible CLS locations. Equipment required for
24 installation will include a crane (for placing large/heavy equipment), a backhoe (for any
25 minor grading or excavation), and a pickup truck for delivery of equipment and materials.

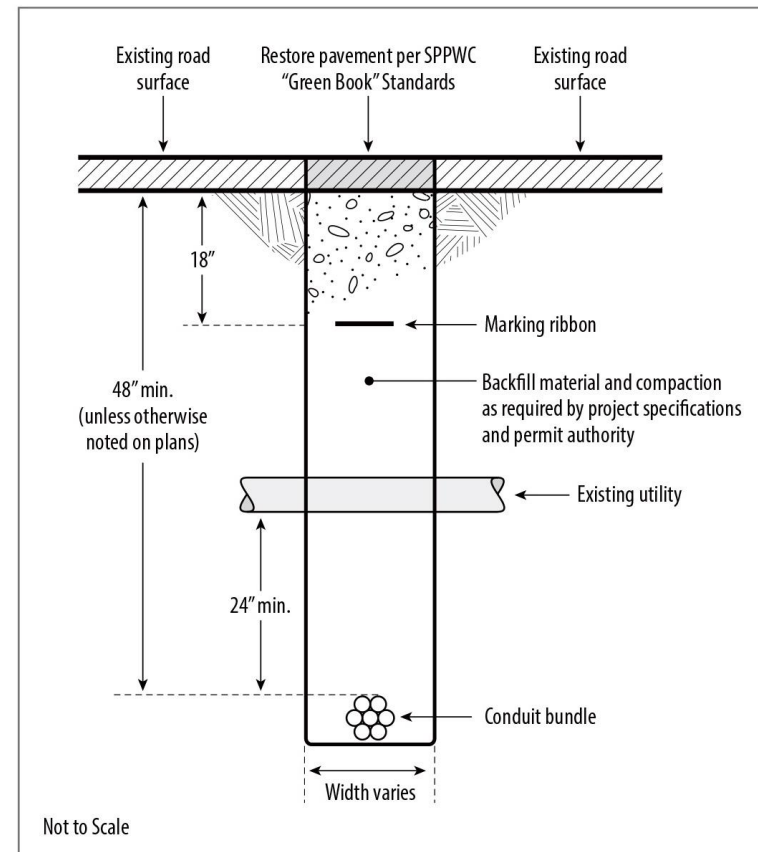
26 **2.3.4.10 Marine Cable Pulling**

27 Installing the marine cable through the marine steel bore pipes and into the LMH would
28 require operations at both the marine exit point of the marine steel bore pipe and the LMH
29 (Figure 2-7).

Figure 2-6. Typical Bore and Trench Details



Typical Bore Detail



Typical Trench Detail

1 The marine cables would be installed in the following steps:

- 2 1. Marine steel bore pipes (5- to 6-inch-diameter) would be installed using HDD from
3 the LMH under the bluff, beach, and seafloor to the marine exit point.
- 4 2. A dive support boat would be anchored at the bore point exit using four-point
5 mooring as provided in the Marine Anchor Plan (**APM-2**). Divers from this boat
6 would temporarily remove the seafloor sediment using jetting to expose the bore
7 pipe end.
- 8 3. A winch would be set up onshore just east of the LMH to pull the marine cable. A
9 wire rope (installed during bore pipe installation) would be attached to the winch
10 and to the end of the marine cable on the cable lay ship. The winch would pull the
11 marine cable from the cable lay ship through feeder tubes into the marine steel
12 bore pipes and then into the LMH, where the cable would be anchored in place.

13 2.3.4.11 Ocean Ground Bed Installation

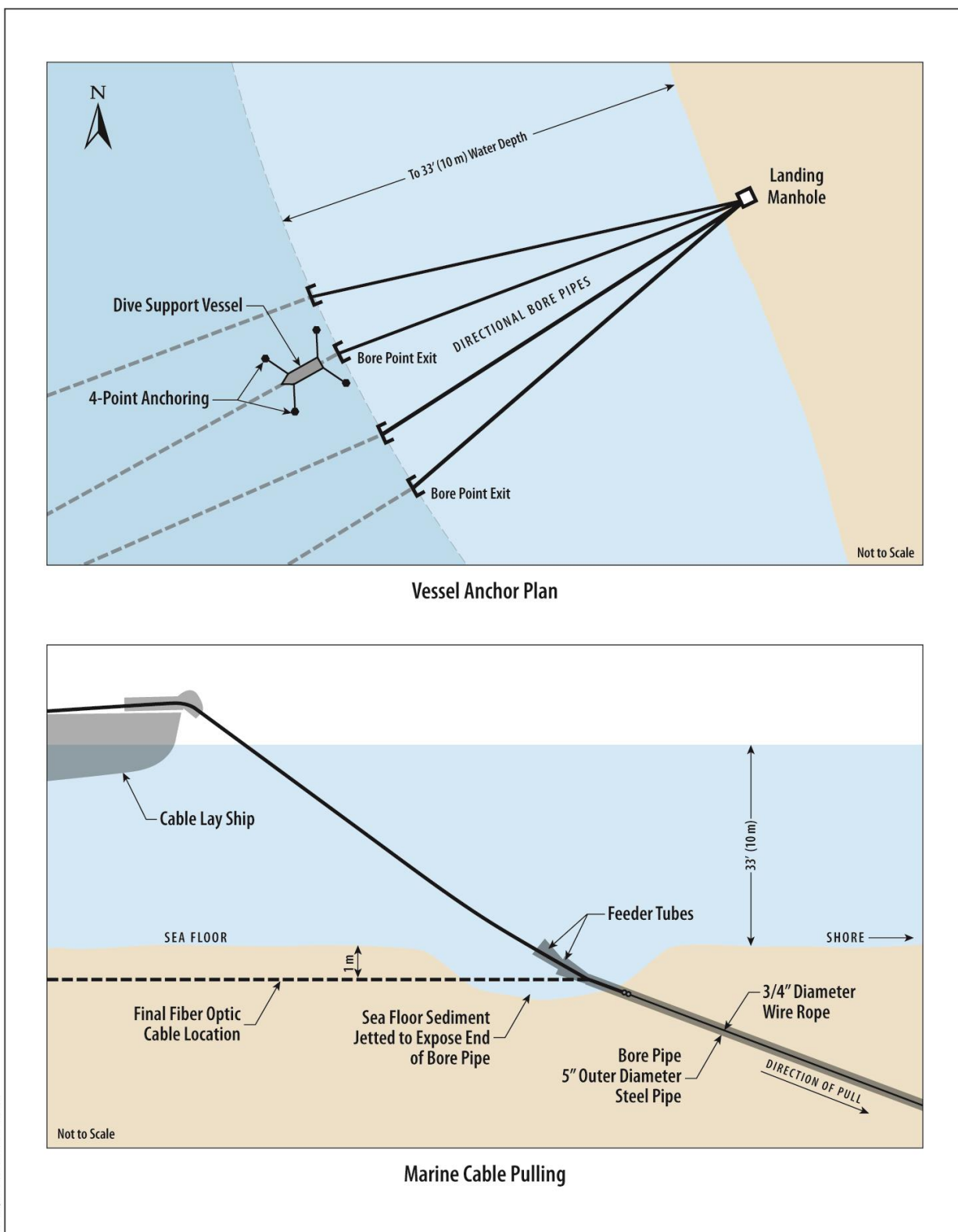
14 The OGB for each cable once it is onshore would be installed by drilling holes from the
15 LMH down to the seawater level with a well-drilling machine, and then installing the iron
16 anodes in the drilled holes (Figure 2-4). The copper ground cable would be installed by
17 excavation between the tops of the iron anodes to connect the tops of the anodes to one
18 another and back to the ground cable in the LMH. Trucks and trailers would be used to
19 deliver equipment and supplies.

20 2.3.4.12 Underground Conduit System and Terrestrial Cable Pulling

21 Once the underground conduit system is constructed (Figure 2-1), the cables would be
22 installed by pulling them from one intermediate manhole to the next. Equipment required
23 for this operation include trailers to transport the cable and truck-mounted mechanical
24 pulling equipment. Although cable pulling does not physically disturb the ground surface,
25 traffic control may be required for manholes located in traffic lanes.

26 To reduce friction while pulling the cable into the conduit, a pulling lubricant
27 (e.g., Polywater Lubricant, manufactured by American Polywater Corporation) would be
28 used. The lubricant would be introduced without pressure directly into the inner cell of the
29 underground conduit systems, typically at a rate of less than 1 gallon per 1,000 feet. The
30 lubricant dries to a nontoxic powder that remains in the underground conduit systems and
31 their spaced-out terrestrial manhole systems.

Figure 2-7. Marine Cable Pulling from Offshore



ICF Graphics ... 00589.18 (1-4-2019)

Cable pulling would not involve subsurface excavation. Pulling activities for the underground conduit system would occupy approximately 40 linear feet of one roadway lane. Cable pulling activities around each manhole would require approximately 500 square feet. Cable pulling into the underground conduit systems would take approximately 1 week per cable.

2.4 DETAILED MARINE COMPONENTS

The proposed marine routes would cross coastal submerged lands under the California State Lands Commission's jurisdiction (the ordinary high-water mark to 3 nautical miles [nm] offshore [Figure 1-1]). The federal jurisdictional limit includes offshore waters and the continental shelf from 3 nm offshore to a distance where the seawater depth is approximately 5,904 feet, which is approximately 36 miles offshore.

The marine components of the cable systems are those segments between the ordinary high-water mark and the outer limit of the continental shelf—that is, where seawater depth is approximately 5,904 feet. The cable would be installed in this area in both soft and hard bottom substrates. The soft bottom substrate predominates, consisting of sand, silt, and clay, with silt and clay components increasing with greater water depth. Some low- to high-relief hard substrates could be present, but they would be avoided, where feasible, using data from the ocean-bottom surveys being conducted by the Applicant prior to construction.

2.4.1 Marine Steel Bore Pipes

The four marine steel bore pipes (5 to 6 inches in diameter) would extend west from the LMH into the ocean, as provided in Figures 2-2 and 2-7. The marine steel bore pipes would be installed by HDD boring. Once a cable (marine fiber optic) arrives from Asia or Australia, it would be pulled onshore in the LMH.

2.4.2 Marine Cables

Two marine cable armoring designs (double armor and single armor) would be used to provide an appropriate degree of protection from geologic and sedimentary conditions encountered during installation and from potential interactions with fishing gear. Figure 2-8 compares the proposed cable designs with non-armored marine fiber optic cable and terrestrial fiber optic cable. Both cable designs surround the core of optical fibers with rings of wires, copper sheathing, and polyethylene insulation and are explained further below:

- **Double Armor:** This cable design (less than 2 inches in diameter) offers the greatest degree of protection. It is recommended for uses in areas of rocky or coarse substrate and where protection from fishing gear may be warranted. The double-armored cable incorporates two surrounding layers of galvanized wires that

are coated with tar to reduce corrosion, two layers of polypropylene sheathing, and an outer layer of tar-soaked nylon yarn.

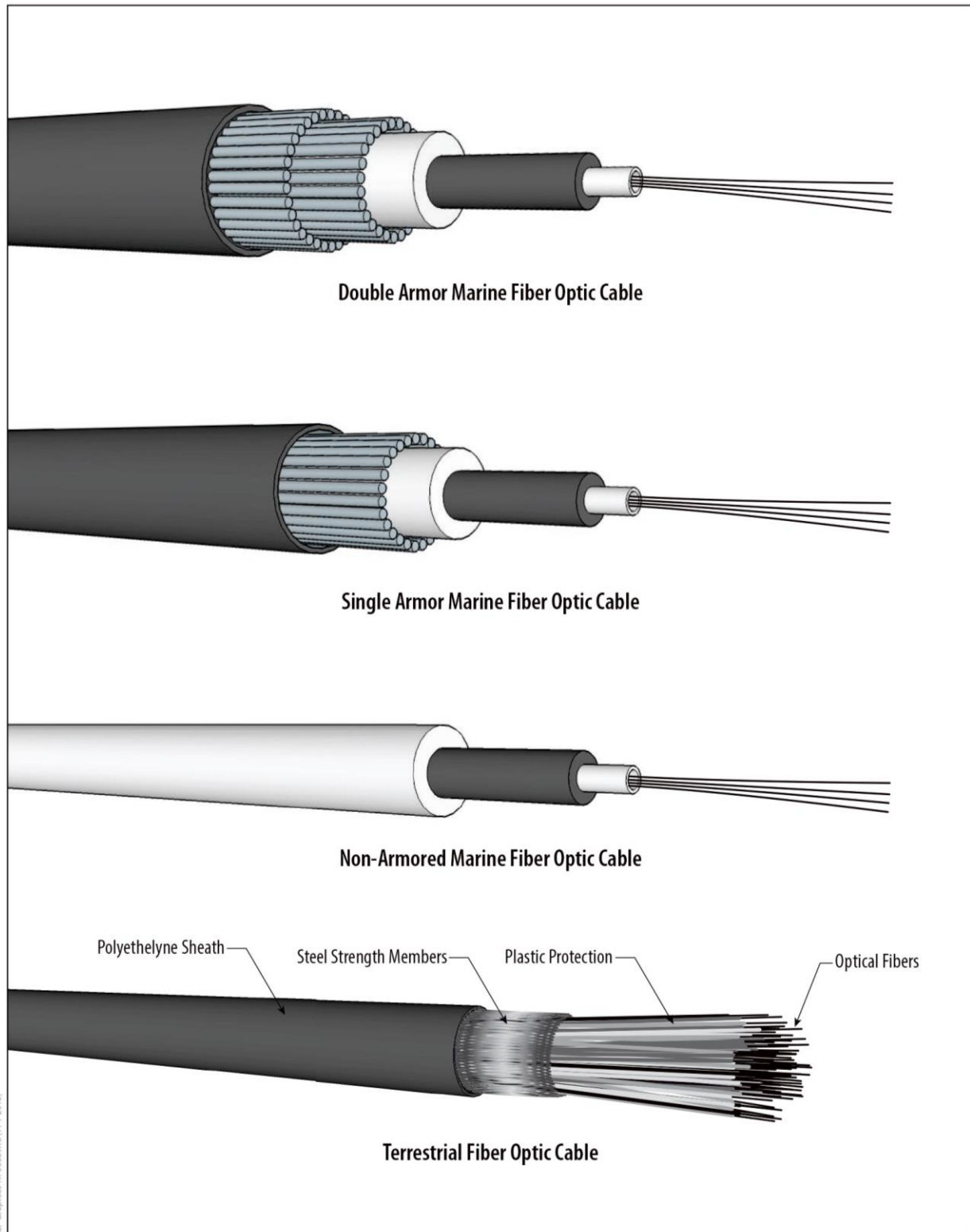
- **Single Armor:** This cable design (less than 2 inches in diameter) is similar to double-armored cable but with only a single surrounding polypropylene sheath and ring of galvanized wires. The single-armored cable would be used where the risk of damage caused by substrate conditions or fishing is reduced by burying the cables in soft bottom sediments using a sea plow or remotely operated vehicle (ROV).

2.4.3 Signal Regenerators in the Marine Cables

Light pulses can be transmitted only approximately 35 miles along the marine cable before they must be regenerated. This regeneration would be done by regenerator equipment attached to the cable at appropriate intervals. The regeneration equipment would operate from 48 volts of DC electricity. The marine cable would contain a copper conductor to transmit the DC electrical power to the regenerators. The DC power feed equipment for the regenerators would be housed at the CLS (Figure 2-5). This system includes protective equipment that can detect a sharp decrease or a sharp increase in electrical current flow in the cables. Upon detecting an abnormal current flow, the DC power system would be shut down. The DC power generates a magnetic field on the order of 5 milligauss at a distance of 3.28 feet from the cable. The magnetic field diminishes with distance from the cable (such that at 33 feet, it would be approximately 0.5 milligauss).¹²

¹² This magnetic field strength would not adversely affect marine life. The field strength level at 3.3 feet (5 milligauss) is far below the most protective field strength for human health (833 milligauss from the International Commission on Non-Ionizing Radiation Protection [ICNIRP]) and is the equivalent to the field strength from a personal computer at 3.3 feet.

Figure 2-8. Marine and Terrestrial Fiber Optic Cables



2.4.4 Marine Features and Techniques

2.4.4.1 Marine Construction Methods

Table 2-3 provides the construction method associated with various ranges of water depth.

Table 2-3. Summary of Proposed Marine Construction Methods

| Water Depth Range | Approximate Distance Offshore | Installation Method |
|--------------------------------|-------------------------------|--|
| LMH to 40 feet deep | Up to 0.6 mile | HDD marine steel bore pipes |
| Between 40 and 98 feet deep | 0.6 to 1.3 miles | Diver-assisted post-lay burial |
| Between 98 and 5,904 feet deep | 1.3 to 36 miles | Cable plow, diver- or ROV-assisted post-lay burial |
| Greater than 5,904 feet deep | Beyond 36 miles | Direct-surface lay |

Terms:

HDD = horizontal directional drilling

LMH = landing manhole

ROV = remotely operated vehicle

2.4.4.2 HDD Marine Steel Bore Pipes (LMH to 40 feet deep, up to approximately 0.6 mile offshore)

The first marine task would be to support directional bore operations using the HDD technique. Then, the cable lay ship arrives offshore from Asia or Australia laying cable in the deep ocean and then coming offshore near Manchester.

Work Boat

The primary work boat, which would serve as a dive platform, would arrive and set up on station within about 50 feet of the bore exit point (Figure 2-7). This boat would be a 100- to 200-foot construction work boat similar to the motor vessel (M/V) *American Patriot*. The work boat would use a four-point mooring with an anchor spread of approximately 328 feet, as shown schematically in Figure 2-7. This boat would be accompanied by a smaller, secondary work boat, similar to the M/V *American Endeavor*, which would set and retrieve anchors, as well as shuttle crew between the work boat and the shore. All anchors would be set and retrieved vertically to avoid dragging them across the sea floor. All anchoring would be conducted as described in the applicant proposed Marine Anchor Plan (APM-2).

Jetting Seafloor Sediment to Expose Marine Steel Bore Pipe Exit

Where the marine steel bore pipe exits approximately 3,280 feet offshore (Figure 2-7), divers would jet approximately 10 to 15 cubic yards of sea floor sediment to expose the end of the marine steel bore pipes offshore. The divers would remove the drill head from

the marine steel bore pipe and install a valve on the end of the marine steel bore pipe to keep seawater from entering in it until the cable is installed. This process would be repeated for each of the four marine steel bore pipes.

Cable Lay Ship

The cable lay ship would be brining cables from Asia and Australia to offshore the marine steel bore pipe location. Once a cable lay ship arrives offshore, the cable lay ship would position itself above the bore exit where the sediment was jetted and a valve installed at the end of the marine steel bore pipe (Figure 2-7). The cable lay ship would position itself approximately 328 feet seaward of the end of the marine steel bore pipe. Divers would install cable chutes (also known as *feeder tubes*) into the end of the pipe and attach floats to the cables to prepare the cables to be pulled through the marine steel bore pipe to the LMH onshore. The end of the cable would be attached to a 0.75-inch wire rope that would be placed during the final stage of the directional bore process and attached to a hydraulic winch. A work boat would assist with feeding the wire rope from the end of the marine conduit to the cable ship. The cable would be pulled into the LMH by the winch and anchored behind the LMH. Once the cable is secured in the LMH, the cable ship would move away from that location.

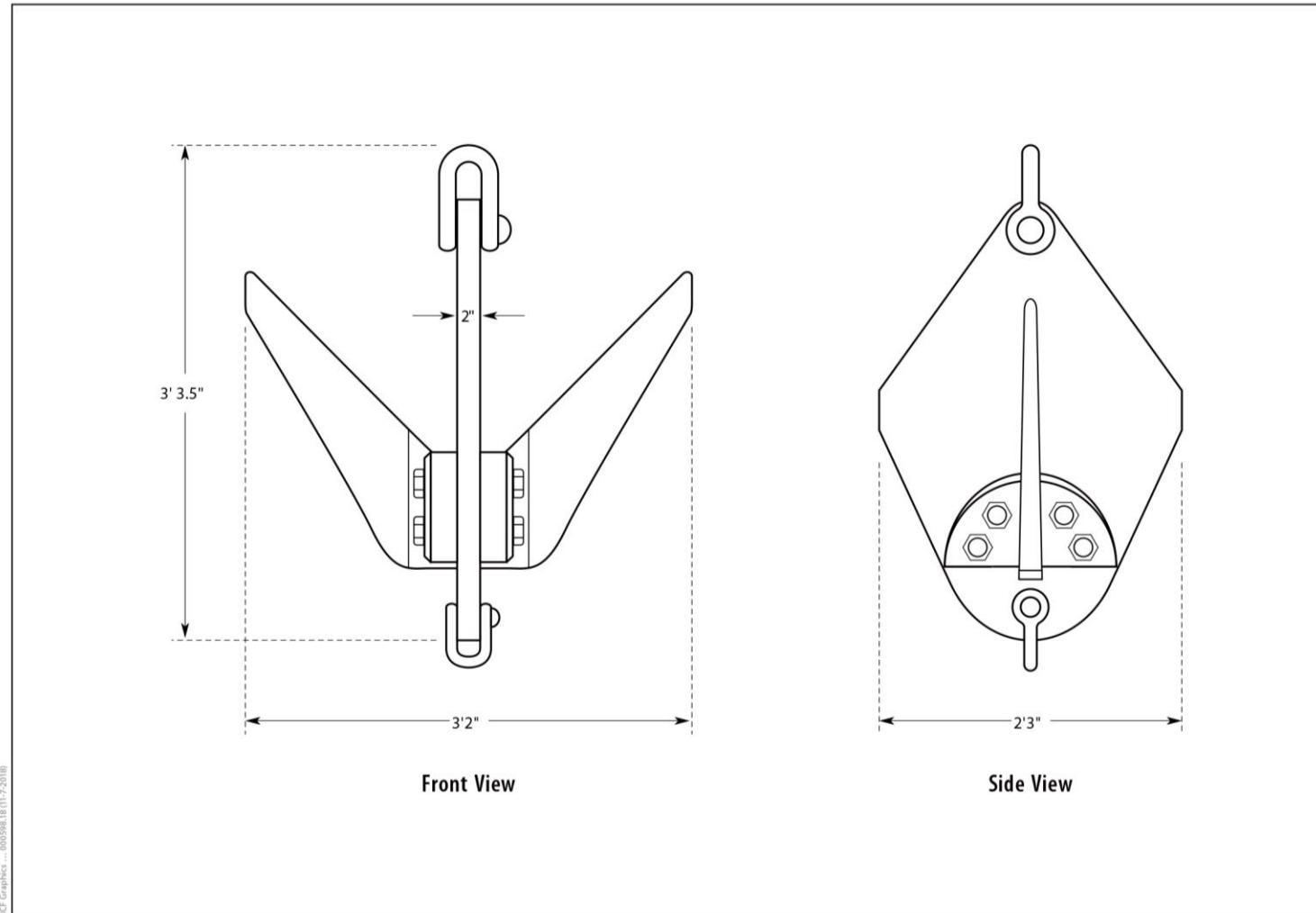
Divers would manage and monitor the pulling process from the work boat.

2.4.4.3 Pre-Lay Grapnel Run (water depths of 40 to 5,904 feet; between 0.6 and 36 miles offshore)

The purpose of a pre-lay grapnel run (Figure 2-9) would be to clear debris on the bottom of the seafloor, such as discarded fishing gear, along the cable routes where the cables would be buried on the seafloor. A grapnel, typically of the *flat fish* type, would be dragged along the cable routes before cable installation to clear out the path for burying cables. The grapnel would be attached to a length of chain to ensure that it touches the bottom of the seafloor.

The cable lay ship or a work boat, similar to the *Dock Express 20*, would tow the grapnel at approximately 1.2 miles per hour (approximately 1 knot per hour). The arms of the grapnel are designed to hook debris lying on the seafloor or shallowly buried to approximately 1.3 feet. If debris is hooked and towing tension increases, then towing would stop and the grapnel would be retrieved by winch. Any debris recovered during the operation would be stowed on the vessel for subsequent disposal in port.

Figure 2-9. Flat Fish Grapnel to Clear Ocean Bottom Debris



2.4.4.4 Diver-Assisted Post-Lay Burial (water depths of 40 to 98 feet; between 0.6 and 1.3 miles offshore)

Once the cable has been securely anchored at the LMH, the cable lay ship would begin to move west (farther offshore) along the predetermined course, rolling out (paying out) the marine cable as it goes. The ship would travel at approximately 2.3 miles per hour (2 knots per hour).

Diver-assisted burial would be used from the end of the marine steel bore pipes to a water depth of approximately 98 feet, which is located approximately 1.3 miles offshore. Divers would use hand jets to open a narrow furrow beneath the cable, allowing the heavy cable to drop into the furrow as it would open. The disturbed sediments would then settle back over the cable, filling the furrow and restoring the surface to original grade. Depending on bottom conditions, the cable would be buried to a depth of 3.3 feet.

Starting from the end of the marine steel bore pipe, the cable would temporarily be laid directly on the seafloor to a water depth of approximately 328 feet until it can be post-lay buried by divers or ROV, as described below. For the remainder of the buried section of cable, burial would be achieved by cable plowing or by ROV-assisted post-lay burial.

2.4.4.5 Cable Plow, Diver- or ROV-Assisted Post-Lay Burial (water depths of 98 to 5,904 feet; between 1.3 and 36 miles offshore)

Plow burial would be used beyond water depths of 98 feet to a depth of 5,904 feet. In some locations where plow burial is not possible, the cable would be buried using post-lay burial methods (diver-assisted jet burial and ROV burial), as explained below.

Sea Plow to Help Bury Cables on the Seafloor

The cables can be plowed at water depths of 328 to 5,904 feet, from approximately 8 to 36 miles offshore. A sea plow is a sled-like burial tool that would be deployed by the cable lay ship after the shore-end landing operations are complete (Figure 2-10). Once the sea plow, supported by two sled outriggers to a total width of approximately 20 feet, is deployed to the bottom, divers would assist with loading the cable into the sea plow's articulated feed chute and burial shank (Figure 2-10). These mechanical movements are controlled by an operator watching the divers through a video camera mounted on the plow. When the ready signal is given, the ship moves away with the plow in tow. As the sea plow is towed, the sea plow mechanically buries the cable to its desired depths by slicing through the seafloor sediments while feeding the cable through the sea plow shank and into the bottom of the furrow in a single operation (Figure 2-10). The sea plow furrow, approximately 3.3 feet wide, would naturally close under the weight of the sediments and the plow sleds, which would transmit the weight of the sea plow to either side of the furrow, effectively add compacting force to the sediment. The combination of the two forces—the

weight of the soil and the weight of the sled—is sufficient to fully close and compact the furrow; therefore, no further compacting would be required.

The plow is expected to operate at the rate of approximately 0.6 mile per hour (approximately 0.5 knot per hour).

Diver-Assisted Post-Lay Marine Cable Burial

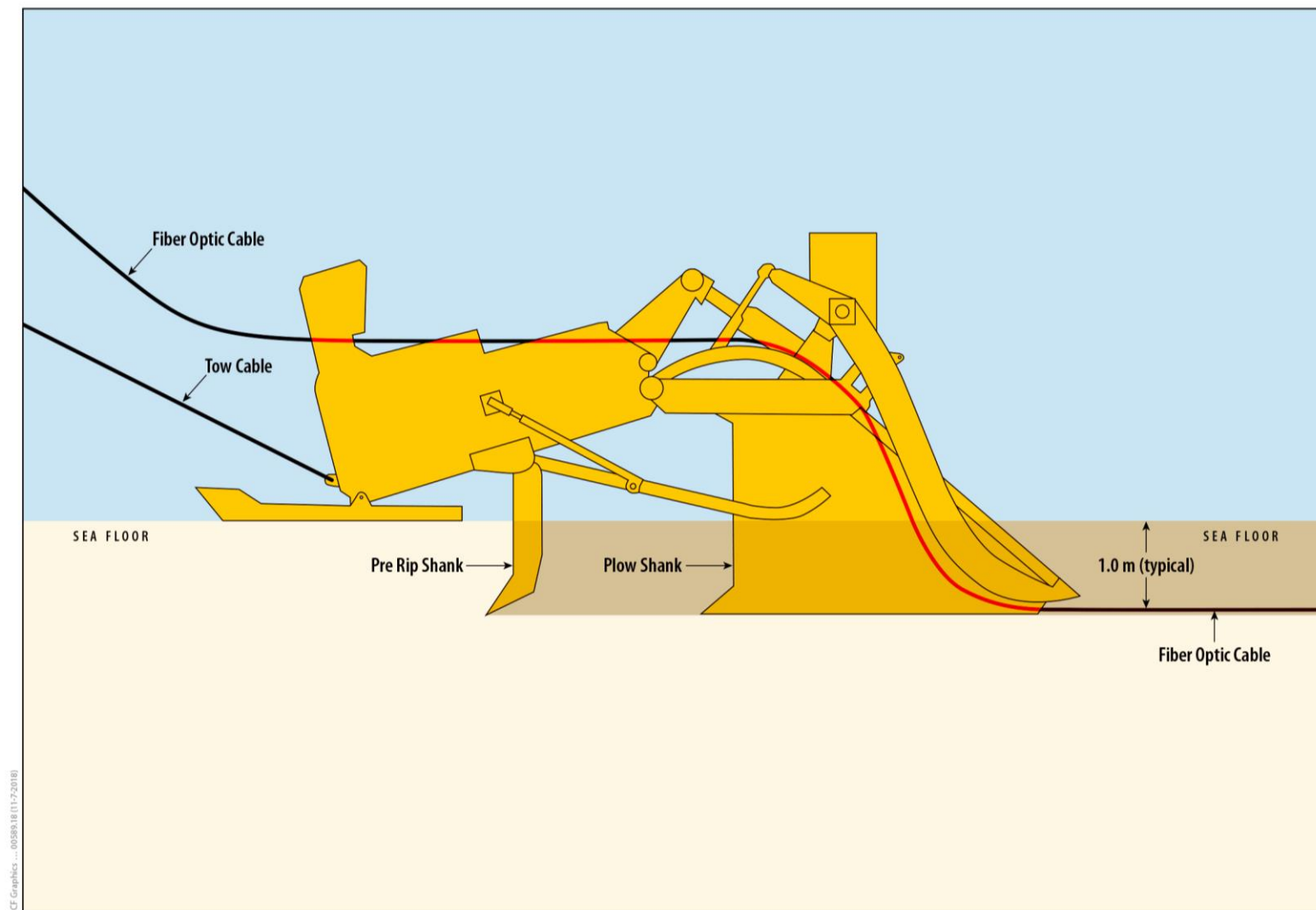
Diver-assisted marine cable burial may be used at water depths of approximately 98 to 328 feet from approximately 1.3 to 8 miles offshore, where the sea plow cannot achieve the targeted burial depth. Methods are as described above in Section 2.4.4.4.

Remotely Operated Vehicle (ROV) Post-Lay Burial

At water depths of approximately 98 to 328 feet from approximately 1.3 to 8 miles offshore, or where the sea plow cannot achieve the targeted burial depth because of bottom conditions, an ROV would be used to attempt to bury the cable. The cable lay ship would lay these sections of cable temporarily on the seafloor until the post-lay burial is attempted at a later date.

An ROV is a robotic device operated from the vessel. The ROV would be deployed and operated from the cable lay ship or a similar vessel. The ROV moves under its own power and is tethered to and guided from the cable lay ship. In a manner similar to diver-assisted burial, ROV jets would loosen the seafloor sediments beneath the cable, allowing it to settle to the desired depth. The disturbed sediments would settle back over the area to their original grade, leaving the cable buried. The cable would typically be left at a depth of 3 to 4 feet. The ROV operate at a nominal speed of 0.35 mile per hour (0.3 knot/hour) when jetting. However, the overall rate of forward progress would depend on the number of passes needed to attain target burial depths, a variable that is in turn a function of sediment stiffness. Up to three passes may be required; consequently, the overall rate of burial using an ROV is estimated at 0.1 mile per hour (0.1 knot/hour). Post-lay burial of the cable by ROV would take place between 1 day and 3 weeks after the cable is first laid on the seafloor.

The post-lay burial of cable by ROV would disturb the seafloor (Figure 2-10). The typical width of disturbance associated with this activity would be 15 feet. This metric pertains only to the seafloor and not disturbance to the water column.

Figure 2-10. Sea Plow for Burying Cables on the Seafloor

2.4.4.6 Direct-Surface Lay (more than 5,904 feet; 36 miles offshore)

Beyond water depths of 5,904 feet, which nominally occur approximately 36 miles offshore, the cable lay ship would lay the cable directly on the seafloor without burial, while maintaining slack control to ensure a straight lay of the cable and ensuring contact with the seafloor to avoid suspensions.

2.5 CABLE OPERATIONS, MAINTENANCE, AND REPAIR

2.5.1 Cable Identification

Applicant's personnel would navigate using differential geographic positioning system (GPS) during installation of the cable systems. Extensive records would be maintained to track the exact locations of the cable lay ship, sea plows, and ROVs during the installation process. After installation, the data would be compiled into a standard-format cable record. The record would be distributed to all cable maintenance zone ships, government charting agencies, CSLC, and other data users. Records can then be used to locate the cables on the seabed when a cable repair is needed. These records would be maintained throughout the system's life and after the system is retired.

2.5.2 Cable Operations and Maintenance

Other than ensuring that the power feed and transmission equipment in the CLS are in proper working order, no routine maintenance is planned for the submerged segments of the cable network. These cables typically operate for 25 years. Because of the stability of the ocean-bottom environment, regular maintenance is unnecessary.

2.5.3 Emergency Cable Repair (Marine)

The cable could be damaged by saltwater intrusion into the conduit or by anchors or fishing gear that could snag the cable and cause a fault. For a typical shallow-water repair, the location of the *fault* (the point at which transmission is interrupted) can usually be pinpointed through the use of low-frequency electroding, and little if any extra cable must be added during the repair because of the shallow depth.

2.5.3.1 Buried Repair

If the fault location is buried, the grapnel (Figure 2-9) used by the repair vessel would be sized to match the burial depth attained during installation. Typically, a standard flatfish grapnel can be rigged to penetrate and recover cable from burial depths up to 20 inches. If deeper burial is involved, a de-trenching grapnel, divers, or an ROV can remove the cable from the burial trench and bring it to the surface. The cable can then be repaired and reburied in its original position to the extent practicable.

2.5.3.2 Unburied Repair

If the fault location is not buried, it may be possible to engage it and bring it to the surface without cutting. Otherwise, a cutting blade can be fitted to a flatfish grapnel (Figure 2-9), and the cable would be cut close to the fault location before recovery. Gifford grapnels can then be used for holding runs to recover each cut end.

The recovered end would be sealed and temporarily buoyed off for easy recovery later. The other end would be recovered and tested to locate the fault more precisely. The repair vessel would recover the cable until the cable's fault site was on the ship. After the fault site was removed from the system, repaired cable would be joined to the fault-free cable end and then the cable would be rolled out (paid out) as the vessel returns to the buoyed end. When the buoy is recovered, the two cable ends would be joined, and the repaired cable would be put back into the ocean.

2.6 RETIREMENT, ABANDONMENT, OR REMOVAL OF THE CABLE SYSTEMS

The Project would have a life of approximately 25 years. Within 90 days of taking the cable out of service, the cable owner would advise the County and the California Coastal Commission of the status and proposed disposition of the inactive cable and submit an application for the removal of all cable system facilities from sovereign state land to CSLC.

The Applicant proposes that all terrestrial facilities, including the underground conduit system and manhole system, would be left in place and available for use by other cables in the future. The directional bores installed to facilitate the marine cable landings also would likely be left in place for possible future use. If any non-buried segments of cable are present within State waters, the cable owner would work with the relevant agencies to determine whether removal is appropriate. If non-buried segments are present and it is determined that removal is required, the cable owner would conduct the removal.

Removal activities, if necessary, are likely to result in impacts similar to those associated with Project installation activities. Whether the removal impacts would be significant would depend on the existing setting and significance criteria at the time. At the end of the cable's life, subsequent environmental documentation is likely to be required. If significant impacts are identified at that time, the types of measures proposed to mitigate installation impacts likely would be feasible to mitigate removal impacts to a less than significant level.

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3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

This section presents the Initial Study (IS) for the proposed RTI Infrastructure Inc. Manchester Subsea Cables Project (Project) in accordance with the requirements of the California Environmental Quality Act (CEQA). The IS identifies site-specific conditions and impacts, evaluates their potential significance, and discusses ways to avoid or lessen impacts that are potentially significant. The information, analysis, and conclusions included in the IS provide the basis for determining the appropriate document needed to comply with CEQA. Based on the analysis and information contained herein, California State Lands Commission (Commission or CSLC) staff has found evidence that the Project may have a significant effect on the environment, but that revisions to the Project would avoid the effects or mitigate them to a point where clearly no significant effect on the environment would occur. As a result, CSLC has concluded that a Mitigated Negative Declaration (MND) is the appropriate CEQA document for the Project.

The evaluation of environmental impacts provided in this document is based in part on the impact questions contained in updated 2019 Appendix G of the State CEQA Guidelines. These questions, which are included in an impact assessment matrix for each environmental category (e.g., Aesthetics, Air Quality, and Biological Resources), are “intended to encourage thoughtful assessment of impacts.” Each question is followed by a check-marked box with column headings that are defined below:

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more “potentially significant impacts,” a Project Environmental Impact Report (EIR) would be prepared.
- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would reduce the identified effect(s) to a less than significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant effects in the category. The Project’s impact is less than significant for the category without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any impact in the category or the category does not apply.

The environmental factors checked below (Table 3-1) would be potentially affected by this Project; a checked box indicates that at least one impact would be a “potentially significant impact” except that the Applicant has agreed to Project revisions, including the implementation of mitigation measures that reduce the impact to “less than significant with mitigation.”

Table 3-1. Environmental Issues and Potentially Significant Impacts

| | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Cultural Resources – Tribal |
| <input type="checkbox"/> Energy | <input checked="" type="checkbox"/> Geology, Soils, and Paleontological Resources | <input checked="" type="checkbox"/> Greenhouse Gas Emissions |
| <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input checked="" type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Land Use and Planning |
| <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input checked="" type="checkbox"/> Transportation |
| <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Detailed descriptions and analyses of impacts from Project activities and the basis for their significance determinations are provided for each environmental factor on the following pages, beginning with Section 3.1, *Aesthetics*. Relevant laws, regulations, and policies potentially applicable to the Project are listed in the Regulatory Setting for each environmental factor analyzed in this IS/MND (also see Appendix A). Impacts are analyzed for the entire Project.

AGENCY DETERMINATION

Based on the environmental impact analysis provided by 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.

Signature

Date

Afifa Awan, Senior Environmental Scientist
Division of Environmental Planning and Management
California State Lands Commission

1 3.1 AESTHETICS

| AESTHETICS - Except as provided in Public Resources Code Section 21099, would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2 3.1.1 Environmental Setting

3 The proposed Project consists of work on land (terrestrial) and in the ocean (marine)
4 areas.

5 3.1.1.1 Terrestrial Areas

6 Cable Landing Parcel, Underground Conduit System, and Cable Landing Station 7 Areas

8 The Project's terrestrial areas encompass the cable landing parcel (CLP) underground
9 conduit system, and one of the three cable landing stations (CLSs) (Figures 1-1, 2-1, and
10 3.1-2). These areas are between State Route (SR) 1 and the coastline. Elevations range
11 from sea level to approximately 190 feet above mean sea level. These areas are
12 surrounded by small coastal towns, agricultural land, and open space supporting natural
13 habitats. The types of natural habitats in the northern California coast include the coastal
14 prairies, coastal marshes, and a blend of hardwood and coniferous forests (Baldwin et al.
15 2012). The marine environment above water is characterized by a private (not open to
16 the public), open coast sandy beach.

Figure 3.1-1. Photographs of Project Site Views



AT&T Cable Landing Station



Private Cable Landing Station



Level3 CLS



View from SR 1 toward the Cable Landing Parcel



Alder Creek Bridge, conduit will either be attached to bridge or drilled below the creek, facing north



Brush Creek Bridge, conduit will either be attached to bridge or drilled below the creek, facing north



Kinney Road, potential Underground Conduit Installation, facing west

Ocean and Beach

The ocean is mostly visible along SR 1 when not obstructed by vegetation and topography. The private beach is generally not visible from SR 1 within the Project area due to berms and dense vegetation, including shrubs and trees. Residences near the Project site consist primarily of rural residential homes along SR 1 and residences along Pacific View Drive (Figure 3.1-2).

Manchester State Park

Manchester State Park is adjacent to the Project area (Figure 3.1-2) along the west side of two segments of SR 1 north of Kinney Road and along the north side of Kinney Road, which would be part of the Project area if the AT&T CLS is selected (Figure 2-1). Manchester State Park consists of 1,500 acres on shore, with a 3,782-acre adjacent underwater lease. Manchester State Park extends along the west side of Manchester, and the beach entrance is 0.5 mile north of town on SR 1 (CDPR 2018).

State Scenic Highway

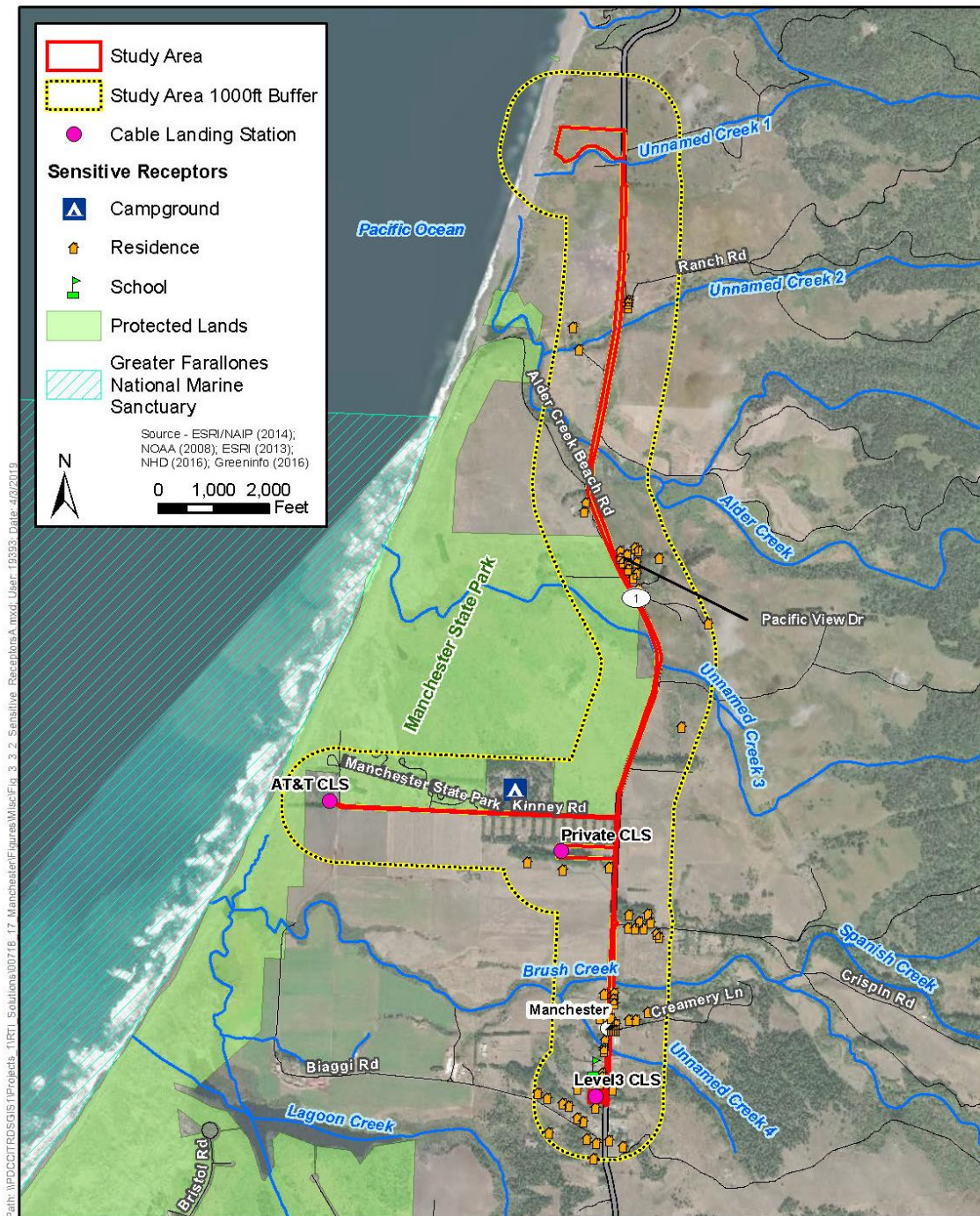
The Project area is on a coastal plain along SR 1 north of Manchester, with views of the Pacific Ocean to the west and coastal mountains to the east. According to the County's General Plan Resource Management Element, the coast is considered a scenic resource, and policies in the County's Coastal Element are designed to protect its scenic value.

The County's Scenic Highways Element (Mendocino County 2009) recommends designation of SR-1 through the County as an official State Scenic Highway. According to the California Department of Transportation (Caltrans) California Scenic Highway Mapping System website, SR 1 is not officially designated as a State Scenic Highway but is an Eligible State Scenic Highway throughout the County (Caltrans 2011).

3.1.1.2 Marine Areas

Marine areas present unobstructed views of the open ocean. Offshore, incidental fishing boats or freighters periodically pass by. At night, they are lit in accordance with applicable safety regulations for marine vessels.

Figure 3.1-2. Sensitive Receptors within 1,000 Feet of the Study Area



3.1.2 Regulatory Setting

Federal and state laws and regulations pertaining to aesthetics and relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included in Mendocino County's General Plan (2009) and Coastal Element (1991a) are applicable to the Project.

- **General Plan Resource Management Element Policy RM-132:** Maintain and enhance scenic values through development design principles and guidelines, including the following:
 - Development scale and design should be subordinate to and compatible with the setting
 - Reduce the visual impacts of improvements and infrastructure
 - Minimize disturbance to natural features and vegetation, but allow selective clearing to maintain or reveal significant views
- **Mendocino County Coastal Element Policy 3.5-5:** Providing that trees will not block coastal views from public areas such as roads, parks and trails, tree planting to screen buildings shall be encouraged. In specific areas, identified and adopted on the land use plan maps, trees currently blocking views to and along the coast shall be required to be removed or thinned as a condition of new development in those specific areas. New development shall not allow trees to block ocean views. In circumstances in which concentrations of trees unreasonably obstruct views of the ocean, tree thinning or removal shall be made a condition of permit approval. In the enforcement of this requirement, it shall be recognized that trees often enhance views of the ocean area, commonly serve a valuable purpose in screening structures, and in the control of erosion and the undesirable growth of underbrush.
- **Mendocino County Coastal Element Policy 3.5-9:** The location of all new access roads and driveways in rural areas shall be reviewed prior to any grading work to ensure safe location and minimum visual disturbance. Direct access to SR 1 shall not be permitted where it is feasible to connect to an existing or proposed public road or to combine access points for two or more parcels.

3.1.3 Impact Analysis

Under the proposed Project, up to four cables would be routed across the ocean from Asia and Australia to the Project area. Cable would be laid on the seafloor, buried in sand across the continental shelf, and placed in marine steel bores (horizontal directionally drilled) under the private beach and bluff. Once the cables arrive offshore, each cable would be pulled through a marine steel bore onshore on the bluff in the CLP in Manchester, California. The CLP currently is being used for grazing and would serve as a staging area (Figure 2-3). From the CLP, the cables would be routed on both sides of SR 1 and public roads to connect with one of the three existing CLS locations in

Manchester (Figure 3.1-2). The final CLS location would be selected after this environmental review.

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact

3.1.3.1 Terrestrial Areas

Permanent Visual Impacts from the Cable Landing Station and Underground Conduit System

No permanent aesthetics impact would result from the new facilities in the existing CLS and underground conduit system (Figures 2-1, 2-2, and 2-3) because they would be constructed at ground level. The CLS site outside structures already exist (Figure 2-1) and would just need to be modified from the inside to add new equipment for the cables. If the final destination is the Private CLS, then additional underground conduits would be installed to bring the cables to either the Level3 CLS or AT&T CLS because they are the only ones linked to the existing network system. Therefore, there would be no permanent impacts on visual resources or aesthetics. The marine steel bores also would be installed by horizontal directional drilling (HDD) from the CLS to under the bluff and the private beach.

Temporary Visual Impacts from Underground Conduit System along State Route 1 and Manchester State Park

There would be temporary aesthetics impacts during construction for people traveling along SR 1 near the CLP and underground conduit system from the presence of large construction equipment (e.g., excavator, loader). This temporary effect also would involve local travel and tourists visiting Manchester State Park. The potential number of persons affected by this temporary change in coastline views would be minimal, and Project construction would last for only several weeks (Table 2-1), this would be a temporary aesthetic impact.

Residents

Temporary impacts on aesthetics might occur during construction for the rural residences scattered along SR 1 (Figure 3.1-2) because they might have lines of sight of the construction activities. The residences along SR 1 south of Kinney Road and in Manchester would see the underground conduit system installation if the Level3 CLS (Figure 2-1) is chosen. If one of the other two CLS is selected, then these residents will not see the underground conduit work.

3.1.3.2 Marine Areas

The offshore work—including the primary and secondary work boats—would be visible from the beach and along SR 1 in the CLP area. Offshore work would be temporary and last several weeks (Table 2-1). Boats would be approximately 3,280 feet offshore west of the CLP (Figure 1-2). Consequently, Project activities in the offshore environment would cause a minimal obstruction of the ocean view from surrounding areas and SR 1. Boats in the area would have an obstructed view of the shoreline because of the offshore Project equipment. Therefore, short-term impairment to scenic vistas would result in a less than significant impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. There would be less than significant impact on aesthetics because SR 1 is not designated as a State Scenic Highway in Mendocino County. The County's Scenic Highways Element (Mendocino County 2009) recommends designation of SR 1 through the County as an official State Scenic Highway. According to Caltrans' California Scenic Highway Mapping System website, SR 1 is not officially designated as a State Scenic Highway but is an Eligible State Scenic Highway throughout the County (Caltrans 2011). Because SR 1 is not designated as a scenic highway, the Project would not damage scenic resources. Since work would be within an existing road right-of-way, Project work would not damage trees, rock outcroppings, and historic buildings.

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

No Impact. There would be no permanent impact on aesthetics because the Project would require short-term construction in terrestrial and marine areas. Table 2-1 lists the anticipated construction durations. Temporary visual impacts would result from the presence of construction equipment on the site that would be needed during Project construction and operation at the CLP, along the terrestrial underground conduit systems, and at the final CLS. The primary and secondary work boats would have a short-term visual impact on the nearshore coastal area. Because the viewshed change would occur only during the short Project construction period (Table 2-1), it is not considered a substantial visual impact. No natural land forms would be changed, and no permanent structures would be built.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. The aesthetics impact in the terrestrial areas would be less than significant because Project-related work would happen during daytime hours and the Project would not introduce glare to the area. Therefore, no impacts would occur from lighting or glare.

The aesthetics impact of offshore construction would be less than significant because work offshore would be temporary, and night-time lighting would meet all applicable U.S. Coast Guard (USCG) navigational standards. The primary and secondary work boats would remain offshore at night, with some limited lighting on the boats and anchor crown buoys to avoid a navigational hazard to existing marine traffic. Offshore work for each cable would be temporary (Table 2-1) and continuous for 24 hours; it would be within the USCG's requirements.

3.1.4 Mitigation Summary

The Project would have less than significant impacts on aesthetics; therefore, no mitigation is required.

1 3.2 AGRICULTURE AND FORESTRY RESOURCES

| AGRICULTURE AND FORESTRY RESOURCES ¹³ - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.2.1 Environmental Setting

3 There are no forest lands in the Project area. However, there are some agricultural lands
4 around the terrestrial Project components. The CLP and much of the land along SR 1 in
5 the Project area is currently being used for grazing, but it is not considered agricultural
6 land according to the CEQA checklist questions a) through e) above. Rural residences
7 and open space support natural habitats around the terrestrial underground conduit
8 systems. Zoning in the Project vicinity comprises of Agricultural Lands (AG 60) and Rural
9 Residential (RR5) The onshore cable routes, SR 1 and public roads, CLP, and all three
10 possible CLS locations are not under Williamson Act contract (Mendocino County
11 Assessor's Office 2014).

¹³ In determining whether impacts on 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 Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

3.2.2 Regulatory Setting

Federal and state laws and regulations pertaining to agriculture and forestry resources and relevant to the Project are identified in Appendix A. At the local level, there are no goals, policies, or regulations applicable to the Project.

3.2.3 Impact Analysis

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural 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 Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?

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 conversion of forest land to non-forest use?

(a to e) No Impact. There would be no impacts because there are no farmland or forest lands at the CLP (even though this site is currently being used as a grazing site) or potential CLS sites. The underground conduit systems would not negatively affect agricultural or grazing lands because cables would run adjacent to SR 1 and other public roads before taken to one of the three final CLS locations (Figure 3.1-2). Therefore, the Project would not have any permanent impacts on agriculture or forest lands and would not conflict with a Williamson Act contract.

3.2.4 Mitigation Summary

The Project would have no impact on agricultural and forestry resources; therefore, no mitigation is required.

1 3.3 AIR QUALITY

| AIR QUALITY - Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---------------------------------------|--|-------------------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2 3.3.1 Environmental Setting

3 3.3.1.1 Local Climate and Meteorology

4 The Project would occur in the North Coast Air Basin (NCAB), which includes Mendocino,
 5 Del Norte, Humboldt, Trinity, and northern Sonoma Counties. Therefore, the NCAB
 6 climate transitions between coast and interior California. Coastal Mendocino County,
 7 which includes the CLP, underground conduit system, and the final CLS location, has a
 8 mild Mediterranean climate. In general, the prevailing winds are from the northwest and
 9 are moderate in strength. The average yearly temperature range is 53°F to 57°F.
 10 Precipitation is greatest in the winter months, with October through April receiving 35 to
 11 80 inches of rainfall, depending on location.

12 3.3.1.2 Pollutants of Concern

13 Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide
 14 (SO₂), lead, and particulate matter with diameters of 10 microns (PM₁₀) and 2.5 (PM_{2.5})
 15 microns or less are commonly used as indicators of ambient air quality conditions. These
 16 pollutants are known as *criteria pollutants* and are regulated by the U.S. Environmental
 17 Protection Agency (EPA) and California Air Resources Board (CARB) through national
 18 and California ambient air quality standards (NAAQS and CAAQS, respectively). The
 19 NAAQS and CAAQS limit criteria pollutant concentrations to protect human health and
 20 prevent environmental and property damage. Other pollutants of concern in the study
 21 area are nitrogen oxides (NO_x) and reactive organic gases (ROG), which are precursors
 22 to ozone, and diesel particulate matter (DPM), which is a toxic air contaminant (TAC).
 23 These pollutants that can cause cancer and other human health illnesses are summarized

below. Note that ozone is considered a regional pollutant because its precursors affect air quality on a regional scale. Pollutants such as CO, NO₂, SO₂, and Pb are considered local pollutants that tend to accumulate in the air locally. PM is both a local and a regional pollutant. The primary criteria pollutants of concern generated by the Project are ozone precursors (ROG and NO_x), CO, and PM.^{14, 15}

- **Ozone:** O₃ is formed in the atmosphere through a series of complex photochemical reactions involving NO_x, ROG (also known as ROCs or reactive organic compounds), and sunlight occurring over several hours. Since O₃ is not emitted directly into the atmosphere, but is formed by photochemical reactions, it is classified as a secondary or regional pollutant. Because these O₃-forming reactions take time, peak O₃ levels are often found downwind of major source areas. O₃ is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O₃ (U.S. EPA 2015).
- **Carbon Monoxide:** CO is primarily formed through the incomplete combustion of organic fuels. Higher CO values are generally measured during winter when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon. CO is an odorless, colorless gas that affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects, especially to those with cardiovascular disease, and can affect mental alertness and vision (EPA 2015).
- **Nitric Oxide:** Nitric oxide is a colorless gas formed during combustion processes that rapidly oxidize to form NO₂, a brownish gas. The highest NO₂ values are generally measured in urbanized areas with heavy traffic. Exposure to NO₂ may increase the potential for respiratory infections in children and cause difficulty in breathing—even among healthy persons and especially among asthmatics (EPA 2015).
- **Sulfur Dioxide:** SO₂ is a colorless, reactive gas that is produced by burning sulfur-containing fuels, such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO₂ are found near large industrial sources. SO₂ is a respiratory irritant that can cause narrowing of the airways, leading to wheezing

¹⁴ There are also ambient air quality standards for SO₂, Pb, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants are typically associated with industrial sources, which are not included as part of the project. Accordingly, they are not evaluated further.

¹⁵ Most emission of NO_x are in the form of NO (Reşitoğlu 2018). Conversion to NO₂ occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO₂ is not considered a local pollutant of concern for the proposed project and is not evaluated further.

1 and shortness of breath. Long-term exposure to SO₂ can cause respiratory illness
2 and aggravate existing cardiovascular disease (EPA 2015).

- 3 • **Particulate Matter:** Ambient air quality standards are set for PM₁₀ and PM_{2.5}. Both
4 consist of different types of particles suspended in the air, such as metal, soot,
5 smoke, dust, and fine mineral particles. Depending on the source of particulates,
6 toxicity and chemical activity can vary. Particulate matter is a health concern,
7 because when inhaled, it can cause permanent damage to the lungs. The primary
8 sources of PM₁₀ emissions appear to be soil via roads, construction, agriculture,
9 and natural windblown dust. Other sources of PM₁₀ include sea salt, particulate
10 matter released during combustion processes (such as those in gasoline or diesel
11 vehicles), and wood burning. Fugitive emissions from construction sites, wood
12 stoves, fireplaces, and diesel truck exhaust are primary sources of PM_{2.5}. Both
13 sizes of particulates can be dangerous when inhaled; however, PM_{2.5} tends to be
14 more damaging because it remains in the lungs once inhaled (EPA 2015). DPM is
15 a TAC that is released during the conduction of diesel fuels. According to CARB,
16 70 percent of the cancer risk in California caused by TAC is related to DPM. There
17 is currently no identified threshold for exposure to DPM. Aside from being toxic,
18 DPM exposure also is known to exacerbate asthma and allergy symptoms (CARB
19 2018a).

20 3.3.1.3 Criteria Air Pollutant Concentration Stations

21 Several monitoring stations measure criteria pollutant concentrations in Mendocino
22 County and the NCAB. The Ukiah-E Gobbi Street and Ukiah-County Library stations
23 (approximately 30 miles to the east) are the nearest stations to the proposed CLP,
24 underground conduit system, and CLS. Pollutant concentrations monitored at these
25 stations are considered representative of ambient air quality in the Project area. Available
26 monitoring data collected at the Ukiah stations in the past 3 years (2015–2017) are
27 presented in Table 3.3-1. As provided in Table 3.3-1, the stations have not experienced
28 any violations of the ozone ambient air quality standards, but have exceeded the PM_{2.5}
29 NAAQS in 2 of the 3 monitoring years (CARB 2018a).

Table 3.3-1. Available Ambient Criteria Air Pollutant Monitoring Data (2015–2017)

| Pollutant Standards | 2015 | 2016 | 2017 |
|---|-------------|-------------|-------------|
| Ozone (O₃) (E Gobbi Street) | | | |
| Maximum 1-hour concentration (ppm) | 0.076 | 0.065 | 0.085 |
| Maximum 8-hour concentration (ppm) | 0.061 | 0.051 | 0.064 |
| Number of days standard exceeded¹ | | | |
| CAAQS 1-hour standard (> 0.09 ppm) | 0 | 0 | 0 |
| CAAQS 8-hour standard (> 0.070 ppm) | 0 | 0 | 0 |
| NAAQS 8-hour standard (> 0.070 ppm) | 0 | 0 | 0 |
| Particulate Matter (PM_{2.5}) (County Library) | | | |
| National ² maximum 24-hour concentration (µg/m ³) | 64.9 | 17.9 | 127.3 |
| National ² second-highest 24-hour concentration (µg/m ³) | 59.2 | 17.9 | 48.3 |
| State ³ maximum 24-hour concentration (µg/m ³) | 64.9 | 17.9 | 127.3 |
| State ³ second-highest 24-hour concentration (µg/m ³) | 59.2 | 17.9 | 48.3 |
| National annual average concentration (µg/m ³) | 8.5 | 6.4 | 9.4 |
| State annual average concentration (µg/m ³) ⁴ | * | 6.4 | 9.4 |
| Number of days standard exceeded⁵ | | | |
| NAAQS 24-hour standard (> 35 µg/m ³) | 3 | 0 | 6 |

Terms:

µg/m³ = micrograms per cubic meter

* = data not available

CAAQS = California Ambient Air Quality Standards

NAAQS = National Ambient Air Quality Standards

ppm = parts per million

Notes:

¹ An exceedance is not necessarily a violation.

² National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

³ State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.

⁴ State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

⁵ Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

Source: CARB 2019

1 3.3.1.4 Sensitive Receptors

2 *Sensitive land uses* are locations where human populations, especially children, seniors,
3 and sick persons, are found and where there is reasonable expectation of continuous
4 human exposure according to the averaging period for the air quality standards (i.e., 24-
5 hour, 8-hour). Typical *sensitive receptors* are residences, hospitals, schools, and parks.
6 Based on the Project footprint and National Agriculture Imagery Program (NAIP) imagery
7 from the United States Department of Agriculture, there are no sensitive receptors within

1,000 feet of the CLP boundary (Figure 3.1-2). There are scattered residential land uses (approximately 68 homes) within 1,000 feet along the underground conduit system and near the CLS (Figure 3.1-2). Based on the project footprint and NAIP imagery, the closest residence to the Project site is approximately 50 feet from the underground conduit system along SR 1 and public roads leading to one of the three final CLS locations. Manchester State Park is west of the underground conduit system from Ranch Road to the CLS. Manchester Elementary School is approximately 175 feet west of the underground conduit system. The closest sensitive receptors to the CLS locations are as follows (Figure 3.1-2):

- AT&T CLS is approximately 3,700 feet west of a residence
- Private CLS is approximately 200 feet north of a residence
- Level3 CLS is approximately 35 feet south of a residence

3.3.2 Regulatory Setting

The federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. The EPA is responsible for implementing most aspects of the CAA. A key element of the CAA is the NAAQS for criteria pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, CARB is responsible for enforcing air pollution regulations and implementing the California Clean Air Act, which requires attainment of the CAAQS by the earliest practical date. Refer to Appendix A for additional detail on relevant federal and state air quality laws and regulations.

The EPA and CARB use ambient air quality monitoring data to determine whether geographic areas achieve the NAAQS and CAAQS, which are listed in Appendix A. Areas with pollutant concentrations within the standard are designated as attainment areas, whereas areas that do not meet the standard are designated as nonattainment or maintenance areas. For regions that do not attain the NAAQS, the CAA requires preparation of a State Implementation Plan. Mendocino County is currently designated as attainment (pollutant concentrations are below the ambient air quality standards) for all criteria pollutants under the NAAQS and all pollutants except PM₁₀ under the CAAQS (EPA 2018a; CARB 2017). The County is designated as nonattainment (pollutant concentrations are above the ambient air quality standards) for the State PM₁₀ standard.

CARB delegates to local air agencies the responsibility of overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

The Mendocino County Air Quality Management District (District or MCAQMD) has air quality jurisdiction within Mendocino County. The District adopted the *Particulate Matter Attainment Plan* in January 2005 to outline recommended control measures to reduce future PM levels (MCAQMD 2005). The District also has established local air quality rules and regulations that address the requirements of federal and state air quality laws to ensure that NAAQS and CAAQS are met. The Project would be subject to District rules and regulations. Construction activities would require an Authority to Construct pursuant to Rule 1-200 prior to groundbreaking (or any disturbances to the vegetation).

The District (2010, 2013) recommends that the construction significance thresholds adopted by the Bay Area Air Quality Management District (BAAQMD) be used in CEQA documents. The District also has adopted separate thresholds to evaluate operational emissions. Table 3.3-2 presents the recommended construction and operational thresholds. These thresholds consider existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, the District considers projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded.

**Table 3.3-2. Mendocino County Air Quality Management District
Thresholds of Significance**

| Phase | ROG | NO _x | CO | PM ₁₀ | | | PM _{2.5} | | | SO ₂ |
|---|-----|-----------------|------------------|------------------|------|-------|-------------------|------|-------|-----------------|
| | | | | Exhaust | Dust | Total | Exhaust | Dust | Total | |
| Construction (pounds per day) | 54 | 54 | – | 82 | – | – | 54 | – | – | – |
| Operations | | | | | | | | | | – |
| Non-stationary (e.g., vehicle trips) (pounds per day except for CO) | 180 | 42 | 125 ¹ | – | – | 82 | – | – | 54 | – |
| Stationary (e.g., generators) (tons per year) | 40 | 40 | 125 | – | – | 15 | – | – | 10 | – |

Terms:

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter with a diameter of 10 microns or less

PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; SO₂ = sulfur dioxide

ROG = reactive organic gases

Note:

¹ Threshold is listed in tons per year instead of being pounds per day like the rest of the values in that column

Sources: MCAQMD 2010, 2013

Construction of the proposed Project would require both terrestrial (e.g., conduit installation) and marine activities. This analysis evaluates emissions within State waters (i.e., up to 3 nm from shore) consistent with the regulatory authority of CSLC under CEQA and the jurisdiction of the District. For informational purposes, Appendix B presents the methodology used for the air quality evaluation and its results. It also presents criteria pollutant emissions within 24 nautical miles (nm). This expanded analysis has been prepared to support the analysis of greenhouse gas (GHG) emissions (Section 3.9), within 24 nm for consistency with the State’s GHG emissions inventory and reduction planning goals.

3.3.3 Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The proposed Project would generate criteria pollutants primarily from diesel-powered marine vessels, off-road equipment, and on-road vehicles during construction. Because Mendocino County is in attainment (pollutant concentrations are below the ambient air quality standards) for all NAAQS, there is no applicable State Implementation Plan. As described above, the District has adopted a PM attainment plan that outlines recommended control measures to reduce future PM levels and attain the state PM₁₀ standard (MCAQMD 2005).

A project may be inconsistent with air quality plans if it would result in population or employment growth that exceeds estimates used to develop the emissions inventories for the plans. As discussed in Section 3.12, *Land Use and Planning*, and Section 3.15, *Population and Housing*, the proposed Project would not change current land use or zoning designations and would not induce growth or significantly increase employment in the area. Therefore, the Project would be consistent with regional growth and labor projections. While construction and operations activities would generate PM₁₀ emissions (discussed below), those emissions would not exceed the District’s significance threshold. The Project also would require contractors to comply with District Rule 1-430, which mandates fugitive dust control measures during grading activities, consistent with the *Particulate Matter Attainment Plan* (MCAQMD 2005). Therefore, neither construction nor operation of the proposed Project would conflict with or obstruct implementation of the current District air quality plan. This impact would be less than significant. This impact would be less than significant.

3.3.3.1 Construction

Less than Significant Impact. Terrestrial activities would generate criteria pollutant emissions from off-road equipment (e.g., backhoes) and vehicles used for employee commuting and hauling. Earthmoving (e.g., grading) and paving also would generate fugitive dust and ROG, respectively, and marine vessels operating within 3 nm offshore would generate emissions.

The criteria pollutant emissions were estimated for each of the four construction phases (Figure 1-2 and Table 2-1).¹⁶ Construction-related criteria pollutant impacts are based on the proposed Project's average daily emissions compared to the District's adopted emission thresholds. Table 3.3-3 summarizes the results of the analysis. Phase 1 would result in the highest average daily emissions of all four phases because it would involve all terrestrial conduit installation. There would be no overlap among the phases (i.e., construction of the four phases would occur sequentially). Refer to Appendix B for detailed information on the modeling methods. Tables 1 through 19 in Appendix B present the schedule and equipment inventories assumed in the modeling.

As provided in Table 3.3-2, construction-generated emissions would not exceed the District's thresholds of significance. Accordingly, these emissions would not be expected to contribute a significant level of air pollution such that regional air quality within the NCAB would be degraded. Therefore, this impact would be less than significant.

Table 3.3-3. Estimated Average Daily Construction Emissions (pounds per day)

| Phase | ROG | NO _x | CO | PM ₁₀ | | | PM _{2.5} | | | SO ₂ |
|------------------|-----------|-----------------|----|------------------|------|-------|-------------------|------|-------|-----------------|
| | | | | Exhaust | Dust | Total | Exhaust | Dust | Total | |
| Phase 1 | 3 | 33 | 14 | 1 | 2 | 3 | 1 | <1 | 1 | 1 |
| Phase 2 | 1 | 16 | 3 | <1 | <1 | 1 | <1 | <1 | <1 | 1 |
| Phase 3 | 1 | 15 | 2 | <1 | <1 | 1 | <1 | <1 | <1 | 1 |
| Phase 4 | 1 | 15 | 2 | <1 | <1 | 1 | <1 | <1 | <1 | 1 |
| <i>Threshold</i> | <i>54</i> | <i>54</i> | – | <i>82</i> | – | – | <i>54</i> | – | – | – |

Terms:

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter with a diameter of 10 microns or less

PM_{2.5} = particulate matter with a diameter of 2.5 microns or less

ROG = reactive organic gases

SO₂ = sulfur dioxide

Note:

Emissions are averaged over calendar days, consistent with District guidance for multi-year construction projects.

¹⁶ Construction is likely to begin in 2020, however the emissions analysis assumed a 2019 start date. Emission factors for offroad equipment and onroad vehicles decline over time due to implementation of increasingly stringent emissions standards and retirement of older, more emissions intensive engines. Accordingly, the emissions presented in Table 3.3-2, which assume a 2019 construction start are conservative for the proposed project.

3.3.3.2 Operations

Less than Significant Impact. The Project's normal operation would consist of monthly inspections, requiring one vehicle trip, and testing of two standby diesel-fueled emergency generators. If a marine cable requires repair, marine vessels may be used within State waters. Such an event is not expected and relates to an emergency condition. Therefore, it is not considered as part of normal operations and emissions for the District's thresholds. Average daily criteria pollutant emissions from monthly inspections and generator testing were quantified using the methods described in Appendix B. Table 3.3-4 summarizes the results of the analysis and compares operational emissions to the District's operational thresholds.

Operational emissions would be well below the District's thresholds. Accordingly, these emissions would not be expected to contribute a significant level of air pollution such that regional air quality within the NCAB would be degraded. This impact would be less than significant.

Table 3.3-4. Estimated Operational Emissions

| Source ¹ | ROG | NO _x | CO | PM ₁₀ | | | PM _{2.5} | | | SO ₂ |
|---|------|-----------------|-------------------|------------------|------|-------|-------------------|------|-------|-----------------|
| | | | | Exhaust | Dust | Total | Exhaust | Dust | Total | |
| Vehicle trips (pounds per day) ² | <0.1 | <0.1 | <0.1 ³ | <0.1 | 0.2 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| <i>Threshold</i> | 180 | 42 | 125 | – | – | 82 | – | – | 54 | – |
| Generators (tons per year) | 0.1 | 0.6 | 0.9 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| <i>Threshold</i> | 40 | 40 | 125 | – | – | 15 | – | – | 10 | – |

Terms:

CO = carbon monoxide

NO_x = nitrogen oxides

PM₁₀ = particulate matter with a diameter of 10 microns or less

PM_{2.5} = particulate matter with a diameter of 2.5 microns or less

ROG = reactive organic gases

SO₂ = sulfur dioxide

Notes:

¹ The District (2010) recommends different allowable emissions thresholds for indirect (e.g., mobile vehicle trips) and stationary sources (e.g., generators). Therefore, emissions from the vehicle trips and generator are presented separately for comparison to the applicable District thresholds.

² Emissions are averaged over 12 working days per year.

³ Emissions are reported in tons per year for comparison to the District's threshold of 125 tons per year.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. No single project is sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions

1 contribute to existing cumulatively significant adverse air quality impacts. The BAAQMD's
2 (2017) air quality guidelines, which are recommended by the District (MCAQMD 2010,
3 2013), acknowledge that, if a project exceeds the identified significance thresholds, its
4 emissions would be cumulatively considerable, resulting in significant adverse air quality
5 impacts on the region's existing air quality conditions.

6 As mentioned under Impact b), neither construction-related nor operational emissions
7 would exceed the District's thresholds. Therefore, Project emissions would not be
8 cumulatively considerable.

9 ***c) Expose sensitive receptors to substantial pollutant concentrations?***

10 **Less than Significant Impact.** All criteria pollutants are associated with some form of
11 health risk (e.g., asthma, asphyxiation). The NAAQS and CAAQS are health-protective
12 standards that define the maximum amount of ambient pollution that can be present
13 without harming public health. The District has adopted thresholds for construction and
14 operational criteria pollutant emissions to determine whether increased emissions from a
15 proposed project will cause or contribute to a violation of the NAAQS or CAAQS. The
16 District thresholds for criteria pollutants are provided in Table 3.3-2. Projects with
17 emissions below the thresholds are not anticipated to contribute to violations of the
18 NAAQS or CAAQS, and thus meet the EPA and CARB health-protective standards.

19 As provided in Tables 3.3-3 and 3.3-4, respectively, neither construction nor operation of
20 the Project would exceed the District's criteria pollutant thresholds for violations of the
21 health-protective CAAQS and NAAQS, and impacts would be less than significant.

22 Note that negative health effects associated with criteria pollutant emissions are highly
23 dependent on a multitude of interconnected variables (e.g., cumulative concentrations,
24 local meteorology and atmospheric conditions, and the number and character of exposed
25 individuals [e.g., age, gender]). In particular, ozone can be formed through complex
26 chemical reactions over long distances. In addition, directly-emitted PM does not always
27 equate to a specific localized impact because emissions can be transported and
28 dispersed. Given the factors that influence the formation and transportation of pollution,
29 quantifying the specific health consequences from the Project's emissions is not feasible
30 because the models designed to evaluate future ozone and PM levels and resulting health
31 effects are based on regional or national conditions. In other words, the minor increases
32 in regional air pollution from construction and operation of the Project would not result in
33 material changes to regional ambient air quality or human health. Consequently, an
34 analysis correlating the relatively minor regional emissions generated by the Project with
35 specific levels of health impacts would not yield reliable or accurate results and therefore
36 was not conducted. The following analysis focuses on localized concentrations of DPM
37 and CO that would be generated by the proposed Project, consistent with District
38 guidance (MCAQMD 2010, 2013).

3.3.3.3 Diesel Particulate Matter

Terrestrial construction would generate short-term diesel exhaust emissions from use of heavy-duty equipment and vehicles. Monthly testing of the emergency generators during routine operation also would generate DPM. In 1998, CARB identified particulate exhaust emissions from diesel-fueled engines (DPM) containment. As noted above, the District recommends use of the BAAQMD thresholds for CEQA analyses (MCAQMD 2010, 20130. The BAAQMD (2017) typically recommends CEQA analyses to consider exposure to toxic air contaminants if the source and receptor are close to each other (i.e., 1,000 feet or less). Although no receptors are within 1,000 feet of the CLP, single-family homes (approximately 68 homes) are within 1,000 feet of the underground conduit system and near the potential CLSs (Figures 2-1 and 3.1-2). As noted above, the closest residence to the Project underground conduit system is approximately 50 feet.

Emissions generated during terrestrial construction installation would be temporary (approximately 84 working days) and spread along the underground conduit system. Most activity would occur during Phase 1 because that is when the initial support facilities would be built (Section 2.2) (refer to Table 1 in Appendix B, Phase 1-5). Emergency generator testing during operation would occur for approximately 12 hours per year at one of the three CLSs (Figure 2-1) analyzed in this MND. Consequently, individual receptors would not be exposed to elevated levels of DPM for an extended period. Even though the daily exposure levels from construction would be below the thresholds for this area, the health risks associated with DPM generally are associated with chronic exposure and are assessed over a 30-year exposure period. Therefore, the DPM emissions from construction and operation would have a limited potential to affect sensitive receptors, and the Project would result in a less than significant impact on nearby sensitive receptors.

3.3.3.4 Carbon Monoxide Hot-Spots

Carbon monoxide is a public health concern because it can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Elevated levels of CO concentrations are typically found at heavily congested intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations throughout the day. Construction sites are less likely to result in localized CO hot-spots due to the nature of construction activities, which normally use diesel-powered equipment for intermittent or short durations. Moreover, construction sites must comply with the Occupational Safety and Health Administration's CO exposure standards for onsite workers.

The BAAQMD's (2017) current CEQA guidelines outline a set of preliminary screening criteria that can be used to determine whether a project's vehicle traffic would cause or contribute to CO concentrations that exceed the CAAQS (e.g., 24,000 vehicles per hour). As discussed in Section 3.18, *Transportation*, the Project would generate minimal traffic

1 during construction and negligible traffic (12 inspection trips per year) during operations.
2 Therefore, the Project would not violate the BAAQMD's CO screening criteria, which are
3 currently recommended by that District (2010, 2013). Therefore, implementation of
4 Project would not result in CO concentrations in excess of the health protective CAAQS
5 or NAAQS, and as such, would not expose sensitive receptors significant pollutant
6 concentrations or health effects. This impact would be less than significant.

7 ***d) Result in other emissions (such as those leading to odors) adversely affecting a***
8 ***substantial number of people?***

9 **Less than Significant Impact.** Odors can be unpleasant, leading to citizen complaints
10 to local governments and air districts. Diesel-powered equipment used during terrestrial
11 construction would generate odors that are evident in the immediate surrounding area
12 (Figure 3.1-2). However, these odors would be intermittent and temporary because they
13 would happen for approximately 5 to 7 days for each phase during terrestrial cable pulling
14 (see Table 1 in Appendix B). Therefore, these activities would not result in nuisance
15 odors. The Project does not meet any of the facility types identified by the CARB (2005)
16 meeting these criteria. Consequently, the proposed Project would not create
17 objectionable odors affecting a substantial number of people. This impact would be less
18 than significant.

19 **3.3.4 Mitigation Summary**

20 The Project would not have significant impacts on air quality; therefore, no mitigation is
21 required.

1 **3.4 BIOLOGICAL RESOURCES**

| BIOLOGICAL RESOURCES - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 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, or that is a species of interest to the State Lands Commission or the California Coastal Commission; or cause a marine wildlife population to drop below self-sustaining levels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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, U.S. Fish and Wildlife Service, State Lands Commission, or California Coastal Commission? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

3.4.1 Environmental Setting

This section describes the ecological conditions in the terrestrial and marine biological study areas (BSAs). The terrestrial BSA extends along approximately 3 miles of the SR 1 ROW; encompasses a private parcel where the CLP, LMH, and access road would be constructed; and extends along Kinney Road, where one possible location for the CLS is located, and to two other possible locations for the CLS (Figure 1-1). The BSA encompasses the areas to be disturbed to construct the onshore (terrestrial) Project components and some additional areas that were surveyed and assessed for potential indirect Project impacts.

The marine study area (MSA) extends to the 5,904-foot depth contour from the mean high tide mark and comprises coastal water, intertidal, and subtidal habitats occurring immediately offshore of the proposed CLP. It also extends approximately 1,650 feet upcoast and downcoast of the four proposed fiber optic cable routes.

The BSA is illustrated in Figure 3.4-1, and the MSA is illustrated in Figure 3.4-2. Habitat types found within the BSA are mapped in Appendix C1.

3.4.1.1 Terrestrial Biological Resources

This section describes the terrestrial and onshore regional ecological conditions, habitats, and biological resources of the BSA. The *Terrestrial Biological Resources Technical Report* (Appendix C2) provides detailed information on the terrestrial BSA, surveys conducted within the terrestrial BSA, and sensitive terrestrial biological resources. Additionally, an *Aquatic Resources Delineation Report* (Appendix C3) was prepared, summarizing the methods and results of the delineation of aquatic resources. Together, these technical reports provide the basis for the summary of biological resources presented here.

Terrestrial Regional Setting

The Project is in Manchester, California, approximately 35 miles south of Fort Bragg and 5 miles north of Point Arena in the southern portion of Mendocino County. The Project parallels SR 1 for approximately 5 miles, approximately 1,600 to 7,200 feet east of the shoreline. Annual average temperatures range from 44 to 60 degrees Fahrenheit (°F), with the coolest temperatures occurring in December and January, and the warmest in July and August. Average annual rainfall in the Project vicinity is 40 inches, most of which falls between December and March.

Figure 3.4-1. Terrestrial Biological Study Area

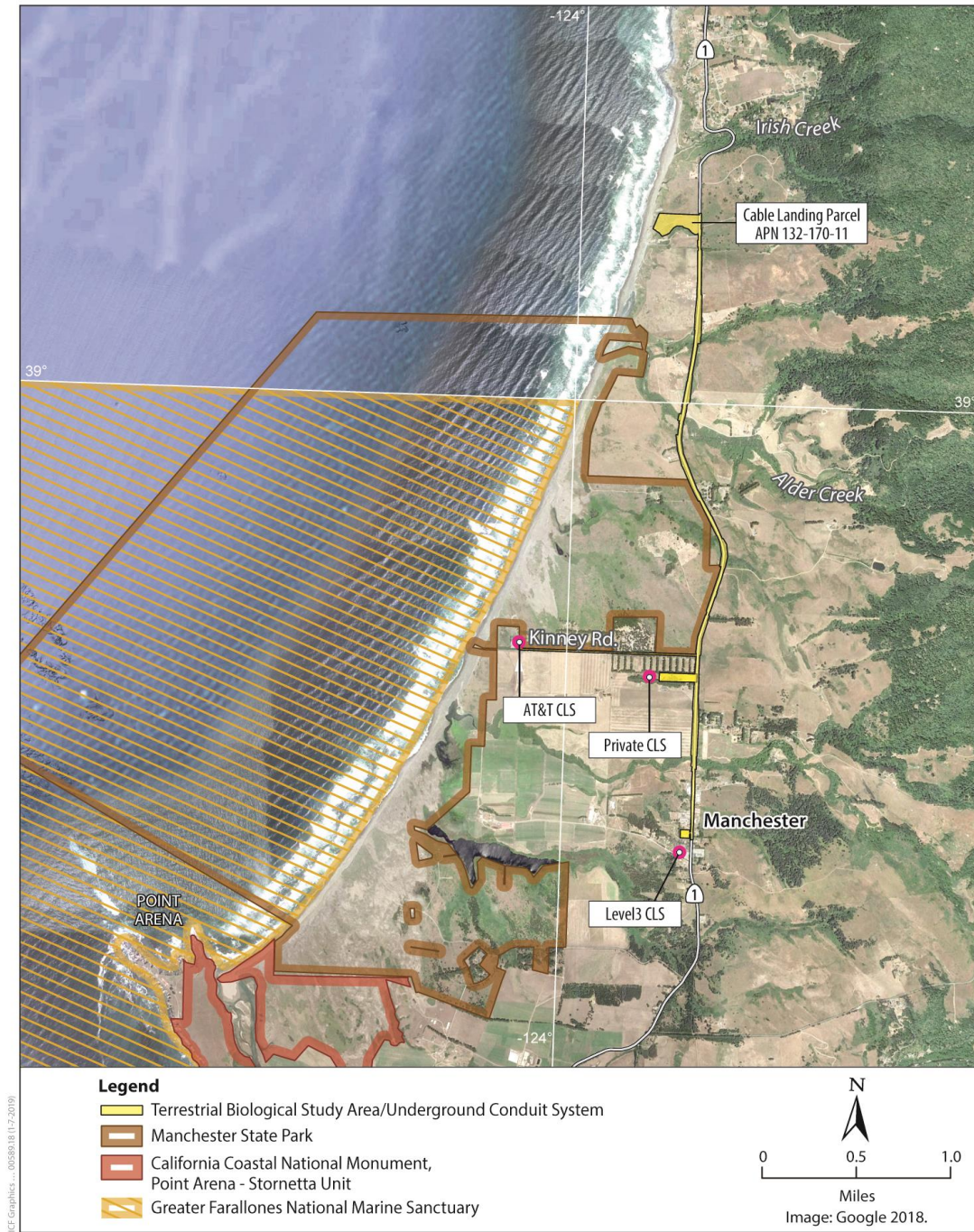
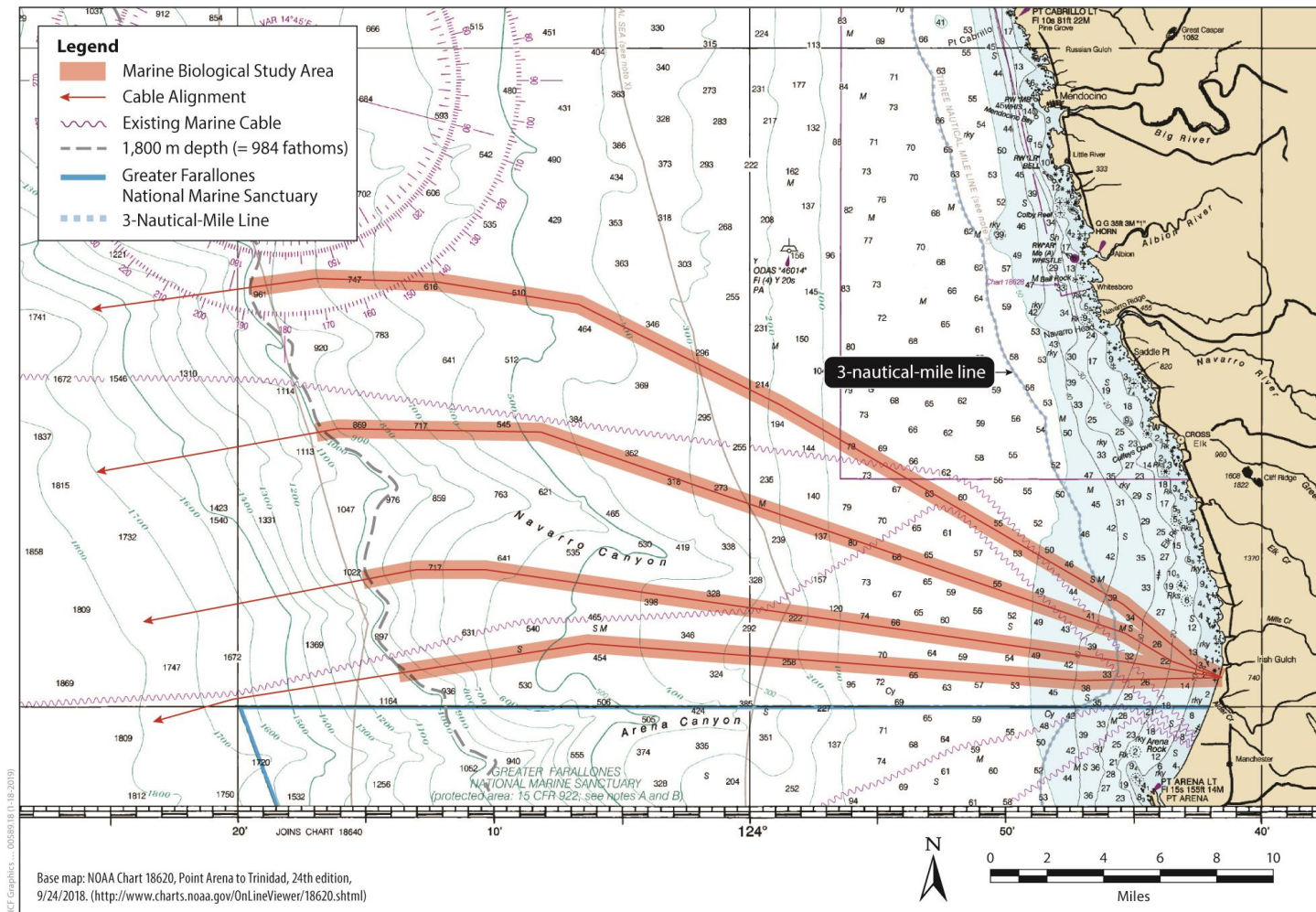


Figure 3.4-2. Marine Biological Study Area



1 The Project area is within the North Coast Geographic Subdivision of the California
2 Floristic Province (Baldwin et al. 2012). The area's climate is characterized by cool, wet
3 winters and dry, foggy summers. Land cover in the region includes small coastal towns,
4 agricultural land, and open space supporting natural habitats. Natural habitats
5 representative of the North Coast include coastal prairies, coastal marshes, and a blend
6 of hardwood and coniferous forests (Baldwin et al. 2012).

7 The Project area crosses six creeks that support riparian habitat (Appendix C1). Two
8 creeks, Alder Creek and Brush Creek, are in the northern and southern portions of the
9 BSA, respectively; both support mature riparian habitat. The other four creeks are
10 unnamed and are either tributaries of the two named creeks or flow directly to the Pacific
11 Ocean.

12 Land Cover and Habitat Types

13 With cool, wet winters and mild, foggy summers, the BSA's dominant vegetation
14 communities are grasslands, coastal scrub, and riparian forest (Appendix C1). These
15 communities support diverse plant assemblages of herbaceous species, woody shrubs,
16 and trees. The BSA includes six stream crossings, and seasonal wetlands are distributed
17 along the alignment of the terrestrial underground conduit system (i.e., SR 1). Wildlife
18 species that occur in the BSA include birds, amphibians, fish, invertebrates, and small-
19 and medium-sized mammals.

20 The land cover types in the BSA can broadly be divided into three categories: woody
21 vegetation, herbaceous vegetation, and types that lack vegetation. These categories
22 have been further defined by dominant vegetation as described by the California Wildlife
23 Habitat Relationship System (CWHR) (Mayer and Laudenslayer 1988). CWHR habitat
24 types present in the BSA are closed-cone pine-cypress, valley foothill riparian, coastal
25 scrub, wet meadow, and nonnative and perennial grasslands (Table 3.4-1 and
26 Appendix C1).

27 The land cover types also are defined as vegetation alliances (CNPS 2019), which
28 similarly reflect dominant plant species present as well as their sensitivity; rarity; and the
29 level of threat posed by development, grazing, mining, or other variables (CDFW 2018a).

Table 3.4-1. Habitat Types/Vegetation Alliances in the Biological Study Area

| CWHR Habitat Types ¹ | Habitat Type Acreage/ Linear Feet | Vegetation Alliances ² | CDFW Sensitive Alliance ³ |
|--|--------------------------------------|---|--------------------------------------|
| Woody Vegetation | | | |
| Closed-cone pine-cypress | 3.60 acres | Monterey cypress stands (<i>Hesperocyparis macrocarpa</i>) | No ⁴ |
| | | Monterey pine forest (<i>Pinus radiata</i>) | No ⁴ |
| Valley foothill riparian | 5.78 acres | Red alder forest (<i>Alnus rubra</i> alliance) | No |
| | | Coastal dune willow thickets (<i>Salix hookeriana</i>) | Yes |
| | | Sitka willow thickets (<i>Salix sitchensis</i>) | Yes |
| | | Shining willow grove (<i>Salix [lucida] lasiandra</i> var. <i>lasiandra</i>) | Yes |
| | | Scouler willow thicket proposed ⁵ alliance (<i>Salix scouleriana</i>) | Not an alliance |
| | | Arroyo willow thicket (<i>Salix lasiolepis</i>) | Yes ⁶ |
| | | Coastal scrub | 15.33 acres |
| Coastal brambles (<i>Rubus ursinus</i>) | Yes ⁷ | | |
| Poison-oak scrub (<i>Toxicodendron diversilobum</i>) | No | | |
| Himalayan blackberry scrub (<i>Rubus armeniacus</i>) | No | | |
| Herbaceous | | | |
| Wet meadow | 0.66 acre | Slough sedge swards (<i>Carex obnupta</i>) | Yes |
| | | Water-parsley marsh (<i>Oenanthe sarmentosa</i>) | Yes |
| | | Soft rush marsh (<i>Juncus effusus</i>) | No |
| | | Pacific reed grass meadow (<i>Calamagrostis nutkaensis</i>) | Yes |
| | | Common monkey flower seep (<i>Erythranthe guttata</i>) | No ⁸ |
| | | Small-fruited bulrush marsh (<i>Scirpus microcarpus</i>) | No ⁸ |
| Perennial grasslands | 8.48 acres | Common velvet grass—sweet vernal grass meadows (<i>Holcus lanatus</i> — <i>Anthoxanthum odoratum</i>) | No |
| Nonnative annual grasslands | 9.60 acres | N/A | No |

Table 3.4-1. Habitat Types/Vegetation Alliances in the Biological Study Area

| CWHR Habitat Types ¹ | Habitat Type Acreage/ Linear Feet | Vegetation Alliances ² | CDFW Sensitive Alliance ³ |
|---------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|
| Other Land Cover Types | | | |
| Riverine | 0.46 acre ⁹ | N/A | N/A |
| Urban | 16.41 acres | N/A | N/A |

Terms:

CDFW = California Department of Fish and Wildlife

CWHR = California Wildlife Habitat Relationship System

Notes:

¹ California Wildlife Habitat Relationships System (Mayer and Laudenslayer 1988).

² CNPS 2019.

³ California Sensitive Natural Communities (CDFW 2018a).

⁴ While Monterey cypress stands and Monterey pine forests are both sensitive natural communities (CDFW 2018a), the Monterey cypresses and Monterey pines in the biological study area (BSA) were planted outside their native range (Baldwin et al. 2012), and the communities are not considered sensitive.

⁵ *Salix scouleriana* is not classified as an alliance (CNPS 2019) but functions as one in the BSA.

⁶ While arroyo willow thickets are a sensitive natural community (CDFW 2018a), one patch in the town of Manchester is not considered sensitive because it is discontinuous with natural habitat and degraded from urban sprawl.

⁷ While coastal brambles are as a sensitive natural community (CDFW 2018a), some of the patches were not considered sensitive because of the annual disturbance experienced from vegetation maintenance activities conducted by the California Department of Transportation.

⁸ While the vegetation alliance is technically a sensitive natural community (CDFW 2018a), it was not considered sensitive because of its small size and the annual disturbance experienced from vegetation maintenance activities conducted by the California Department of Transportation.

⁹ Reported acreages include culverted waters.

1 *Closed-Cone Pine-Cypress*

2 Closed-cone pine-cypress occurs in small patches and linear strips along the SR 1 ROW,
3 private driveways adjacent to the ROW, and Kinney Road. Closed-cone pine-cypress
4 stands are dominated by Monterey cypress (*Hesperocyparis macrocarpa*) and support
5 the following species: Monterey pine (*Pinus radiata*), blue gum eucalyptus (*Eucalyptus*
6 *globulus*), and Douglas-fir (*Pseudotsuga menziesii*). Monterey cypress and Monterey
7 pine have been widely planted outside their native range of the Monterey Peninsula
8 (Baldwin et al. 2012). The understory of closed-cone pine-cypress stands contains
9 minimal herbaceous understory with scattered woody shrubs, primarily blackberry
10 species (*Rubus armeniacus* and *R. ursinus*) and twinberry honeysuckle (*Lonicera*
11 *involucrata* var. *ledebourii*).

12 Closed-cone cypress stands provide both nesting and foraging habitat for a variety of bird
13 species that include great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), red-tailed
14 hawk (*Buteo jamaicensis*), and band-tailed pigeon (*Patagioenas fasciata*) (Mayer and
15 Laudenslayer 1988). Mammals that may occur include deer mouse (*Peromyscus*

1 *maniculatus*), dusky-footed woodrat (*Neotoma fuscipes*), western gray squirrel (*Sciurus*
2 *griseus*), long-tailed weasel (*Mustela frenata*), and raccoon (*Procyon lotor*).

3 *Valley Foothill Riparian*

4 Riparian communities in the BSA are most closely associated with the valley foothill
5 riparian habitat type described in the CWHR (Mayer and Laudenslayer 1988). This habitat
6 type is found along the six streams that cross the BSA (Appendix C1). This habitat type
7 is dominated by willow (*Salix* sp.) and alder (*Alnus* sp.). With a closed canopy, the
8 understory is limited to herbs, ferns and, in some areas, dense patches of blackberry
9 (*Rubus* spp.).

10 Valley foothill riparian habitat is a diverse assemblage of plant species that provides
11 foraging, nesting, and travel corridors for a variety of wildlife species, such as striped
12 skunk (*Mephitis mephitis*), ringtail (*Bassariscus astutus*), raccoon, gray fox (*Urocyon*
13 *cinereoargenteus*), neotropical migrant and resident bird species, and a suite of
14 amphibian and reptile species (Mayer and Laudenslayer 1988).

15 *Coastal Scrub*

16 Coastal scrub is common throughout the Project area, growing along the coastal bluffs
17 and in small patches in the BSA. Coastal bluff scrub is composed of dense patches or
18 stands of coyote brush (*Baccharis pilularis*), poison-oak (*Toxicodendron diversilobum*),
19 and Pacific blackberry (*Rubus ursinus*). Other common woody shrubs include coffeeberry
20 (*Rhamnus californica* ssp. *californica*) and Carmel ceanothus (*Ceanothus thyrsiflorus* var.
21 *griseus*). Common herbaceous species include bracken fern (*Pteridium aquilinum*), sword
22 fern (*Polystichum munitum*), coastal gumweed (*Grindelia stricta* var. *stricta*), and long-
23 beaked filaree (*Erodium botrys*).

24 Coastal scrub provides habitat for a variety of fossorial mammals (e.g., Botta's pocket
25 gopher [*Thomomys bottae*], coyote [*Canus latrans*], and black-tailed jackrabbit [*Lepus*
26 *californicus*]). Bird species include California quail (*Callipepla californica*), western scrub-
27 jay (*Aphelocoma californica*), common raven (*Corvus corax*), California gnatcatcher
28 (*Poliophtila californica*), song sparrow (*Melospiza melodia*), wrentit (*Chamaea fasciata*),
29 and white-crowned sparrow (*Zonotrichia leucophrys*). Reptiles common to this habitat
30 type are western fence lizard (*Sceloporus occidentalis*) and gopher snake (*Pituophis*
31 *catenifer*).

32 *Wet Meadow*

33 Wet meadows are seasonally inundated habitats that are present at the CLP and in
34 roadside drainage ditches along SR 1. Species common to wet meadow habitat in the
35 BSA are slough sedge (*Carex obnupta*), common velvet grass, (*Holcus lanatus*), sweet
36 vernal grass (*Anthoxanthum odoratum*), water-parsley (*Oenanthe sarmentosa*), small-

1 fruit bulrush marsh (*Scirpus microcarpus*), common rush (*Juncus patens*), and dogtail
2 grass (*Cynosurus echinatus*).

3 This is a diverse habitat type that supports various mammal, reptile, and amphibian
4 species. Bird species that commonly nest and forage in wet meadows with sufficient cover
5 are waterfowl, shorebirds, red-winged blackbird (*Agelaius phoeniceus*), great blue heron
6 (*Ardea herodias*), song sparrow, great egret (*Ardea alba*), and northern harrier (*Circus*
7 *cyaneus*).

8 Grasslands

9 Perennial and nonnative annual grasslands are present in the BSA. Perennial grasslands
10 are the dominant vegetation type on the CLP. Nonnative annual grasslands are the
11 dominant herbaceous vegetation type along the SR 1 ROW, infrequently intergrading into
12 small patches of perennial grassland; the grassland in the ROW functions—and was
13 accordingly mapped—as nonnative annual grassland. Perennial grasslands in the BSA
14 reflect the common velvet grass–sweet vernal grass meadows vegetation alliance (CNPS
15 2019), which is dominated by velvet grass and sweet vernal grass. Common in road
16 shoulders and disturbed areas, nonnative annual grasslands are dominated by
17 rattlesnake grass (*Briza maxima*), soft chess (*Bromus hordeaceus*), slender wild oats
18 (*Avena barbata*), and ripgut brome (*Bromus diandrus*).

19 Reptiles common to annual and perennial grasslands include western fence lizard,
20 common garter snake (*Thamnophis sirtalis*), terrestrial garter snake (*Thamnophis*
21 *elegans*), and western rattlesnake (*Crotalus oreganus*) (Mayer and Laudenslayer 1988).
22 Mammals associated with annual and perennial grasslands include black-tailed
23 jackrabbit, California ground squirrel (*Ostospermophilus beecheyi*), Botta’s pocket
24 gopher, western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus*
25 *californicus*), coyote, black-tailed deer (*Odocoileus hemionus*), and red fox (*Vulpes*
26 *vulpes*) (Mayer and Laudenslayer 1988). Birds common to grassland habitat are horned
27 lark (*Eremophila alpestris*), mourning dove (*Zenaida macroura*), western kingbird
28 (*Tyrannus verticalis*), western bluebird (*Sialia mexicana*), western meadowlark (*Sturnella*
29 *neglecta*), turkey vulture (*Cathartes aura*), northern harrier, red-tailed hawk, American
30 kestrel (*Falco sparverius*), and white-tailed kite (*Elanus leucurus*) (Mayer and
31 Laudenslayer 1988).

32 Riverine

33 The riverine habitat type consists of perennial streams, intermittent streams, ephemeral
34 streams, roadside ditches, and culverts. Six primary waterbodies that intersect the BSA
35 consist of Alder Creek, Brush Creek and Unnamed Streams 1 through 4 (Figure 3.4.1).
36 Alder and Brush Creeks are perennial streams that intersect the BSA and flow directly to
37 the Pacific Ocean. The four unnamed creeks are either tributaries of the perennial creeks
38 or flow directly to the Pacific Ocean. The extent of riverine habitat is contained between

1 the ordinary high-water marks on both sides of each stream. These creeks are primarily
2 low gradient and composed of gravel, small cobble, and fine material. Alder Creek is a
3 third-order stream that drains a watershed of approximately 29 square miles. Elevation
4 ranges from 2,600 feet to sea level. The watershed is dominated by mixed coniferous
5 forest and is managed for timber production. Alder Creek at SR 1 is a low-gradient stream
6 that meanders with point-bar, riffle-pool alluvial channels and has a broad well-defined
7 floodplain. Its substrates are dominated by gravel and small cobble. Riparian density in
8 the Project area is roughly 36 percent, consisting mostly of deciduous trees that include
9 Pacific/shining willow, Sitka willow, and alder; conifers make up about 5 percent of the
10 canopy.

11 Alder Creek has an average width of 27 feet and is on average 2 feet deep. Baseline flow
12 in summer is about 5 cubic feet per second. Water temperature at baseline flow ranges
13 from 54 to 66°F. Stream banks are composed primarily of sand/silt/clay, bedrock, and
14 cobble/gravel. Both right and left banks are about 70 percent vegetated. The unnamed
15 tributary of Alder Creek (Unnamed Stream 2) that SR 1 crosses north of Alder Creek has
16 heavier riparian cover and is steeper. The creek has not been surveyed, but it was
17 assumed that conditions are similar to those in Alder Creek.

18 Brush Creek is a third-order stream that drains a watershed of approximately 15 square
19 miles. Elevation ranges from 2,300 feet to sea level. The watershed is dominated by
20 mixed coniferous forest and is managed for timber production and rangeland. Brush
21 Creek at SR 1 is a low-gradient, entrenched, meandering stream with a gravel-dominated
22 substrate interspersed with small cobbles. Riparian density in the Project area is roughly
23 86 percent, consisting mostly of deciduous trees—Pacific/shining willow, Sitka willow, and
24 red alder. Conifers make up about 16 percent of the canopy. Brush Creek has an average
25 width of 19 feet and an average depth of 2 feet. Baseline flow in summer is about 4 cubic
26 feet per second. Water temperature at baseline flow ranges from 52 to 62°F. Stream
27 banks are composed primarily of sand and cobble and gravel. Both right and left banks are
28 about 81 percent vegetated.

29 Riverine habitat supports a variety of fish species. CDFG (2003, 2005) found three-spined
30 stickleback (*Gasterosteus aculeatus*), Coast Range sculpin (*Cottus aleuticus*), Pacific
31 lamprey (*Entosphenus tridentatus*), and northern California coastal steelhead
32 (*Oncorhynchus mykiss*) in both Brush and Alder Creeks. This habitat type also provides
33 foraging habitat for a suite of bird species, such as belted kingfisher (*Megaceryle alcyon*),
34 great blue heron, flycatchers (*Empidonax* spp.), tree swallow (*Tachycineta bicolor*), cliff
35 swallow (*Petrochelidon pyrrhonata*), waterfowl, and shorebirds. Mammals that use
36 riverine habitat are river otter (*Lontra canadensis*) and mink (*Mustela vison*).

Urban

The urban habitat type is composed of artificial structures (e.g., buildings and roads) and primarily supports ruderal and ornamental vegetation. Species common to this habitat type are house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), scrub-jay, mockingbird (*Mimus polyglottos*), raccoon, house mouse (*Mus musculus*), and black rat (*Rattus rattus*).

Terrestrial Special-Status Species

ICF's biological team consisted of wildlife and fisheries biologists, wetland ecologists, and botanists. Biological surveys consisted of visually scanning the BSA for suitable habitat where special-status species could occur. Meandering transects were conducted in suitable habitat where access allowed. The BSA consisted of the CLP, the SR 1 ROW, the shoulder of Kinney Road, the AT&T CLS, and the Level3 CLS (including the private driveway accessing it) (Figure 1-1).

Special-status species are plants and animals that are legally protected under the federal Endangered Species Act (FESA), California Endangered Species Act (CESA), or other regulations and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are defined as follows:

- Species that are listed or proposed for listing as threatened or endangered under FESA (50 Code of Federal Regulations [CFR] 17.11 [listed animals], 50 CFR 17.12 [listed plants], and various notices in the Federal Register [FR])
- Species that are candidates for possible future listing as threatened or endangered under FESA (81 FR 87246 87272, December 2, 2016)
- Species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5)
- Animals listed as California species of special-concern on CDFW's Special Animals List (CDFW 2018b)
- Plants listed as rare under the California Native Plant Protection Act (CNPPA) (Fish and Game Code 1900 et seq.)
- Plants with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B (CDFW 2018c), and that are considered threatened or endangered in California by the scientific community
- Plants designated as CRPR 3 and 4 and that may warrant legal consideration if the population is locally significant and meets the criteria under State CEQA Guidelines section 15380(d)

1 Biologists reviewed existing natural resource information to evaluate which special-status
2 species or other sensitive biological resources could occur in the BSA. The query
3 assessed all special-status species known to occur within 3 miles of the BSA. The 3-mile
4 buffer was selected in preference of a nine-quarter or 5-mile search radius because of the
5 extensive biological diversity of the region not reflected in the BSA. The sources listed
6 below were reviewed:

- 7 • California Natural Diversity Database (CNDDDB) records search of a 3-mile area
8 around the Project limits (CDFW 2018d)
- 9 • USFWS's list of endangered and threatened species that could occur in or be
10 affected by the proposed Project (USFWS 2018)
- 11 • Critical habitat as defined in the FESA Section 3 and protected by USFWS or the
12 National Marine Fisheries Service (NMFS)
- 13 • A Biotic Resource Assessment conducted of the landing parcel by BioConsultants,
14 LLC (2011a)
- 15 • The *Point Arena Mountain Beaver Survey* conducted by BioConsultants, LLC
16 (2011b) on the proposed CLP and immediately north of it
- 17 • The IS/MND prepared by the California Department of Parks and Recreation
18 (CDPR) (2005) that addressed the Manchester State Park Campground Point
19 Arena mountain beaver restoration project

20 *Wildlife*

21 To assess the potential for wildlife species to occur, an ICF wildlife biologist conducted
22 reconnaissance-level surveys on April 4 and on October 10 and 11, 2018. Where access
23 was permitted, meandering transects were used to assess habitat suitability and species
24 presence. The wildlife biologist also drove the length of the BSA, assessing and
25 documenting potential suitable habitat where it was identified. Suitable habitat was
26 determined by the presence of diagnostic habitat elements. If habitat was identified as
27 low quality, it was assumed to be marginally suitable.

28 Based on the review of literature, existing conditions, species habitat requirements, and
29 distribution, 17 special-status fish and wildlife species were identified as having the
30 potential to occur in or adjacent to the BSA (Table 3.4-2). These species are discussed
31 below.

Table 3.4-2. Special-Status Fish and Wildlife Species with Potential to Occur in the Biological Study Area

| Common Name Scientific Name | Status ¹ Federal/ State | Habitat Requirements | Potential for Occurrence |
|---|--|---|---|
| Mammals | | | |
| Point Arena mountain beaver <i>Aplodontia rufa nigra</i> | FE/SSC | Coastal scrub, coastal strand, conifer forest, and riparian habitat types with well-drained soils that provide sufficient amounts of herbaceous food plants. | High—Known to occur in Manchester State Park and on private property near the north end of the Project area and in riparian habitat along Alder and Brush Creeks. Suitable habitat occurs throughout much of the BSA. |
| American badger <i>Taxidea taxus</i> | –/SSC | Woodland, shrub, and grassland habitat types with friable soils for burrowing; preys on small mammals, reptiles, insects, and birds; scavenges for carrion. | Moderate—Marginal foraging and denning habitat occurs in the BSA. |
| Amphibians | | | |
| Foothill yellow-legged frog <i>Rana boylei</i> | –/C | North and South Coast Ranges, south to the Transverse Range, across northern California to the west slope of the Cascade Range, and south through the Sierra Nevada foothills; occurs up to 6,000 feet in the northern Sierra Nevada; found in both perennial and intermittent forest streams and rivers with sunny, sandy, and rocky banks, deep pools, and shallow riffles. | High—Known to occur in Manchester State Park; may occur in Alder and Brush Creeks. |
| California red-legged frog <i>Rana draytonii</i> | FT/ SSC | Found in still waters in ponds, marshes, and stream pools near woodlands, coastal scrub, and streams with dense vegetative cover; most common in lowlands and foothills from sea level to 5,000 feet. | High—Known to occur in Manchester State Park and may occur in perennial creeks that bisect the Project alignment. The BSA is in critical habitat unit MEN #1. |

Table 3.4-2. Special-Status Fish and Wildlife Species with Potential to Occur in the Biological Study Area

| Common Name Scientific Name | Status¹ Federal/ State | Habitat Requirements | Potential for Occurrence |
|---|--|---|--|
| Northern red-legged frog <i>Rana aurora</i> | –/SSC | Occurs in low-gradient streams with pools, marshes, and ponds with dense vegetation for cover. | High—Known from the Project vicinity; may occur in Alder and Brush Creeks. |
| Invertebrates | | | |
| Behren's silverspot butterfly <i>Speyeria zerene behrensii</i> | FE/– | Occurs in coastal terrace prairie and grasslands on stabilized dunes where host plant (early blue violet or western dog violet) and nectar plants are found. | Low—Known from Manchester Beach State Park. Most of the BSA is in ruderal habitat along the edge of State Route 1. |
| Lotis blue butterfly <i>Lycaeides argyrognomon lotis</i> | FE/– | Historically known to occur between Fort Bragg and Point Arena; wet meadow and sphagnum willow bog habitat types; the larval host plant is believed to be harlequin lotus (<i>Hosackia gracilis</i>). Other larval host plants may include <i>Lotus</i> spp., <i>Lupinus</i> spp., <i>Astragalus</i> spp., and <i>Lathyrus</i> spp. | Low—Not observed since 1983. Harlequin lotus was identified in the cable landing parcel. |
| Birds | | | |
| Marbled murrelet <i>Brachyramphus marmoratus</i> | FT/SE | Nests and roosts in coastal coniferous forest; forages in the open ocean. | Low—No suitable nesting or roosting habitat occurs in the BSA; the Pacific Ocean provides suitable foraging habitat. |
| Northern harrier <i>Circus cyaneus</i> | –/SSC | Nests in grassland, scrub, and wetlands; nests and roosts on the ground in dense cover. | High—Grassland and coastal scrub in the BSA provide suitable nesting and foraging habitat. |
| Western snowy plover <i>Charadrius nivosus</i> | FT/SSC | Nests above high tide line on coastal beaches and dunes, near river mouths, and along edges of lagoons and estuaries. | High—Known to nest in the dune habitat of Manchester State Park. |

Table 3.4-2. Special-Status Fish and Wildlife Species with Potential to Occur in the Biological Study Area

| Common Name Scientific Name | Status¹ Federal/ State | Habitat Requirements | Potential for Occurrence |
|--|--|---|--|
| Yellow warbler <i>Dendroica petechia</i> | –/SSC | Nests and forages in early successional riparian habitats; found in coastal and northern California and the Sierra Nevada below approximately 7,000 feet; mostly extirpated from the southern Sacramento and San Joaquin Valleys. | Moderate—Riparian habitat associated with Alder and Brush Creeks and three unnamed creeks (unnamed creeks #1, #2, and #3) crossing the BSA provides suitable nesting and foraging habitat. |
| Yellow-breasted chat <i>Icteria virens</i> | –/SSC | Nests and forages in riparian thickets of willow and other brushy tangles near water and in thick understory in riparian woodland; breeding range includes northern Sacramento Valley, Cascade Range, Sierra Nevada foothills, northwestern California, most of the Coast Ranges, Colorado River, and other scattered sites; migrates south of California in fall/winter. | Moderate—Riparian habitat associated with Alder Creek, Brush Creek, and three unnamed creeks (unnamed creeks # 1, #2, and #3) crossing the BSA provides suitable nesting and foraging habitat. |
| Peregrine falcon <i>Falco peregrinus</i> | –/SFP | Found in a variety of habitat types; typically nests on cliff ledges | Low—Observed hunting in Manchester State Park; the BSA lacks suitable nesting habitat. |
| Fish | | | |
| Northern California coast steelhead <i>Oncorhynchus mykiss</i> | FT/– | Requires cold, clean water and gravel for spawning and rearing, with cover for velocity and predator refuge. | High—Known to occur in Alder and Brush Creeks (CDFG 2003, 2005). |
| California coastal Chinook salmon <i>Oncorhynchus tshawytscha</i> | FT/– | Occurs in the Garcia River; requires cold, clean water and gravel for spawning and rearing, with cover for velocity and predator refuge. | Low—the Project area is within the known range; however, the access and hydrology of streams in the BSA are not expected to support this species. |

Table 3.4-2. Special-Status Fish and Wildlife Species with Potential to Occur in the Biological Study Area

| Common Name Scientific Name | Status¹ Federal/ State | Habitat Requirements | Potential for Occurrence |
|--|--|---|---|
| Central California coast coho salmon <i>Oncorhynchus kisutch</i> | FE/ST | Occurs in the Garcia River; requires cold, clean water and gravel for spawning and rearing, with cover for velocity and predator refuge. | Low—The BSA is within the known range, and the fish previously was observed in Brush Creek but species is not found in abundance in area. |
| Pacific lamprey <i>Entosphenus tridentatus</i> | –/SSC | Requires cold, clean water and gravel for spawning and soft substrate for ammocoetes to burrow into, with slower water velocity areas such as backwaters. | High—Known to occur in Alder and Brush Creeks (CDFG 2003, 2005) |

Term:

BSA = biological study area

Notes:

¹ Status:

C = Candidate for listing under CESA

FE = Listed as endangered under Federal Endangered Species Act (FESA)

FT = Listed as threatened under FESA

SE = Listed as endangered under California Endangered Species Act (CESA)

SFP = State fully protected

SSC = State species of special concern

ST = Listed as threatened under CESA

1 MAMMALS

2 Point Arena mountain beaver—federally listed as endangered and a state species of
3 special concern—occurs in coastal scrub, conifer forest, riparian scrub, north coast
4 riparian, coastal prairie, coastal dune, freshwater seep, and some ruderal plant
5 communities (USFWS 1998). The species is well documented as occurring in the
6 immediate Project vicinity. The CNDDB lists 30 occurrences within 3 miles of the BSA,
7 and mountain beavers have been documented in the northern riparian habitat of Brush
8 and Alder Creeks and two of the unnamed creeks that cross the Project alignment (CDFW
9 2018d). They are also known to occur in Manchester State Park; in 2005, CDPR
10 conducted a habitat restoration project at Manchester State Park Campground. The
11 campground was reconfigured and closed in some areas to improve habitat, to protect
12 mountain beavers from disturbance, and to encourage recolonization (CDPR 2005).

13 The coastal scrub habitat near the north end of the BSA and immediately south of the
14 proposed CLP is also known to support Point Arena mountain beaver. Bio Consultants,
15 LLC (2011b) identified three burrow complexes in this area. The three complexes

1 occupied approximately 1.83 acres. A total of 54 burrows were mapped, although
2 additional burrows were most likely present in dense scrub habitat that could not be
3 adequately surveyed.

4 American badger—a state species of special concern—occurs in grassland and coastal
5 scrub habitat types. Badgers have not been documented in the BSA (CDFW 2018d), but
6 grasslands and coastal scrub habitats on the CLP and adjacent to the BSA provide
7 suitable foraging and denning habitat.

8 AMPHIBIANS

9 California red-legged frog—federally listed as threatened and a state species of special
10 concern—is known to occur in the Project vicinity. The CNDDDB lists five reported
11 occurrences between 1998 and 2001, with two sightings in Manchester State Park
12 (CDFW 2018d). California red-legged frogs also have been documented in all drainages
13 of Manchester State Park (CDPR 2005). Both Alder and Brush Creeks and the unnamed
14 creeks that cross the BSA provide aquatic habitat for the species. Grassland and coastal
15 scrub habitats adjacent to aquatic habitat provide upland habitat. Designated critical
16 habitat for California red-legged frog was revised in March 2010 (75 FR 12816–12959).
17 Most of the BSA is within critical habitat Unit MEN-1, which is known to support California
18 red-legged frogs. The CNDDDB lists three occurrences within 3 miles of the BSA (CDFW
19 2018d); two of those occurrences (CNDDDB occurrences 1263 and 1264) were recorded
20 in Manchester State Park, approximately 3,800 feet west of the Project alignment.

21 Foothill yellow-legged frog—a candidate for listing under CESA—has been documented
22 in Manchester Beach State Park and a few other locations within 3 miles of the BSA
23 (CDFW 2018d). Yellow-legged frogs are highly aquatic and could occur in Alder and
24 Brush Creeks and the unnamed streams that cross the Project alignment.

25 Northern red-legged frog—a state species of special concern—is known to occur in the
26 Project vicinity. Like California red-legged frog and foothill yellow-legged frog, this species
27 may occur in Alder and Brush Creeks and the unnamed streams that cross the BSA.

28 INVERTEBRATES

29 Behren's silverspot butterfly—federally listed as endangered—has been documented in
30 the Project vicinity. Western dog violet (*Viola adunca*), the larval food plant for Behren's
31 silverspot butterfly, is known to occur in Manchester Beach State Park (CDPR 2005) but
32 has not been documented during plant surveys in the BSA conducted to date. Because
33 plant surveys were not conducted in all areas, the host plant for Behren's silverspot
34 butterfly could be present. Consequently, Behren's silverspot has potential to occur within
35 the BSA.

1 Lotis blue butterfly—federally listed as endangered—is known from a single location in a
2 bog in pygmy forest habitat north of the town of Mendocino, and the most recent
3 observation was in 1983 (USFWS 1985). There are historical occurrences of lotis blue
4 butterfly near the town of Manchester, but no recent sightings. During plant surveys,
5 harlequin lotus (*Hosackia gracilis*), a potential larval host plant, was observed in the BSA
6 at the CLP. Because this species of butterfly has not been seen since 1983, lotis blue
7 butterfly is highly unlikely to occur in the BSA.

8 BIRDS

9 Marbled murrelet—federally listed as threatened and state-listed as endangered—has
10 been documented within 3 miles of the BSA. Murrelets forage in the Pacific Ocean and
11 nest inland in conifer forests with large, overmature conifer trees. The BSA lacks suitable
12 nesting habitat, and the terrestrial portion of the BSA does not support foraging habitat.

13 Northern harrier—a state species of special concern—has been observed foraging in
14 Manchester State Park (CDPR 2005). The grassland and coastal scrub habitats adjacent
15 to the alignment of the terrestrial underground conduit system and on the proposed CLP
16 provide suitable foraging and nesting habitat.

17 Western snowy plover—federally listed as threatened and a state species of special
18 concern—has been documented nesting at Manchester State Park (CDPR 2005).
19 Suitable nesting habitat occurs on sandy beach/dune habitat at the western edge of the
20 BSA, but this area would be avoided by directional boring to install the fiber optic cable
21 beneath the beach. USFWS-designated critical habitat for the species was revised in
22 June 2012 (75 FR 36728–36869). Critical habitat unit CA #8 encompasses all of
23 Manchester State Park. The CLP is north of and outside critical habitat unit CA #8. Critical
24 habitat does not extend into the BSA.

25 Yellow warbler and yellow-breasted chat—state species of special concern—occupy
26 riparian scrub/woodland habitat types. The yellow warbler and yellow-breasted chat have
27 the potential to occur in riparian habitat on Alder and Brush Creeks and three of the
28 unnamed streams that cross the Project alignment (CDFW 2018d; eBird 2018).

29 Peregrine falcon—state fully protected—has been observed foraging at Manchester State
30 Beach (CDPR 2005). The BSA provides foraging habitat but lacks suitable nesting
31 habitat.

32 FISH

33 Northern California coast steelhead—federally listed as threatened—occurs in Alder and
34 Brush Creeks and their tributaries, all of which cross the BSA. Steelhead adults spawn in
35 fresh water and spend a part of their life history at sea. Mature steelhead enter fresh water
36 between November and April; migrate to spawning areas; and then spawn, generally in

1 April and May. Freshwater rearing generally lasts 2 years but can last up to 4 years.
2 Steelhead usually smolt at about 6 to 8 inches in length before migrating to the ocean.
3 The majority of this smolt migration takes place from March to May. The BSA provides
4 migration pathways as well as spawning and juvenile rearing habitat.

5 NMFS designated critical habitat on September 2, 2006 (70 FR 52488–52561). Both
6 streams and their tributaries are listed as part of the species' critical habitat. Northern
7 California coast critical habitat Alder Creek Hydrologic Sub-Area 111363 and Brush Creek
8 Hydrologic Sub-Area 111364 both support northern California coast steelhead (CDFG
9 2003, 2005).

10 California coastal Chinook salmon—federally listed as threatened—has a known range
11 that encompasses the BSA. The nearest known occurrence is in the Garcia River, 2 miles
12 south of the southern end of the BSA. The California coastal environmentally significant
13 unit (ESU) is a fall-run, ocean-type anadromous fish. Mature Chinook enter fresh water
14 between September and early November following large winter storms, and rapidly move
15 to spawning areas, where they spawn within a few weeks and die a few days later. Fry
16 (recently hatched fish) emerge from the gravel in late winter or spring and initiate
17 outmigration in weeks to months. Juveniles may reside in estuaries and lagoons before
18 entering the ocean. It is highly unlikely that California coastal Chinook salmon would use
19 Alder and Brush Creeks and their tributaries because of the small size of the streams,
20 their lack of suitable flow, and lack of larger spawning gravel.

21 Central California coast coho salmon—federally listed as endangered and state-listed as
22 threatened—has a known range that encompasses the BSA. Coho salmon spend the first
23 half of their life cycle rearing in streams and small freshwater tributaries. The remainder
24 of their life cycle is spent foraging in estuarine and marine waters of the Pacific Ocean.
25 Spawning migrations begin after heavy late fall or winter rains. Estuaries are highly
26 productive areas that are important rearing habitat for juvenile Coho salmon. Occurrences
27 of coho salmon have been documented in Greenwood Creek to the north and the Garcia
28 River to the south of the BSA. CDFW did not find coho salmon in Alder and Brush Creeks
29 and their tributaries in 2003 and 2005, but coho salmon were present in Brush Creek in
30 1968 (NMFS 2000). Coho salmon are found in the Garcia River drainage, approximately
31 4 miles south of the mouth of Alder Creek and 2 miles south of Brush Creek.

32 NMFS designated critical habitat on May 5, 1999 (64 FR 24049–24060). Critical habitat
33 for the central California coast ESU encompasses accessible reaches of all rivers
34 (including estuarine areas and tributaries) between Punta Gorda and the San Lorenzo
35 River—a description that includes the Big-Navarro-Garcia Hydrologic Unit 18010108
36 (Mendocino—Manchester/Point Arena Rancheria), which encompasses the BSA.

Pacific lamprey—a state species of special concern—is known to inhabit small and large streams throughout its range from Hokkaido, Japan through Alaska and south to Baja California. Pacific lamprey spawning migrations usually occur between early March and late June, but they also have been observed in January and February. Pacific lamprey have been documented in Alder and Brush Creeks in the BSA during habitat surveys (CDFG 2003, 2005).

Plants

Prior to conducting floristic surveys, ICF biologists queried the CNDDDB for special status plant occurrences within a 3-mile radius of the BSA and reviewed the USFWS list of threatened and endangered plant species (USFWS 2018). Based on this initial assessment, 21 special-status plant species were identified as having the potential to occur within the BSA (Table 3.4-3).

Surveys based on CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018e) were conducted in April, June, and September 2018. The surveys were floristic, with every species encountered identified to the lowest taxonomic level necessary to determine whether it is a special-status species. Botanists traversed the BSA on foot, using meandering parallel transects spaced at a distance that enabled visibility of all plant species present. Hand-held GPS units were used to record the locations of special-status plant species and habitat types observed. Botanical surveys were conducted in the early season (April 4, 2018), mid-season (June 26–28, 2018), and late season (September 29–31, 2018). As the BSA was expanded in 2018, some areas were not surveyed at the correct time of year to detect all special-status plants (see **MM BIO-14** regarding conducting floristic surveys for remaining areas). The full methods and results of the surveys, including areas surveyed, are reported in the *Terrestrial Biological Resources Technical Report* (Appendix C2).

Sixteen special-status plant species were identified as potentially occurring in the BSA on the basis of range, habitat characteristics, or known nearby occurrences (Table 3.4.3). However, two late-blooming special-status species, Baker's goldfields (CRPR 1B.2) and perennial goldfields (CRPR 1B.2) have suitable habitat in the BSA that was surveyed during the species' identifiable period and neither species was observed. While appropriately timed surveys for special-status plants have not been completed for all areas of the BSA, Mendocino Coast paintbrush (CRPR 1B.2) was observed immediately west of the CLP BSA (Table 3.4.3; harlequin lotus (*Hosackia gracilis*) (CRPR 4.2) was mapped in the in the CLP of the BSA. The locations where individual plants or groups of plants have been documented are indicated in Sheets 1 and 2 in Appendix C1. Table 3.4-3 provides a summary of the status, habitat requirements, blooming period, and potential for occurrence in the BSA for each species.

Table 3.4-3. Special-Status Plant Species Known to Occur within 3 Miles of the Biological Study Area

| Scientific Name Common Name | Status ¹ Federal/ State/CRPR | Habitat Requirements | Blooming Period | Potential for Occurrence in the BSA ² |
|--|---|---|-----------------|---|
| <i>Abronia umbellata</i> var. <i>breviflora</i> Pink sand verbena | –/–/1B.1 | Coastal dunes and bluffs; < 328 feet. | June–Oct | High—Full assessment of suitable habitat on the coastal bluffs was prevented due to lack of safe access to steep slopes. |
| <i>Agrostis blasdalei</i> Blasedale's bent grass | –/–/1B.2 | Coastal dunes and bluffs; < 328 feet. | May–July | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA; previous occurrences documented in the vicinity of the CLP (BioConsultants LLC 2011a). |
| <i>Calystegia purpurata</i> ssp. <i>saxicola</i> Coastal bluff morning glory | –/–/1B.2 | Rocky coastal scrub; < 328 feet. | May–Sept | High—Suitable habitat present in the BSA; due to safety concerns, portions of coastal cliffs on the CLP could not be surveyed. |
| <i>Campanula californica</i> Swamp harebell | –/–/1B.2 | Microhabitat of freshwater marshes and bogs/fens within coastal prairie, closed-cone pine forest, North Coast coniferous forest, and riparian habitat; ± 16–1,312 feet. | June–Oct | None—BSA lacks suitable microhabitat. |
| <i>Carex lyngbyei</i> Lyngbye's sedge | –/–/2B.2 | Marshes and swamps; ± 0 feet. | April–Aug | None—BSA lacks suitable habitat. |
| <i>Carex saliniformis</i> Deceiving sedge | –/–/1B.2 | Mesic areas in coastal prairies and coastal scrub, including marshes, swamps, seeps, and meadows; < 820 feet. | June | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Castilleja ambigua</i> ssp. <i>humboldtiensis</i> Humboldt Bay owl's- clover | –/–/1B.2 | Marshes and swamps (coastal salt); 0–2,591 feet. | April–Aug | None—BSA lacks suitable habitat. |

Table 3.4-3. Special-Status Plant Species Known to Occur within 3 Miles of the Biological Study Area

| Scientific Name Common Name | Status¹ Federal/ State/CRPR | Habitat Requirements | Blooming Period | Potential for Occurrence in the BSA² |
|--|---|---|------------------------|---|
| <i>Castilleja mendocinensis</i> Mendocino Coast paintbrush | –/–/1B.2 | Coastal strand, coastal prairie, northern coastal scrub, closed-cone pine forest, coastal dunes; < 328 feet. | April–Aug | Present—10 individual plants observed along western edge of the CLP during October surveys. |
| <i>Cuscuta pacifica</i> var. <i>papillata</i> Mendocino dodder | –/–/1B.2 | Coastal dunes (interdune depressions); 0–164 feet. | (June) July–Oct | None—BSA lacks suitable habitat. |
| <i>Erigeron supplex</i> Supple daisy | –/–/1B.2 | Coastal bluff scrub, coastal prairie; 0–164 feet. | May–July | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Fritillaria roderickii</i> Roderick's fritillary | –/SE/1B.1 | Coastal prairie, valley grassland, northern coastal scrub; < 4,265 feet. | March–May | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Gilia capitata</i> ssp. <i>pacifica</i> Pacific gilia | –/–/1B.2 | Steep slopes, ravines, and open flats of coastal bluffs, grassland, and dunes; generally below 1,312 feet. | April–Aug | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Glyceria grandis</i> American manna grass | –/–/2B.3 | Bogs and fens, meadows and seeps, marshes, swamps, and margins of streambanks and lakes; 49–6,496 feet. | June–Aug | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Hesperervax sparsiflora</i> var. <i>brevifolia</i> Short-leaved evax | –/–/1B.2 | Coastal California from Del Norte to Santa Cruz Counties; sandy, grassy, or wooded coastal bluffs, terraces, and dunes; < 705 feet. | March–June | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA; previous occurrences documented in the vicinity of the CLP (BioConsultants LLC 2011a). |

Table 3.4-3. Special-Status Plant Species Known to Occur within 3 Miles of the Biological Study Area

| Scientific Name Common Name | Status ¹ Federal/ State/CRPR | Habitat Requirements | Blooming Period | Potential for Occurrence in the BSA ² |
|---|---|---|-----------------|---|
| <i>Lasthenia californica</i> ssp. <i>bakeri</i> Baker's goldfields | –/–/1B.2 | Northern coastal scrub, coastal sage scrub, coastal prairie, northern oak woodland, valley grassland, foothill woodland; < 1,640 feet. | April–Oct | None—Suitable habitat present in the BSA but appropriately timed surveys did not detect species. |
| <i>Lasthenia californica</i> ssp. <i>macrantha</i> Perennial goldfields | –/–/1B.2 | Coastal grassland, dunes, and scrub; < 1,640 feet. | Jan–Nov | None—Suitable habitat present in the BSA but appropriately timed surveys did not detect species. |
| <i>Lasthenia conjugens</i> Contra Costa goldfields | FE/–/1B.1 | Vernal pool in grassland habitat; < 328 feet. | March–June | Moderate— Designated critical habitat overlaps with the BSA. Suitable vernal pool habitat occurs immediately adjacent to the BSA, and the margin of the vernal pool occurs inside the BSA. Contra Costa goldfields were not observed during the mid-season survey (June 26-28, 2018), but the species is very rarely observed that late during the blooming period (California Consortium of Herbaria 2019). Therefore, the species may not have been identifiable during the mid-season survey and could still occur in the BSA. |
| <i>Lilium maritimum</i> Coast lily | –/–/1B.1 | Usually in wetland-riparian habitat; coastal prairie, mixed evergreen forest, northern coastal scrub, closed-cone pine forest, North Coast coniferous forest; < 492 feet. | May–Aug | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |

Table 3.4-3. Special-Status Plant Species Known to Occur within 3 Miles of the Biological Study Area

| Scientific Name Common Name | Status¹ Federal/ State/CRPR | Habitat Requirements | Blooming Period | Potential for Occurrence in the BSA² |
|---|---|--|------------------------|--|
| <i>Microseris paludosa</i> Marsh microseris | –/–/1B.2 | Moist grassland, open woodland; < 984 feet. | April–June | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |
| <i>Potamogeton epihydrus</i> Nuttall's ribbon-leaved pondweed | –/–/2B.2 | Freshwater marsh; 1,210– 7,175 feet. | July–Sept | None—BSA lacks suitable habitat. |
| <i>Sidalcea malviflora</i> ssp. <i>purpurea</i> Purple-stemmed checkerbloom | –/–/1B.2 | Meadows, open coastal forest, prairie; < 98 feet. | May–June | High—Suitable habitat present in the BSA; appropriately timed surveys did not cover all suitable habitat in the BSA. |

Terms: BSA = biological study area; CLP = cable landing parcel

¹ Status explanations:

Federal

FE = Listed as endangered under the federal Endangered Species Act

– = No listing status

State

SE = Listed as endangered under the California Endangered Species Act

– = No listing status

California Rare Plant Rank (CRPR)

1B = List 1B species: rare, threatened, or endangered in California and elsewhere

2B = List 2B species: rare, threatened, or endangered in California but more common elsewhere

.1 = Seriously endangered in California (more than 80% of occurrences threatened—high degree and immediacy of threat)

.2 = Moderately threatened in California (20–80% occurrences threatened—moderate degree and immediacy of threat)

.3 = Not very threatened in California (less than 20% of occurrences threatened—low degree and immediacy of threat or no current threats known)

² Potential for Occurrences explanations:

Present: Species was observed in the BSA during appropriately timed surveys.

High: Known occurrence of plant within 3 miles of the BSA, suitable habitat and microhabitat are present and of good quality.

Moderate: Known occurrence of species is within 3 miles of the BSA; the margin of suitable habitat is present in the BSA but is of medium to low quality from roadside vegetation maintenance.

None: Plant not known to occur in the region or in the Project vicinity from CNDDDB or other documents; or suitable habitat is not present in any condition.

Source: CDFW 2018d

1 The BSA is within designated critical habitat for Contra Costa goldfields (Unit MEN-1 [71
2 FR 7118–7316]). The federally listed species has a CNDDDB occurrence (No. 16) in the
3 immediate vicinity of the BSA, but the exact location of the occurrence is unknown (CDFW
4 2018d); the occurrence was sourced from a 1937 collection lacking precise location
5 coordinates. Also described in CNDDDB occurrence No. 16, vernal pools around
6 Manchester were surveyed in 1987, Contra Costa goldfields were not detected, and
7 grazing was listed as a threat to the species (CDFW 2018b). Contra Costa goldfield critical
8 habitat primary constituent elements include topographic lows with an adequate vernal
9 pool hydroperiod, underlying restrictive soil layers, and a vegetation predominance of
10 native wetland annuals.

11 Private property adjacent to the BSA along SR 1 appears to support suitable Contra Costa
12 goldfield habitat; the margin of the feature crosses the fence-line and into the BSA
13 (Sheet 14 in Appendix C1). Documented during the protocol-level aquatic resources
14 delineation, the feature was co-dominated by vernal pool native, coast allocarya
15 (*Plagiobothrys undulatus*) and upland, exotic slender lotus (*Lotus angustissimus*), lacked
16 hydric soils, and demonstrated evidence of wetland hydrology (Appendix C3). Wetlands
17 are known to be colonized by upland plants during the drier portions of the season after
18 wetland plants have completed the life cycle (Environmental Laboratory 1987). The
19 absence of hydric soils suggests an adequate vernal pool hydroperiod does not occur in
20 the portion of the feature in the BSA; the ROW vegetation is periodically disturbed by
21 vegetation maintenance performed by Caltrans. The presence of native vernal pool
22 species and the absence of hydric soils suggests Contra Costa goldfields could occur in
23 the BSA, but more suitable vernal pool habitat occurs outside of the BSA.

24 Contra Costa goldfields bloom from March to June (Jepson eFlora 2018). This feature
25 was surveyed during the June 26-28, 2018 mid-season survey, which is at the end of the
26 reported blooming period. However, consultation of the Consortium of California Herbaria
27 (2019) demonstrates only 4 of the 114 Contra Costa goldfields records report an
28 observation after June 2; these 4 records are from Fort Ord in Monterey, California.
29 Without visiting a Contra Costa goldfields reference population in late June to confirm that
30 the species is still identifiable, the absence of the species in the BSA cannot be confirmed.

31 Sensitive Natural Communities

32 Based on a query of the CNDDDB, several natural communities in the region are afforded
33 protection by a state or local authority and may support special-status plants and wildlife.
34 For the purpose of this analysis, sensitive communities are communities that meet the
35 following criteria:

- 36 • Special-status natural communities defined by CESA and protected by CDFW or
37 local agencies

- Sensitive habitats protected by the County of Mendocino and the California Coastal Commission (CCC)
- Rare habitats protected by local professional organizations or the scientific community

Sensitive natural communities are habitats that have been assessed for their range, distribution, trends, and threats. Vegetation communities observed in the BSA were identified using the *Manual of California Vegetation*, Online Edition (MCV) (CNPS 2019), and their sensitive status was informed by review of CDFW's (2018a) *California Sensitive Natural Communities* descriptions.

Eight sensitive natural communities were mapped in the BSA: Coastal dune willow thickets, Sitka willow thickets, shining willow groves, arroyo willow groves, coastal brambles, slough sedge swards, water parsley marshes, and a Pacific reed grass meadow.

Potentially sensitive natural communities identified in the ROW, consisting of several degraded coastal bramble patches, one arroyo willow thicket, one common monkey flower seep, and one small-fruited bulrush marsh, were not considered sensitive because of their small size and the level of disturbance they experience annually from vegetation maintenance activities conducted by Caltrans.

Wetlands and Non-Wetland Waters

ICF botanists and wetland ecologists conducted an aquatic resources delineation of the BSA. Evaluations of jurisdictional waters of the United States, as described in the Clean Water Act (CWA), were based on the routine onsite determination methods described in the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987) and on the supplemental procedures and wetland indicators provided in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (USACE 2010), *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar 2014), and *2016 National Wetland Plant List* (Lichvar et al. 2016).

The U.S. Army Corps of Engineers (USACE) defines jurisdictional wetlands under CWA Section 404 as areas that exhibit positive field indicators for all three wetland parameters: (1) hydrophytic vegetation; (2) hydric soils; and (3) wetland hydrology.

The CCC and associated Mendocino County Coastal Development Permit Regulations (Chapter 20.532) require coastal zone wetlands to have evidence of wetland hydrology in addition to one other wetland parameter regulated by the USACE (County of Mendocino Planning & Building Services 2006, CCC 2011). Not all of the vegetation

alliances listed under wet meadow satisfy the USACE or CCC criteria to be classified under their jurisdiction.

In total, 0.56 acre of potential waters of the United States was identified and mapped in the survey area, comprising 0.10 acre of wetlands and 0.46 acre of non-wetland waters; these features consist of nine emergent wetlands, five perennial streams, four intermittent streams, two ephemeral streams, seven roadside ditches, and 12 culverts.

In total, 0.58 acre of CCC jurisdictional features were delineated in the BSA. Potential CCC jurisdictional features included 0.10 acre of emergent wetlands, 0.04 acre of seasonal wetlands, and 0.44 acre of riverine wetlands (consisting of 5 perennial streams, 4 intermittent streams, 2 ephemeral streams, 5 roadside ditches, and 12 culverts). Riverine wetlands occur below the OWHM of the non-wetland waters. Two roadside ditches delineated as non-wetland waters under potential jurisdiction of the USACE were not classified as CCC-jurisdictional features because the features were excavated from upland areas and carry only stormwater runoff (County of Mendocino Planning & Building Services 2006).

The mapped potential features are discussed in greater detail and by jurisdiction in the *Aquatic Resources Delineation Report* (Appendix C3), which summarizes the methods and results of the delineation of aquatic resources. The protocol-level delineation did not survey the property containing the Private CLS; a protocol-level delineation will be conducted in 2019 and a memo summarizing the survey results will be composed. The delineation report was submitted to the USACE.

Environmentally Sensitive Habitat Areas

Per the Mendocino County General Plan (Mendocino County 1991a), environmentally sensitive habitat areas (ESHAs) delineated in the BSA consist of streams for anadromous fishes, wetlands, riparian areas, occupied special wildlife habitat, special plant habitat, and sensitive natural communities as defined by CDFW (2018a). A memorandum describing the results of the ESHA delineation is provided in Appendix C4.

3.4.1.2 Marine Biological Resources

This section describes the regional ecological conditions of the marine environment in the Project vicinity and the local conditions of the marine portion of the biological resources study area (the MSA).

The marine biota occupying or using the coastal waters of the MSA include invertebrate infauna¹⁷ and mobile epifauna¹⁸ that inhabit seafloor sediments, sessile¹⁹ and encrusting invertebrates, and marine vegetation attached to either natural or artificial hard substrate. The marine biota also includes planktonic organisms, fish, marine mammals, and marine birds that inhabit or use the open waters. These habitats and their associated biological communities are briefly discussed below and described in more detail in *Marine Habitats and Associated Biological Communities and Resources near Manchester Beach, California* (AMS 2018a [Appendix C5]).

Regional Setting

The proposed CLP is north of Manchester Beach State Park on a coastal bluff overlooking a sandy beach and open coastal waters. The terrestrial BSA extends from just north of Alder Creek along SR 1 through the town of Manchester. The MSA in its entirety is north of Point Arena, west of Manchester State Park, and north of the Point Arena State Marine Reserve (SMR) and the Point Arena State Marine Conservation Area (SMCA). These latter two adjoining marine protected areas encompass Arena Rock and adjoin the Sea Lion Cove SMCA (Figure 3.4-2). Ecologically, the MSA is more representative of the north central California coastline habitats and biota than of the northern California region.

Marine Habitats and Communities

Marine habitat extends from the base of the coastal bluff out into the ocean.

Intertidal and Nearshore Habitats

Sandy Beach

The beach habitat below the bluff is primarily unvegetated, consisting of sand and drift debris. Wildlife species commonly using the marine habitat are shorebirds, gulls, terns, pelagic birds, raptors, crustaceans, and invertebrates.

Sandy beach ecosystems comprise 188 miles of shoreline in the north central California region and 152 miles in the northern California region (ICF 2009; Horizon Water and Environment 2012; Dugan et al. 2015).²⁰ Sandy beaches are among the most intensely used coastal ecosystems for human recreation and are important to coastal economies, as well as to foraging shorebirds and surf zone fishes. Numerous species of shorebirds, such as sanderlings, marbled godwits, and willets, feed along beaches at the water's

¹⁷ Organisms living in the sediments of the beach or ocean seafloor.

¹⁸ Organisms living on the surface of the seafloor or attached to submerged objects.

¹⁹ Organisms that are permanently attached or established on hard substrate habitat and are typically not free to move about.

²⁰ The *northern California region* is defined as the coastline between Alder Creek in Mendocino County and the California-Oregon border.

1 edge. Western snowy plovers and California least terns are known to nest on some sandy
2 beaches and coastal dunes. Pinnipeds haul out on isolated beaches and sand spits,
3 including gravel and fine- to medium-grained beaches to medium-grained beaches (ICF
4 2009).

5 Generally, beaches are highly dynamic environments subject to intense wave-related
6 energy, exposure to air and sun during low tides, constant reworking, and large-scale
7 seasonal substrate variations (Thompson et al. 1993). In addition, the distribution of
8 organisms within the sand is subject to daily fluctuations in the temperature, salinity, and
9 moisture content of the sand (Dugan et al. 2015). Individual animals that live in the sand
10 are mobile and frequently shift position in the sand in response to environmental
11 fluctuations.

12 A variety of invertebrates live in the sand and in wracks of decaying seaweed and other
13 detritus on the beach surface. The diversity of beach invertebrates, including insects, is
14 considered high in most north central and northern California sandy beaches, with more
15 than 70 species being reported in a recent scientific assessment (Nielsen et al. 2017).
16 Sand crabs (*Emerita analoga*) and beach hoppers (*Megalorchesis* spp.) are typically the
17 dominant invertebrate taxa present, accounting for up to 78 percent of total intertidal
18 biomass. Other common taxa include polychaete worms and clams. Kelp wrack and other
19 washed-up organic debris are the predominant energy and food source for beach
20 ecosystems (Nielsen et al. 2013, 2017).

21 *Subtidal Benthic*

22 Subtidal habitats are generally broken into two broad categories: soft substrate and hard
23 substrate. Soft substrate is the predominant habitat on the continental shelf (Horizon
24 Water and Environment 2012). Seafloor sediment composition is dependent on physical
25 factors such as wave energy, water depth, and currents. Soft substrate typically ranges
26 from coarse sands to finer silts and clays with depth. Hard substrates can be composed
27 of naturally occurring features (e.g., rocky outcrops) or artificial structures (e.g., concrete,
28 pilings, debris, and trash).

29 Benthic (bottom-dwelling) biological communities change with both the type of substrate
30 and water depth. Mobile scavengers and predators and organisms that can burrow are
31 common on soft substrates, while hard substrates typically support abundant sessile
32 organisms that anchor to the surfaces or species that prefer physical features that provide
33 hiding spaces. Many subtidal benthic species are not strictly restricted to substrate type,
34 as many organisms (e.g., crabs, sea stars, brittle stars, and many fish species) can inhabit
35 both soft and hard substrate habitats. Depth also influences benthic community
36 composition because sediments change with depth as a result of the influence of wave
37 energy. Naturally occurring hard substrates are scarcer offshore in deeper water columns.

Specific invertebrate organisms found at various depths and substrate types within the study area are discussed in detail in the Marine Technical Report (AMS 2018a [Appendix C5]).

Demersal Fish

Demersal fish are those species that live and feed on or near the seafloor. They are found in coastal waters and over the continental shelf but are not common in the abyssal plain (the deepest part of the ocean). Seamounts and islands also provide suitable habitats for demersal fish. A National Oceanic and Atmospheric Administration (NOAA) Point Arena occurs offshore at a depth near 656 feet (ICF 2009). Examples of demersal fish that inhabit soft substrate seafloor include flounders (*Pleuronectoidei*), soles (*Soleidae*), sanddabs (*Citharichthys* spp.), eelpouts (*Zoarcidae*), hagfish (*Myxinae*), combfish (*Zaniolepis* spp.), and skates and rays (*Rajidae*). Fish that typically associate with hard substrate habitats include multiple species of rockfish (*Sebastes* spp.), lingcod (*Ophiodon elongates*), staghorn sculpin (*Leptocottus armatus*), and wolf eels (*Anarrhichthys ocellatus*).

Details about specific fish species found at various depths and seafloor substrate types in the MSA are provided in the Marine Technical Report (AMS 2018a [Appendix C5]).

Pelagic Open Water Habitat

The pelagic zone supports planktonic organisms (phytoplankton, zooplankton, and ichthyoplankton) that have restricted swimming abilities and float with the currents, as well as nektonic organisms such as fishes, sharks, and marine mammals that move freely against local and oceanic currents.

Plankton

Phytoplankton, the primary producers at the base of the pelagic food web, are consumed by many species of zooplankton. In turn, zooplankton support a variety of species including small schooling fish (e.g., sardines, herring) and baleen whales (*Mysticeti*). In the marine environment, phytoplankton typically occur at higher densities near coastlines where nutrient inputs from terrestrial point and nonpoint sources help promote their growth (Fischer et al. 2014). The abundance and composition of phytoplankton along the west coast of California are influenced by the upwelling system and tends to be dominated by diatoms year-round (Du X and O'Higgins 2015). Winds blowing from the north create a current running north to south along the shore that promotes upwelling as well as mixing of plankton over large spatial scales. Relaxation of upwelling and stratification of the water column promotes the growth of phytoplankton, such as dinoflagellates and various *Pseudonitzschia* species, that may be considered harmful (Du X et al. 2016).

Organisms that complete their entire lifecycle as planktonic forms are called holoplankton; these include phytoplankton such as diatoms and zooplankton such as *Acartia tonsa*. Plankton that spend only part of their life cycle in the plankton form (as eggs or larvae) are called meroplankton. Holoplankton have short generation times (hours to weeks), have the capability to reproduce continually (i.e., are not dependent on a certain season), and are not restricted to specific geographic zones. In contrast, meroplankton make up a small fraction of the total number of planktonic organisms in seawater, have shorter spawning seasons, are restricted to a narrow region of the coast, and have a much greater likelihood of impacts on their populations from mortality due to entrainment. Consequently, studies in California typically assess effects on meroplanktonic species as proposed by EPA (1977). Important meroplankton include fish larvae and eggs (ichthyoplankton) as well as larvae of invertebrates such as lobsters, crabs, octopus, and squid.

Fish

Pelagic fish communities tend to be similar throughout the coastal waters of north central and northern California. They are characterized by small schooling species such as Pacific sardine (*Sardinops sagax*); schooling predators such as bluefin tuna (*Thunnus thynnus*), thresher shark (*Alopias vulpinus*), and swordfish (*Xiphias gladius*); and large solitary predators such as mako (*Isurus oxyrinchus*) and leopard (*Triakis semifasciata*) sharks (CDFW 2018f). Other common fish species that inhabit the open water environment include Chinook salmon (*Oncorhynchus tshawytscha*), market squid (*Doryteuthis opalescens*), smelt (*Spirinchus starksi*), jack and Pacific mackerel (*Trachurus symmetricus* and *T. symmetricus*), and opah (*Lampris* spp.). More information on fish species inhabiting the open waters in the Project vicinity is provided in Section 5.2, *Commercial and Recreational Fisheries*.

Marine Mammals and Sea Turtles

Another key component of the open ocean habitat are marine mammals and sea turtles. All marine mammals and sea turtles occurring along the California coast are identified as special-status species and are discussed below (*Special-Status Marine Species*).

Special-Status Marine Species

The central and northern Californian coast supports numerous special-status marine mammals, birds, turtles, and fish. Special-status species include those species that are state- or federally listed as endangered or threatened, species proposed for such listing, and candidate species—as well as state or local species of concern. For the purposes of

1 this analysis, special-status marine species are those species that meet any of the
2 following criteria:

- 3 • Marine species that are listed or proposed or are candidate species for listing as
4 threatened or endangered by USFWS pursuant to FESA
- 5 • Marine species listed as rare, threatened, or endangered by CDFW pursuant to
6 CESA
- 7 • Marine species managed and regulated under the Magnuson-Stevens Fishery
8 Conservation and Management Act (or Magnuson-Stevens Act [MSA])
- 9 • Marine species protected under the Marine Mammal Protection Act (MMPA)
- 10 • Marine species managed and regulated by CDFW under the Nearshore Fisheries
11 Management Plan and the Market Squid Fisheries Management Plan
- 12 • Marine species designated by CDFW as California Species of Concern
- 13 • Marine species designated by NOAA as Species of Concern
- 14 • Marine species not currently protected by statute or regulation but considered rare,
15 threatened, or endangered under CEQA (Guidelines section 15380)

16 Table 3.4-4 lists the special-status species considered for evaluation and their likelihood
17 to occur in the MSA.

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|--|---|
| Marine Mammals | | | |
| Baird's beaked whale <i>Berardius bairdii</i> | FD | Deep offshore waters in the north Pacific; common along steep underwater geologic structures (e.g., submarine canyons, seamounts, and continental slopes). | Low—Sightings in deeper waters than the MSA, mainly along continental shelf edges or in deep submarine canyons where they forage. NMFS records indicate that fewer than a dozen individuals have been washed up along the West Coast. |
| Blainville's beaked whale <i>Mesoplodon densirostris</i> | P | Mainly over the continental shelf and into open ocean waters; tropical to temperate waters worldwide; groups have been regularly observed off Oahu, Hawaii, and in the Bahamas in 1,640–3,280-foot waters. | Not expected—Unlikely to occur in the MSA. |
| Blue whale <i>Balaenoptera musculus</i> | FE, FD | Worldwide, often near the edges of physical features where krill tend to concentrate. | Low—Relatively common farther offshore (56–230 miles from shore) but less common in the MSA. |
| Bottlenose dolphin <i>Tursiops truncatus</i> | FD | Worldwide in temperate and tropical waters; both coastal and offshore populations; most common dolphins in the Southern California Bight. | Moderate—Since 2010m species has been reoccurring in San Francisco Bay; could occur in the MSA when waters are warmer than usual. |
| Bryde's whale <i>Balaenoptera edeni</i> | P | Highly productive tropical, subtropical, and warm temperate waters worldwide; more commonly farther from shore. | Not expected—Unlikely to be observed in the MSA. |
| California sea lion <i>Zalophus californianus</i> | P | Eastern north Pacific in coastal waters; commonly observed throughout the California coast. | High—Commonly observed. |
| Common dolphin—long-beaked <i>Delphinus capensis</i> | P | Shallow, warmer temperate waters relatively close to shore; most abundant cetacean from Baja California northward to central California; maximum northward extent is Point Arena. | Moderate—Numbers begin to decrease northward from the central coast. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|--|---|
| Common dolphin—short-beaked <i>Delphinus delphis</i> | P | More pelagic than the long-beaked common dolphin, can be found up to 300 nm from shore; majority of populations are observed off California coast, especially in warm water months. | Moderate—Generally found offshore of the MSA. |
| Cuvier's beaked whale <i>Ziphius cavirostris</i> | P | Temperate, tropical, and subtropical waters; associated with deep pelagic waters (usually deeper than 3,280 feet) of the continental shelf and slope, and near underwater geologic features; seasonality and migration patterns unknown. | Moderate—Generally occur in the deeper waters west of the MSA. |
| Dall's porpoise <i>Phocoenoides dalli</i> | P | Throughout north Pacific, mainly in pelagic waters deeper than 590 feet, but can be found both offshore and inshore. | Moderate—Most frequently observed offshore, but have been documented around San Francisco Bay. |
| Dwarf sperm whale <i>Kogia simus</i> | P | Continental slope and open ocean; prefer warm tropical, subtropical, and temperate waters worldwide. | Not expected—Records are rare and it is unknown whether low numbers are a consequence of cryptic behavior or if they are not regular inhabitants of offshore California waters. |
| False killer whale <i>Pseudorca crassidens</i> | P | Continental slope and into open ocean waters of tropical and warm temperate waters worldwide. | Not expected—Prefer warmer waters than those found in northern California. |
| Fin whale <i>Balaenoptera physalus</i> | FE, FD | Deep, offshore waters of all major oceans; less common in the tropics. | Low—Relatively common in California waters March–October, but prefer deep water farther offshore. |
| Ginkgo-toothed whale <i>Mesoplodon ginkgodens</i> | P | Mainly over the continental shelf and into open ocean warm waters of the Pacific and Indian Oceans. | Not expected—Not found in the MSA. |
| Gray whale <i>Eschrichtus robustus</i> | FDL, P | Predominantly in nearshore coastal waters of the north Pacific from Gulf of Alaska to Baja Peninsula; can be as close as a few hundred yards offshore, but more common 3–12 miles offshore. | High—Pass the MSA during late fall–winter in southward migration and during late winter–early summer in northward migration. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|--|---|
| Guadalupe (southern) fur seal <i>Arctocephalus townsendi</i> | CT, FT, FD | Tropical waters of southern California and Mexico; breeds in rocky coastal habitats and caves mainly along the eastern coast of Guadalupe Island, approximately 124 miles west of Baja California; small population on San Miguel Island in the Channel Islands. | Low—Unlikely to occur as far north as Point Arena. |
| Harbor porpoise <i>Phocoena phocoena</i> | P | Continental slope to oceanic waters, mainly in northern temperate, subarctic coastal, and offshore waters; common in bays, estuaries, harbors, and fjords less than 656 feet deep. | High—Likely to occur at 0–656 feet depth. |
| Harbor seal <i>Phoca vitulina</i> | P | From British Columbia to Baja California, most commonly observed pinniped along California coastline; favors nearshore coastal waters for foraging and beaches, offshore rocks on sand and mudflats in estuaries and bays for resting. | High—Common along the California coast. |
| Hubb's beaked whale <i>Mesoplodon carlhubbsi</i> | P | Endemic to north Pacific; species is not well known but is assumed to occur mainly over the continental shelf and into open ocean waters. | Low—May occur in waters off Point Arena, but species is very rare. |
| Humpback whale <i>Megaptera novaeangliae</i> | FE, FD | All major oceans; central California population migrates from winter calving and mating areas off Mexico to summer and fall feeding areas off coastal California. Humpback whales occur from late April to early December. | Moderate—Frequently observed migrating along California coast April–November, typically 12–55 miles offshore; more common inshore near the submarine Monterey canyon. |
| Killer whale <i>Orcinus orca</i> | P | All oceans; most abundant in colder waters but also occur in temperate water; presence and occurrence common but unpredictable in coastal California. | Moderate—Most common in April, May, and June as they feed on northbound migrating gray whales; generally observed in deeper waters offshore of MSA. |
| North Pacific right whale <i>Eubalaena japonica</i> | FE, FD | North Pacific Ocean; seasonally migratory; colder waters for feeding, migrating to warmer waters for breeding and calving; may move far out to sea | Not expected—Unlikely to be present in the MSA because they are very rare. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|--|---------------------|--|---|
| | | during feeding seasons but give birth in coastal areas. | |
| Northern elephant seal <i>Mirounga angustirostris</i> | P | Alaska to Mexico; sighted regularly over shelf, shelf-break, and slope habitats; also present in deep ocean habitats seaward of the 6,561-foot isobaths; rookeries located north of the MSA. | Moderate—Widely distributed in Monterey Bay National Marine Sanctuary and likely found northward in the MSA. |
| Northern fur seal <i>Callorhinus ursinus</i> | FD | Spend 300 or more days per year foraging in open ocean of north Pacific; rocky beaches for reproduction; usually ashore in California only when debilitated—however, few individuals observed on Año Nuevo Island. | Low—Usually 11–17 miles from shore in California; however, have been observed within 3 miles of Point Pinos south of the MSA. |
| Northern right whale dolphin <i>Lissodelphis borealis</i> | P | Endemic to deep, cold temperate waters in north Pacific; occur over continental shelf and slope where waters are less than 66°F (18°C). | Not expected—Very rare in California waters. |
| Pacific white-sided dolphin <i>Lagenorhynchus obliquidens</i> | P | Temperate waters of north Pacific from continental shelf to deep ocean. | High—Likely to occur around Point Arena. |
| Perrin's beaked whale <i>Mesoplodon perrini</i> | P | Believed to occupy continental shelves and open ocean waters, but not well documented. | Not expected—Known from fewer than half a dozen strandings between San Diego and Monterey, but species' complete distribution is unknown. |
| Pygmy sperm whale <i>Kogia breviceps</i> | P | Continental slope and open ocean in tropical, subtropical, and temperate Pacific waters, mostly offshore of Peru; strandings have been documented off Mexico and once each in New Zealand and Monterey Bay. | Not expected—Overall, the species is rare and would occur south of the MSA. |
| Risso's dolphin <i>Grampus griseus</i> | P | All major oceans, generally in waters deeper than 3,280 feet and seaward of the continental shelf and slopes. | Low—Generally occur in deeper waters offshore of the MSA. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|---|---|
| Rough-toothed dolphin <i>Steno bredanensis</i> | P | All tropical and subtropical oceans; continental shelf to open ocean waters; prefer depths of tropical and warmer temperate waters. | Not expected—Unlikely to occur in the relatively cold waters of the MSA. |
| Sei whale <i>Balaenoptera borealis</i> | FE, FD | Worldwide cosmopolitan distribution in subtropical, temperate, and subpolar waters; usually observed in deeper waters of oceanic areas far from coastline. | Not expected—Uncommon in California waters, especially in the Project vicinity, because they primarily occupy the open ocean. |
| Short-finned pilot whale <i>Globicephala macrorhynchus</i> | P | Warmer tropical and temperate waters, commonly along the coast close to continental shelf; forage in areas with high densities of squid. | Low—Generally found in deeper and warmer waters than those in the MSA. |
| Southern sea otter <i>Enhydra lutris nereis</i> | FT, P | Top carnivore and keystone species in nearshore waters of California from San Mateo County south to Santa Barbara County; frequent inhabitant in kelp forests. | Low—Unlikely to be found as far north as Point Arena. |
| Sperm whale <i>Physeter macrocephalus</i> | FE, FD | Open ocean far from land and uncommon in waters less than 984 feet deep; live at surface of the ocean but dive deep to catch giant squid. | Low—Present in offshore California year-round, peaking in abundance late spring and late summer, but rarely seen because they occupy deep water far offshore. |
| Spotted dolphin <i>Stenella attenuata</i> | P | Typically far away from coast in tropical and subtropical waters worldwide but can also occupy waters over the continental shelf; spend majority of day in waters 295–984 feet deep, diving to depth at night to search for prey. | Low—Eastern Pacific population is typically observed far from the coast and south of the MSA. |
| Steller (northern) sea lion <i>Eumetopias jubatus</i> | FT, P | Distributed around the coasts along the north Pacific rim; common in coastal waters and onshore for resting; small population breeds on Año Nuevo Island, north of Monterey Bay. | Moderate—Documented as relatively common in the immediate coastal area north of Point Arena. |
| Striped dolphin <i>Stenella coeruleoalba</i> | P | Continental shelf to open ocean waters worldwide, often in areas of upwelling and around convergence | Low—Observations are typically far offshore. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|---|--|
| | | zones; prefer highly productive tropical to warm temperate waters. | |
| Marine Turtles | | | |
| Green sea turtle <i>Chelonia mydas</i> | FE | Distributed globally; oceanic beaches (for nesting), convergence zones in the open ocean and benthic feeding grounds in coastal areas. | Low—In eastern Pacific, sightings from Baja California to southern Alaska but most commonly from San Diego south. |
| Leatherback sea turtle <i>Dermochelys coriacea</i> | FE | Distributed globally; regularly seen off west coast in pelagic waters, with greatest densities found in central California. | Moderate—Most commonly seen between July and October, when surface water temperature warms to 59–61°F (15–16 °C) and large jellyfish, their primary prey, are seasonally abundant. |
| Loggerhead sea turtle <i>Caretta</i> | FT | Temperate and tropical regions of Atlantic, Pacific, and Indian Oceans; use the terrestrial zone, the oceanic zone, and the neritic or nearshore coastal area. | Low—Most recorded U.S. sightings are of juveniles off the California coast, but occasional sightings have been reported along the Washington and Oregon coasts. |
| Olive Ridley sea turtle <i>Lepidochelys olivacea</i> | FT | Mainly pelagic in tropical/temperate regions of Pacific, South Atlantic, and Indian Oceans but has been known to inhabit coastal areas, including bays and estuaries. | Not expected—In the eastern Pacific, their range extends from southern California to northern Chile. |
| Sharks and Fish | | | |
| Basking shark <i>Cetorhinus maximus</i> | CSC | Movements and migrations poorly understood; usually sighted from British Columbia to Baja California in winter and spring. | Low—Populations severely depleted by commercial fisheries of the 1950s, and they have never fully recovered due to slow growth and low fecundity. |
| Chinook salmon <i>Oncorhynchus tshawytscha</i> | CE, FE | From Bering Strait to southern California; occupy freshwater streams up to first 2 years, then they migrate to estuarine areas as smolts and eventually to ocean to mature and feed; prefer deeper and larger streams than those used by other Pacific salmonids; historically ranged as far south as Ventura River, but populations have drastically | High—Potentially present in larger streams and rivers throughout northern California, such as the Garcia River. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status ¹ | Habitat | Potential to Occur in Marine Study Area ² |
|---|---------------------|--|---|
| | | declined and do not appear to extend far south of San Francisco Bay. | |
| Coho salmon <i>Oncorhynchus kisutch</i> | FT | Spawn in small streams with gravel substrates and spend first half of life cycle in streams and small freshwater tributaries; latter half of life cycle spent foraging in estuarine and marine waters. | High—Spawn in streams and rivers throughout northern California, including the Garcia River near Point Arena; adults may occur in coastal waters near streams and rivers. |
| Cowcod <i>Sebastes levis</i> | CSC | Central Oregon to Baja California; juveniles recruit to fine sediment habitat at depths of 40–328 feet young move to deeper habitat in their first year. | Moderate—Documented catch has declined drastically since the mid-1980s; may be present near the seafloor. |
| Steelhead <i>Onchorhynchus mykiss</i> | FT, CSC | Entire Pacific Coast; anadromous form can spend up to 7 years in fresh water prior to smoltification, then up to 3 years in salt water prior to first spawning. | High—Spawn in streams and rivers throughout northern California, including the Garcia River near Point Arena; adults may occur in coastal waters near streams and rivers. |
| Tidewater goby <i>Eucycloglobius newberryi</i> | FE | Lagoons formed by seasonally blocked streams draining into the ocean; prefers salinities of less than 10 parts per thousand (less than one-third ocean salinity), and thus more often found in upper parts of lagoons near inflow. | Low—Very rare; documented as seasonally present in Elkhorn Slough, Bennet Slough, and Salinas River—all of which are outside the MSA. |
| Green sturgeon (southern DPS) <i>Acipenser medirostris</i> | FT, CSC | Marine and estuarine environments, Sacramento River; San Francisco Bay-Delta, Humboldt Bay, offshore waters to 360 feet from Monterey Bay to the U.S.-Canada border. | Unknown—Designated critical habitat is present in the MSA. |
| White shark <i>Carcharodon carcharias</i> | CSC | Important habitat in vicinity of Monterey Bay and Greater Farallones National Marine Sanctuaries. | Present in coastal waters throughout California. |
| Gastropods | | | |
| Black abalone <i>Haliotis cracherodii</i> | FE | Coastal and offshore island intertidal habitats on exposed rocky shores where bedrock provides deep, protective crevices for shelter. | Low—Point Arena is northernmost point of distribution along the California coast; rare north of San Francisco. |

Table 3.4-4. Special-Status Marine Species and Their Potential to Occur in the Marine Study Area

| Common Name Scientific Name | Status¹ | Habitat | Potential to Occur in Marine Study Area² |
|--|---------------------------|---|--|
| Green abalone <i>Haliotis fulgens</i> | FSC | Coastal and offshore island intertidal habitats on exposed rocky shores where bedrock provides deep, protective crevices for shelter. | Not expected—Mainly distributed from Point Conception to Bahia Magdalena in Baja California. |
| Pink abalone <i>Haliotis corrugate</i> | FSC | Coastal and offshore island intertidal habitats on exposed rocky shores where bedrock provides deep, protective crevices for shelter. | Not expected—Mainly distributed from Point Conception to Bahia Magdalena in Baja California. |
| White abalone <i>Haliotis sorenseni</i> | FE | Coastal and offshore island intertidal habitats on exposed rocky shores where bedrock provides deep, protective crevices for shelter. | Not expected—Mainly distributed from Point Conception to Bahia Magdalena in Baja California. |

Terms: MSA = marine study area; nm = nautical miles

¹ Status Codes:

Federal: U.S. Fish and Wildlife Service, National Marine Fisheries Service

FC = Candidate to become a proposed species

FDL = Delisted

FE = Listed as “endangered” (in danger of extinction) under the federal Endangered Species Act (FESA)

FSC = Former federal species of concern. U.S. Fish and Wildlife Service no longer lists species of concern but recommends that species considered to be at potential risk by a number of organizations and agencies be addressed during project environmental review. National Marine Fisheries Service still lists species of concern.

FT = Listed as threatened (likely to become endangered within the foreseeable future) under FESA

State: California Department of Fish and Wildlife

CE = Listed as endangered under the California Endangered Species Act (CESA)

CSC = Species of special concern

CT = Listed as threatened under CESA

National Oceanographic and Atmospheric Administration; Marine Mammal Protection Act

FD = Depleted population

P = Federally protected

² Potential for Occurrence Rankings:

Not expected: Suitable foraging or spawning habitat not known to be present or is rare, and species has not been or is rarely documented.

Low: Suitable foraging or spawning habitat present, but species has not been documented to be present or, if present, is uncommon and infrequent.

Moderate: Suitable foraging or spawning habitat is present and species is somewhat common or common for part of the year.

High: Suitable foraging or spawning habitat is present, and species is common throughout the year /or in substantial numbers.

Source: AMS 2018a (Appendix C5)

1 Marine Mammals

2 Of the approximately 40 marine mammals known to occur along the Californian coast, a
3 few have been observed in the MSA near Manchester Beach (Table 3.4-3). Those
4 species with either a moderate or high probability to occur in the MSA (and thus potentially
5 subject to Project effects) are California sea lion (*Zalophus californianus*), harbor seal
6 (*Phoca vitulina*), common long- and short-beaked dolphins (*Delphinus capensis* and
7 *D. delphis*), bottlenose dolphin (*Tursiops truncatus*), Pacific white-sided dolphin
8 (*Lagenorhynchus obliquidens*), humpback whale (*Megaptera novaeangliae*), and gray
9 whale (*Eschrichtius robustus*).

10 These species can be expected to be present in the MSA seasonally when migrating
11 along the coast or opportunistically when foraging in the area. There are no established
12 haul-outs, pupping, or birthing sites in the MSA.

13 Sea Turtles

14 Four species of sea turtles can occur in the nearshore waters off central and northern
15 California: green (*Chelonia mydas*), loggerhead (*Caretta caretta*), leatherback
16 (*Dermochelys coriacea*), and olive ridley (*Leipidochelys olivacea*) turtles. Of these four
17 species, only the leatherback turtle is occasionally seen around Point Arena and
18 Manchester Beach.

19 Fish

20 Chinook salmon (*Oncorhynchus tshawytscha*), Coho salmon (*O. kisutch*), steelhead
21 (*O. mykiss*), and cowcod (*Sebastes levis*) are special-status species with the potential to
22 occur in the coastal waters off Manchester Beach (Table 3.4.3). All four species have
23 experienced significant population declines, and while they may be present in the MSA,
24 their abundance depends on the season and recent fecundity. Coho and Chinook salmon
25 and steelhead have been documented in the nearby Garcia River and are likely present
26 in the adjacent coastal waters of the MSA (ICF 2009).

27 **Significant Ecological Areas**

28 Areas of Special Biological Significance

29 The State Water Resources Control Board (SWRCB) designates Areas of Special
30 Biological Significance (ASBS) as requiring protection of species or biological
31 communities to the extent that alteration of natural water quality is undesirable. The
32 closest ASBS to the marine study area include Jughandle Cove ASBS (approximately
33 26 miles north) and Saunders Reef ASBS (approximately 11 miles south).

1 Parks, Sanctuaries, and Significant Ecological Areas

2 Areas of ecological importance, such as parks, sanctuaries, national monuments, and
3 Significant Ecological Areas (SEAs), may be designated by federal, state, or local
4 agencies with the intent to enhance public awareness and provide a level of protection to
5 local resources. At the federal level, the Bureau of Land Management has designated
6 Point Arena as the Point Arena–Stornetta California Coastal National Monument. Point
7 Arena also is designated as a California Marine Protected Area (MPA), as described in
8 more detail below.

9 The CDPR includes preservation and protection of natural resources as part of its
10 management responsibilities. At a local level, counties or cities may also assign status to
11 local resources. The state park nearest the MSA is Manchester Beach State Park, south
12 of the proposed CLP. The Marina Rock Marine Natural Preserve is within the Manchester
13 State Park boundaries. The proposed offshore cable route does not traverse any portion
14 of Manchester Beach State Park. The MSA is not designated as a park, sanctuary, or
15 SEA by any county or city agency. Further, the beach inshore of the proposed intake is
16 not a state beach or state seashore.

17 Marine Protected Areas

18 The California Marine Life Protection Act was established to protect the natural diversity
19 and abundance of marine life and marine ecosystems in California. Three types of MPAs
20 are designated (or recognized) in California: State Marine Reserves (SMRs), State
21 Marine Parks (SMPs), and State Marine Conservation Areas (SMCAs). The closest
22 SMCAs and SMRs to the MSA are the Point Arena SMR (3 miles south), the Point Area
23 SMCA (3 miles south), the Sea Lion Cove SMCA (6 miles south), the Saunders Reef
24 SMCA (11 miles south), and the Navarro River SMCA (13 miles north). All of these MPAs
25 are outside the MSA.

26 Environmentally Sensitive Habitat Areas

27 Under the California Coastal Act, Environmentally Sensitive Habitat Areas (ESHAs) are
28 defined as “any area in which plant or animal life or their habitats are either rare or
29 especially valuable because of their special nature or role in an ecosystem and which
30 could be easily disturbed or degraded by human activities and developments.” The only
31 ESHAs near the MSA are the bull kelp (*Nereocystis luetkeana*) forests at Point Arena.

32 Critical Habitat

33 Although many state- and federally listed species could occur in the coastal and offshore
34 waters of the MSA (Table 3.4.3), the MSA includes designated critical habitat only for the
35 southern distinct population segment of the North American green sturgeon (*Acipenser*
36 *transmontanus*).

Essential Fish Habitat

Essential fish habitat (EFH) (see the discussion of the MSA in Appendix C5) is described as a subset of all habitats occupied by a species. The MSA off Manchester Beach is located in an area designated as EFH under four Fishery Management Plans: Pacific Coast Groundfish (PFMC 2016), Coastal Pelagic Species (PFMC 2018a), Pacific Coast Salmon (PFMC 2016), and Highly Migratory Species (PFMC 2018b). An EFH assessment was prepared in support of the Project (AMS 2018a; Table 5 [Appendix C5]).

Nonnative and Invasive Species

The introduction of nonnative and invasive aquatic species is one of the greatest threats to subtidal and intertidal habitats in nearshore coastal waters and estuaries of California. Nonnative and invasive species in the marine environment are animals or algae translocated from their native region to a new area. Pelagic and demersal habitats along the open coast also are vulnerable to invasive species, although the threat is less than in estuaries and intertidal habitats (Zabin et al. 2018). The introduction of nonnative species can result in large-scale changes to aquatic communities. California's estuaries, in particular, have become home to many nonnative and introduced species that have dominated local intertidal and subtidal marine communities. Hundreds of nonnative and invasive species are established in the major bays and harbors of California (CDFW 2018f, Zabin et al. 2018). San Francisco Bay harbors the most nonnative and invasive species and is considered a hub for the spread of invasive species to the rest of the West Coast (CDFG 2008, CDFW 2018f). Twenty-two nonnative and invasive species have been documented along the 840 miles of California's open coast habitats (Zabin et al. 2018).

Nonnative and invasive species are spread through human activities such as international shipping, recreational boating, aquaculture, and aquarium trade. Ocean warming also is causing increases in invasive species (UCD BML 2018). Biofouling is identified as the leading cause of the introduction of foreign species to California, followed by ship ballast water discharge (CDFG 2008). Most species that are introduced to California are from the northwest Atlantic, northwest Pacific, and northeast Atlantic (CDFG 2008). Introduced species typically include snails, shrimp, plankton, crabs, and algae.

Although the effects of introduced species on the habitats they colonize are often unknown, some clearly have had serious negative consequences. Impacts include decreasing abundance and even local extirpation of native species; alteration of habitat structure; and extensive economic costs resulting from heavy organism, including algal, growth on vessel bottoms and buoys. Invasive species also may pose a threat to human health by introducing or transporting new diseases into the region (CDFG 2008).

Legislative and public outreach/volunteer efforts are designed to prevent the spread of invasive species. All shipping operations that involve major marine vessels are subject to the Marine Invasive Species Act of 2003 (Pub. Resources Code, Sections 71200 through 71271), which revised and expanded the California Ballast Water Management for Control of Non-Indigenous Species Act of 1999 (AB 703). The CSLC administers this act, which regulates the handling of ballast water from marine vessels arriving at California ports to prevent or minimize the introduction of invasive species from other regions.

Under the National Invasive Species Act of 1996, the USCG introduced national voluntary ballast water guidelines. The USCG published regulations on June 14, 2004, establishing a national ballast water management program with mandatory requirements for all vessels equipped with ballast water tanks that enter or operate in U.S. waters. The regulations carry reporting requirements to aid in the USCG's responsibility, under the National Invasive Species Act, to determine patterns of ballast water movement. The regulations also require ships to maintain and implement vessel-specific ballast water management plans.

CDFW did not report the presence of any invasive marine species near Point Arena during either of its surveys in 2004 and 2007 (CDFG 2008). Similarly, Reef Check and the Marine Invasives Observation Map (Pacific Rocky Intertidal Monitoring 2018) have not reported the presence of any invasive species at Point Arena or within the MSA.

3.4.2 Regulatory Setting

Federal and state laws and regulations pertaining to biological resources and relevant to the Project are identified in Appendix A.

At the local level, the following policies and programs in the County's General Plan and Mendocino County's Coastal Element are applicable to biological resources in the BSA. There are no regulations in Mendocino's Local Coastal Plan (LCP) that are immediately applicable to the Project.

3.4.2.1 Relevant Resource Measures from the *Mendocino County General Plan* (2009)

General Plan Policy Resource Measure 28: All discretionary public and private projects that identify special-status species in a biological resources evaluation (where natural conditions of the site suggest the potential presence of special-status species) shall avoid impacts to special-status species and their habitat to the maximum extent feasible. Where impacts cannot be avoided, projects shall include the implementation of site-specific or project-specific effective mitigation strategies developed by a qualified professional in consultation with state or federal resource agencies with jurisdiction (if applicable) including, but not limited to, the following strategies:

- Preservation of habitat and connectivity of adequate size, quality, and configuration to support the special-status species. Connectivity shall be determined based on the specifics of the species' needs.
- Provision of supplemental planting and maintenance of grasses, shrubs, and trees of similar quality and quantity to provide adequate vegetation cover to enhance water quality, minimize sedimentation and soil transport, and provide adequate shelter and food for wildlife.
- Provide protection for habitat and the known locations of special-status species through adequate buffering or other means.
- Provide replacement habitat of like quantity and quality on- or off-site for special-status species.
- Enhance existing special-status species habitat values through restoration and replanting of native plant species.
- Provision of temporary or permanent buffers of adequate size (based on the specifics of the special-status species) to avoid nest abandonment by nesting migratory birds and raptors associated with construction and site development activities.
- Incorporation of the provisions or demonstration of compliance with applicable recovery plans for federally listed species.

3.4.2.2 Relevant Policies from the Mendocino County Coastal Element—3.1 Habitat and Natural Resources (1991a)

A buffer area shall be established adjacent to all environmentally sensitive habitat areas. The purpose of this buffer area shall be to provide for a sufficient area to protect the environmentally sensitive habitat from significant degradation resulting from future developments. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game, and County Planning Staff, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the environmentally sensitive habitat areas and shall not be less than 50 feet in width. New land division shall not be allowed which will create new parcels entirely within a buffer area. Developments permitted within a buffer area shall generally be the same as those uses permitted in the adjacent environmentally sensitive habitat area and must comply at a minimum with each of the following standards:

1. It shall be sited and designed to prevent impacts which would significantly degrade such areas.

2. It shall be compatible with the continuance of such habitat areas by maintaining their functional capacity and their ability to be self-sustaining and to maintain natural species diversity.

3. Structures will be allowed within the buffer area only if there is no other feasible site available on the parcel. Mitigation measures, such as planting riparian vegetation, shall be required to replace the protective values of the buffer area on the parcel, at a minimum ratio of 1:1, which are lost as a result of development under this solution.

Areas where riparian vegetation exists, such as riparian corridors, are environmentally sensitive habitat areas and development within such areas shall be limited to only those uses which are dependent on the riparian resources. All such areas shall be protected against any significant disruption of habitat values by requiring mitigation for those uses which are permitted. No structure or development, including dredging, filling, vegetation removal and grading, which could degrade the riparian area or diminish its value as a natural resource shall be permitted in the Riparian Corridor except for:

- Channelizations, dams, or other substantial alterations of rivers and streams as permitted in Policy 3.1-9
- Pipelines, utility lines and road crossings, when no less environmentally damaging alternative route is feasible
- Existing agricultural operations
- Removal of trees for disease control, public safety purposes, or for firewood for the personal use of the property owner at his or her residence. Such activities shall be subject to restrictions to protect the habitat values.

3.4.3 Impact Analysis

The impact analysis provided below is based on the State CEQA Guidelines, Appendix G, for biological resources. The standard criteria presented in Appendix G of the State CEQA Guidelines have been slightly modified to include the ecological dynamics of marine habitats and biological communities.

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, or that is a species of interest to the State Lands Commission or the California Coastal Commission; or cause a marine wildlife population to drop below self-sustaining levels?

3.4.3.1 Terrestrial Components

Less than Significant with Mitigation

Point Arena Mountain Beaver

The Point Arena mountain beaver is known to occur in the BSA and surrounding region. Mountain beavers are known to occur in the riparian habitat adjacent to and near Brush Creek and Alder Creek, as well as within riparian or coastal scrub habitat adjacent to three of the four unnamed streams in the BSA. Some populations are known to have burrows near roadways. Mountain beavers are well documented at Manchester State Park and along Kinney Road, where two beaver mortalities have been confirmed from vehicle strikes (USFWS 1998). In the *Point Arena Mountain Beaver (Aplodontia rufa nigra (Rafinesque) Recovery Plan*, USFWS identified drilling (i.e., directional boring) for fiber optics projects as potentially affecting mountain beaver populations through noise, vibration, and some physical impacts on suitable habitat (USFWS 1998). USFWS generally considers that a project would have potential impacts on mountain beaver if project activities would take place within 500 feet of a population (USFWS 2017). Because presence/absence surveys have not been completed, coastal scrub and riparian habitats in and adjacent to the BSA are considered suitable habitat for the Point Arena mountain beaver.

The Applicant coordinated with USFWS as follows:

- On October 19, 2018 Mr. Steve Yonge (ICF, wildlife biologist) conducted a conference call with Mr. Greg Schmidt (USFWS, biologist) from the Arcata Fish and Wildlife Office. The general project design was discussed, with emphasis on potential impacts on the Point Arena mountain beaver (PAMB). Mr. Schmidt stated that the 2017 Draft Guidelines for Project-Related Habitat Assessments and Presence-Absence Surveys for the Point Arena Mountain Beaver should be followed to determine the level of PAMB activity in the action area. Also discussed was the 2017 Draft Point Arena Mountain Beaver Standard Protection Measures for “No-Take” Determinations and the recommended no take buffer distances. Mr. Schmidt explained that the standard protection measures were primarily drafted for private land owners and that USFWS is analyzing its approach to current burrow buffer distance protection. To minimize potential project-related effects on PAMB, Mr. Schmidt stated that the Project should be constructed within the

1 compacted shoulder of SR 1 and that other Caltrans projects should be considered
2 during Project design.

- 3 • On November 7, 2018, Mr. Yonge and representatives from RTI (Brian Bergfalk
4 and Chris Brungardt) met with Mr. Schmidt and Ms. Shannon Brinkman (USFWS,
5 Arcata Fish and Wildlife Office) at Manchester Beach State Park near the proposed
6 Project location. Methods and timing of construction were discussed. USFWS
7 expressed the importance of PAMB habitat movement corridors (riparian habitat).
8 Also discussed were potential effects of ground vibration on burrows, the
9 presence/absence survey approach, and how far from the proposed Project
10 alignment surveys should be conducted. Mr. Yonge explained that access outside
11 of the Caltrans ROW would be an issue; access to private property is not
12 authorized. RTI explained their willingness to design the project with the least
13 amount of impacts and that they would work closely with Caltrans to gain approval
14 to work within the managed shoulder of SR 1.

15 The group then drove along the proposed alignment and made various stops to
16 discuss potential effects on PAMB and other federally protected species. The
17 group reviewed a set of draft project maps and delineated suitable PAMB habitat.

18 Work at the CLP and construction of the underground conduit system could affect suitable
19 habitat for Point Arena mountain beaver. Such work could damage burrows or disturb
20 mountain beavers, if they are present. Work to install the underground conduit system
21 would involve a combination of trenching and directional boring. Trenching could affect
22 individuals or their burrows, if present in the road shoulder, through direct removal or
23 disturbance; or individuals could be trapped, if they fall into an open trench and cannot
24 escape. Directional boring could affect individuals or burrows through direct removal,
25 disturbance, or inadvertent release of drilling fluids, which could fill or otherwise make
26 burrows unsuitable. Equipment noise and vibration associated with all construction
27 activities have the potential to disturb mountain beavers. Work at any of the proposed
28 CLS sites is not expected to affect mountain beaver because such work would be
29 undertaken within the existing facilities and therefore would not affect suitable mountain
30 beaver habitat.

31 Construction of the Project is expected to cause temporary disturbance of approximately
32 0.42 acre of suitable mountain beaver habitat and areas immediately adjacent to suitable
33 habitat. Project construction also would cause permanent impacts on approximately 0.17
34 acre of suitable habitat from installation of the LMH and access road at the CLP and from
35 installation of access vaults and intermediate manholes along the underground conduit
36 system route.

37 Implementation of general protection measures outlined in **MM BIO-1** through **MM BIO-4**
38 would ensure that construction crews are aware of and implement all mitigation
39 measures, that biological resources are identified and protected, that a qualified biological

1 monitor oversees construction activities, and that sensitive resources are avoided through
2 directional boring. **MM BIO-5** through **MM BIO-7** require implementing BMPs (best
3 management practices) related to trenchless construction, controlling drilling mud, and
4 promptly restoring temporarily disturbed areas following construction. These measures
5 would help to reduce impacts on Point Arena mountain beaver.

6 To further reduce impacts, the Applicant will implement **MM BIO-8** through **MM BIO-11**.
7 Implementation of **MM BIO-8** would avoid entrapment of mountain beavers in exposed
8 trenches or other excavations. **MM BIO-9** requires identifying the occupancy of mountain
9 beavers to facilitate avoidance measures. Implementing **MM BIO-10** requires completing
10 Project construction within the time period (the nonbreeding season) that is least
11 disruptive to mountain beavers. **MM BIO-11** would further reduce impacts by carefully
12 siting the CLP construction area, and by siting trenching and boring activities—to the
13 extent possible, in locations that are the least likely to affect mountain beavers (i.e., areas
14 without burrows or populations).

15 Implementation of **MM HYDRO-1** (see Section 3.11) and **MM BIO-1** through **MM BIO-11**
16 would reduce impacts on Point Area mountain beaver to a less than significant level.

17 **MM BIO-1: Provide Environmental Awareness Training.** The Applicant shall
18 provide environmental awareness training for construction personnel working on
19 the terrestrial and marine components of the Project. The biological monitor(s),
20 approved by CSLC staff prior to the start of construction activities, shall be
21 responsible for conducting an environmental awareness training for all Project
22 personnel and for new personnel as they are added to the Project, to familiarize
23 workers with surrounding common and special-status species and their habitats,
24 applicable regulatory requirements, and mitigation measures that must be
25 implemented to avoid or minimize potential impacts on biological resources.

26 The training materials shall be developed and submitted to CSLC staff for approval
27 at least 4 weeks prior to the start of Project activities. The Applicant shall identify
28 a representative to serve as the main contact for reporting any special-status
29 species that is observed in or near the Project area by any employee or contractor,
30 and shall provide the contact information for both this representative and the
31 qualified biologist to onsite construction workers, USFWS, CDFW, and CSLC staff
32 before construction commences. The qualified biologist shall maintain a list of
33 contractors who have received training and shall submit a summary of the
34 awareness training to CSLC staff within 30 days after construction begins and after
35 construction is completed.

36 **MM BIO-2: Conduct Biological Surveying and Monitoring.** A qualified biological
37 monitor, approved by CSLC staff, shall be present on-site to survey the work area
38 for Point Arena mountain beaver burrows, nesting birds, and plants prior to the

commencement of Project activities to minimize the potential for impacts on any sensitive species or other wildlife that may be present during Project implementation. Qualifications for biological monitors typically include a college degree in a field of biology or environmental science and experience with pre-construction and construction monitoring.

In addition, the biological monitor shall be on-site at all times during Project construction. If at any time during Project construction, special-status species are observed in the Project area or within a predetermined radius surrounding the terrestrial Project components (as determined by the on-site biologist), the biologist shall have the authority to stop all work. and the Applicant shall contact the appropriate agency, (i.e., CDFW or USFWS and CSLC staff) to discuss ways to proceed with the Project. Monitoring results shall be summarized in a monthly report and provided to CSLC staff during construction.

MM BIO-3: Delineate Work Limits and Install Temporary Construction Barrier Fencing to Protect Sensitive Biological Resources. Prior to the start of Project construction, the limits of the onshore construction area at the CLP shall be clearly flagged and limited to the minimum area necessary to complete the work. Natural areas outside the construction zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time and shall be sited at least 100 feet from wetlands.

Before construction begins, the contractor shall work with a qualified biologist, approved by CSLC staff in consultation with CDFW or USFWS, to identify environmentally sensitive locations to avoid during construction and locations that require barrier fencing. Staging areas and access routes shall be sited to avoid any special-status plants and seasonal wetland habitat present in the Project area. Prior to ground-disturbing activities, the contractor shall install stakes and flagging to identify environmentally sensitive areas that require avoidance. The environmentally sensitive areas shall be clearly identified on the construction specifications. The staking and flagging shall be installed before construction activities are initiated and shall be maintained for the duration of construction. Throughout the course of construction, the biological monitor (**MM BIO-2**) shall inspect the staking and flagging to ensure that it is visible for construction personnel. If fencing is installed, the biological monitor shall inspect it regularly to ensure that it is functioning properly and not inadvertently trapping or snaring wildlife.

MM BIO-4: Identify and Avoid Sensitive Biological Resources through Use of Directional Boring. To avoid substantial adverse effects on sensitive biological resources (e.g., sensitive natural communities, habitat for special-status species, and populations of special-status plants), the Applicant shall use directional boring

1 techniques (or bridge attachments at creeks) to avoid direct impacts on such
2 resources.

3 **MM BIO-5: Implement Best Management Practices for Horizontal Directional**
4 **Drilling and Directional Boring Activities.** The Applicant shall implement the
5 following BMPs related to Horizontal Directional Drilling and directional boring.

- 6 • For the large marine Horizontal Directional Drilling (HDD), at least 60 days prior
7 to start of construction, the following shall be submitted to CSLC staff for
8 review:
- 9 ○ Engineering design drawings as issued for construction certified by a
10 California registered Civil/Structural Engineer.
 - 11 ○ A site-specific geotechnical report certified by a California registered
12 Geotechnical Engineer to confirm fitness of purpose of the proposed drilling
13 program and also include any geotechnical recommendations for safe HDD
14 installation.
 - 15 ○ A set of detailed calculations certified by a California registered
16 Civil/Structural Engineer to ensure safe HDD installation to avoid
17 hydrofracture risk and overstress to the bore pipes.
- 18 • In cases where the Horizontal Directional Drilling is under CSLC jurisdiction, a
19 minimum depth of cover of 35 feet is required unless a shallower depth is
20 recommended by a California registered Geotechnical Engineer.
- 21 • In cases where the directional boring is under a stream, prevent the conduit
22 from becoming exposed by natural scour of the streambed by boring a
23 minimum of 5 feet below the streambed.
- 24 • Locate drill entry and exit points far enough from the banks of streams or
25 waterbodies to minimize impact on those areas.
- 26 • Avoid removal of riparian vegetation between bore entry and exit points in
27 preparation of trenchless stream crossing operations.

28 **MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan.** At
29 least 30 days prior to start of construction, a Final Inadvertent Return Contingency
30 Plan for Horizontal Directional Drilling (HDD) and directional boring shall be
31 submitted to CSLC staff for review. The plan shall include measures to stop work,
32 maintain appropriate control materials on-site, contain drilling mud, prevent further
33 migration into the stream or waterbody, and notify all applicable authorities. Control
34 measures shall include constructing a dugout/ settling basin at the bore exit site to
35 contain drilling mud to prevent sediment and other deleterious substances from
36 entering waterbodies. In addition, workers shall monitor the onshore and offshore
37 to identify signs of an inadvertent release of drilling fluids. The plan shall include a
38 complete list of the agencies (with telephone number) to be notified, including but
39 not limited to California State Lands Commission's 24-hour emergency notification

number (562) 590-5201, California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550, etc.

MM BIO-7: Prepare and Implement a Site Restoration Plan. Prior to construction, the Applicant shall prepare a Site Restoration Plan to reduce impacts on vegetation and plant communities at the cable landing site and in other areas of the Project as appropriate. The Applicant shall submit the plan to CSLC staff for approval. The plan shall include details for site preparation and revegetation methods, monitoring, performance criteria, and reporting. As detailed in the Site Restoration Plan, the impact area shall be restored to pre-existing contours. The topsoil shall be stored on-site and evenly distributed over the site's restored contours. Species native to the region shall be seeded in the impact area. If impacts on special-status plant species are anticipated, a qualified biologist, approved by CSLC staff in consultation with CDFW or USFWS shall collect seeds of the species and store them in a cool, dry location; the qualified biologist shall disperse the seeds upon completion of site restoration. It is anticipated that natural resource agencies will review and approve the Site Restoration Plan as part of the permitting process.

The Applicant shall be responsible for avoiding and minimizing the introduction of new invasive plants and the spread of invasive plants previously documented in the BSA. The following BMPs shall be written into the construction specifications and implemented during Project construction.

- Retain all excavated soil material on-site or dispose of excess soil in a permitted off-site location to prevent the spread of invasive plants to uninfested areas adjacent to the Project footprint.
- Use a weed-free source for Project materials (e.g., straw wattles for erosion control that are weed-free or contain less than 1 percent weed seed).
- Prevent invasive plant contamination of Project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin).
- Use sterile grass seed and native plant stock during revegetation.
- Revegetate or mulch disturbed soils within 30 days of completing ground-disturbing activities to reduce the likelihood of invasive plant establishment.

Detailed information about implementing these BMPs can be found in *Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors* (Cal-IPC 2012).

MM BIO-8: Install Escape Ramps in Open Trenches. To prevent accidental entrapment of wildlife species during construction, all excavated holes and trenches shall have a soil ramp installed, allowing wildlife an opportunity to exit. If a soil ramp cannot be installed, then the hole or excavation shall be covered with

plywood or a similar material while unattended. Prior to construction activities each day, a biological monitor or the Project foreman shall inspect excavations to confirm the absence of or remove special-status species under the monitor's collection permit issued by CDFW.

MM BIO-9: Conduct Surveys for Point Arena Mountain Beaver. A qualified biologist, approved by CSLC staff in consultation with USFWS, shall conduct pre-construction surveys for Point Arena mountain beaver consistent with the *Draft Guidelines for Project-Related Habitat Assessments and Presence-Absence Surveys for the Point Arena Mountain Beaver* (USFWS 2017), or using a modified or alternative survey methodology approved by USFWS. The surveys generally require visual inspection for the presence of mountain beaver burrow openings or other signs of activity. Surveys shall be conducted no more than 8 weeks prior to proposed work activities.

MM BIO-10: Limit Construction Period to Minimize Impacts on Point Arena Mountain Beaver. To the extent practicable, construction activities shall not be conducted in occupied Point Arena mountain beaver habitat during the breeding season (December 1 to June 30). Furthermore, nighttime work requiring illumination shall not be undertaken at any time; construction shall occur only during daylight hours.

MM BIO-11: Avoid Point Arena Mountain Beaver Populations and Burrows. The Applicant shall use the results of the Point Arena mountain beaver surveys conducted under **MM BIO-9** to carefully site work areas at the CLP. Avoidance of populations and suitable burrows shall be the priority. The Applicant shall also use the results of the surveys to determine where trenching and boring should occur along the terrestrial underground conduit system routes. Boring shall be used to avoid areas with suitable burrows or adjacent populations. Bore pits shall be sited in areas with zero or the fewest suitable burrows. Manholes shall also be constructed in areas with the fewest suitable burrows. Construction activities shall be stopped immediately and the USFWS notified if Point Arena mountain beavers are injured or killed during construction.

American Badger

Suitable habitat for American badger is present on the CLP. Construction activities and workers at the CLP have the potential to disrupt foraging and denning behavior, if any badgers are present at the time. Construction activities could temporarily displace individuals into adjacent habitat. Because badgers are mobile, construction activities are not anticipated to lead to injury or mortality. In light of the availability of adjacent grasslands and coastal scrub habitat that provide suitable foraging and denning habitat, impacts on American badger are anticipated to be limited. Implementation of **MM BIO-1**

1 through **MM BIO-8** would ensure that construction crews are aware of all resource
2 protection measures, that biological surveys and monitoring are conducted, that sensitive
3 biological resources are protected and avoided to the extent feasible, that animals can
4 escape any open trenches, and that the CLP is restored following construction.
5 Implementation of these measures would reduce this impact to a less than significant
6 level.

7 *Foothill Yellow-Legged Frog*

8 Suitable habitat for foothill yellow-legged frog occurs in the BSA along the route of the
9 underground conduit system. Suitable habitat for foothill yellow-legged frog is present at
10 six streams crossed by the conduit system: two named streams (Brush and Alder Creeks)
11 and four unnamed streams. The underground conduit system would be installed beneath
12 the streams using directional boring techniques or would be attached to bridges.

13 Directional boring or bridge attachments would avoid direct impacts on aquatic habitat
14 and foothill yellow-legged frogs, if any are present. However, inadvertent releases of
15 drilling fluids into aquatic habitats remain a possibility. Should the drilling fluids reach the
16 surface of the stream channel and mix with water, they would contaminate both the
17 substrate and water quality—potentially affecting foothill yellow-legged frogs and their
18 food sources.

19 Implementation of **MM BIO-1** would make construction crews aware of all resource
20 protection measures. **MM BIO-2** requires biological surveys and monitoring.
21 Implementation of **MM BIO-3** and **MM BIO-4** would protect and avoid sensitive biological
22 resources to the extent feasible. **MM BIO-5** and **MM BIO-6** require establishing BMPs to
23 design and monitor drilling activities and a plan to control the inadvertent release of drilling
24 fluids during directional boring activities.

25 Implementation of these measures would reduce impacts on foothill yellow-legged frog to
26 a less than significant level.

27 *California Red-Legged Frog/Northern Red-Legged Frog*

28 The California red-legged frog and northern red-legged frog have similar life histories and
29 habitat requirements; therefore, they are addressed here together.

30 The Project would entail using either directional boring or bridge attachments at the six
31 waterbodies that provide aquatic habitat for both species. While Project activities could
32 result in a significant impact on suitable habitat, directional boring beneath the creeks or
33 placing a bridge attachment overhead would avoid any potential direct impacts. The cable
34 landing site (100 by 150 feet) required for directional boring and the entry and exit pits (4
35 by 8 feet) for trenchless construction of the underground conduit system would be set
36 back a minimum of 50 feet from riparian habitat.

1 While construction techniques would be conducted to avoid aquatic habitat, an
2 inadvertent release of drilling fluids could occur if the drilling mud used to lubricate the
3 bore leaks from the bore hole. Should the lubricant reach the surface of the stream
4 channel and mix with water, it would affect water quality and the aquatic substrate. To
5 minimize the potential for inadvertent releases of drilling fluids, the geological
6 characteristics of the substrate would be evaluated so that the most appropriate route for
7 conduit installation is chosen. Implementation of **MM BIO-6** also would minimize the risk
8 of contamination from inadvertent releases of drilling fluids.

9 Construction of the cable landing site, access vault, and manholes would permanently
10 affect approximately 0.018 acre of suitable upland habitat (habitat within 300 feet of
11 aquatic habitat) for both California and northern red-legged frogs. Staging and work
12 areas, open trenching, and trenchless construction would temporarily affect
13 approximately 0.02 acres of suitable upland habitat. A Biological Opinion will be issued
14 by USFWS prior to construction of the Project.

15 Implementation of **MM BIO-1** through **MM BIO-8** would minimize or avoid temporary
16 impacts on suitable habitat and avoid injury or mortality of individual frogs. Environmental
17 awareness training, surveys and monitoring, delineation of the work area, and site
18 restoration would reduce potential impacts to a less than significant level.

19 To further minimize permanent and temporary impacts, the Applicant will implement the
20 conditions and requirements of any state and federal permits obtained for the proposed
21 Project that are designed to protect both species of frog and their habitat.

22 Most of the BSA is within critical habitat unit MEN-1 for California red-legged frog. Based
23 on Project design, 0.43 acres of critical upland habitat would be temporarily affected, and
24 0.18 acre of critical upland habitat would be permanently affected. Implementation of
25 **MM BIO-7** would reduce impacts on critical habitat for California red-legged frog to a less
26 than significant level.

27 *Behren's Silverspot Butterfly and Lotis Blue Butterfly*

28 Suitable habitat for Behren's silverspot butterfly (habitats supporting the host plant,
29 western dog violet) has not been documented in the BSA, but some could be present.
30 Three individual larval host plants (*Hosackia gracilis*) for the lotis blue butterfly was
31 reported at the CLP near the SR 1 ROW. Construction activities at the CLP and along the
32 underground conduit system have the potential to remove habitat, if present, and could
33 injure or kill butterflies at various stages of their life cycle. Construction activities could
34 temporarily displace individuals and injure or kill adults that are in flight. Larvae also could
35 be injured or killed if suitable host plants are present. Implementation of **MM BIO-1**
36 through **MM BIO-7** would ensure that construction crews are aware of all resource
37 protection measures, that biological surveys and monitoring are conducted, that sensitive

1 biological resources are protected and avoided to the extent feasible, and that the CLP is
2 restored following construction.

3 Implementation of **MM BIO-12** would avoid and minimize potential impacts on Behren's
4 silverspot butterfly and lotis blue butterfly to the extent practicable. Implementation of
5 these measures would reduce this impact to a less than significant level.

6 **MM BIO-12: Survey for and Avoid Behren's Silverspot Butterfly and Lotis Blue**
7 **Butterfly Habitat.** Prior to construction, a qualified biologist or botanist, approved
8 by CSLC staff in consultation with USFWS or CDFW, shall conduct a survey of the
9 areas of the BSA that will be permanently or temporarily disturbed for Behren's
10 silverspot butterfly and lotis blue butterfly larval host plants (western dog violet
11 plants and other species of violet; *Hosackia gracilis*, *Lotus* spp., *Lupinus* spp.,
12 *Astragalus* spp., and *Lathyrus* spp.). The survey will be conducted during the
13 appropriate blooming period (spring/summer). The numbers and locations of
14 individual larval host plants identified in the BSA shall be mapped and, to the extent
15 feasible, the Applicant shall site Project activities and facilities to avoid the removal
16 of larval host plants.

17 *Birds*

18 Six special-status bird species—marbled murrelet, northern harrier, western snowy
19 plover, yellow warbler, yellow-breasted chat, and peregrine falcon—have potential or are
20 known to occur in the BSA. Suitable nesting habitat for northern harrier, western snowy
21 plover, yellow warbler, and yellow-breasted chat is present in the BSA, which may also
22 provide nesting and foraging habitat for other species that are protected under the federal
23 Migratory Bird Treaty Act.

24 While interference with foraging behavior likely would not constitute a significant impact
25 in view of the regional availability of habitat, construction activities could disturb nesting
26 birds. Such disturbance could cause nest abandonment, failure of nesting efforts, and
27 death of fledglings. Implementation of **MM BIO-13** would reduce impacts on nesting birds
28 to a less than significant level.

29 **MM BIO-13: Conduct Pre-Construction Nesting Bird Surveys and Implement**
30 **Avoidance Measures.** In the event that construction would occur during the
31 nesting season, the following conditions designed to protect both special-status
32 and non-special-status birds shall be implemented.

33 No more than 1 week prior to the start of Project construction, a qualified biologist,
34 approved by CSLC staff in consultation with USFWS or CDFW, shall conduct a
35 survey of the Project area to determine the presence of nesting activity (the typical
36 nesting season is from February 1 to September 1). If active nests are found, an
37 appropriate avoidance buffer shall be established by the biologist. If federal and

state special-status species are observed nesting, coordination may be warranted with USFWS or CDFW to determine appropriate avoidance buffer distances. No disturbances shall occur within the protective buffer(s) until all young birds have fledged, as confirmed by the biologist.

In accordance with **MM BIO-2**, a qualified biological monitor shall be retained by the Applicant and shall be on-site at all times during Project operations. If at any time during Project operations special-status species (including but not limited to western snowy plovers) are observed within the Project area, all work shall be stopped or redirected to an area within the Project site that would not affect special-status birds.

Fish

Four special-status fish species—northern California coast steelhead, California coastal Chinook salmon, central California coho salmon, and Pacific lamprey—have potential to occur in the six streams that cross the proposed alignment of the underground conduit system. Construction activities could result in temporary impacts on special-status fish habitat. Temporary impacts could result from directional boring under the streams or attaching conduit to bridges overhead. Impacts could include disturbance from noise and vibration associated with boring beneath the stream or noise from bridge attachment work. **MM BIO-6** would reduce the potential for an inadvertent release of drilling fluids into the streams.

Directional boring under the streams would transmit sound and vibration through the substrate into the water, where it could disturb resident or migrating fish. The level of noise and vibration these activities would cause is not currently known; these levels depend on the characteristics of the substrate through which the bore hole is drilled. The impact of boring-related noise on fish species has not been studied, but the level of sound associated with boring is much lower than that associated with pile driving. Bridge attachment above creeks also would result in noise. The duration of noise and vibration would be brief at any given crossing. It was assumed that boring-related noise and vibration may annoy fish, causing them to move away from the immediate area for the duration of the disturbance.

Inadvertent release of drilling fluid (bentonite and water) could cause turbidity impacts. If drilling fluids were to discharge through fractures into the stream channel, they could result in contamination of substrate and water quality, siltation of spawning gravels, and degradation in the abundance and viability of aquatic organisms that make up the fishes' diet. High turbidity is known to cause acute responses in fish—such as difficulty ventilating and suffocation—if the condition persists. Chronic responses can include decline in health and avoidance of the affected area.

1 The cable landing site (100 by 150 feet) required for directional boring and the entry and
2 exit pits (4 by 8 feet) for trenchless construction of the underground conduit system would
3 be set back a minimum of 50 feet from riparian habitat.

4 To minimize the potential for an inadvertent release of drilling fluid, the geological
5 characteristics of the substrate would be evaluated to determine the most appropriate
6 route for conduit installation. Development and implementation of **MM BIO-6** would
7 reduce the risk of significant impacts resulting from an inadvertent release of drilling fluid.

8 Implementation of **MM BIO-1** through **MM BIO-6** would reduce impacts on special-status
9 fish species to a less than significant level.

10 *Plants*

11 Sixteen special-status plant species occur or have the potential to occur in the BSA. Of
12 the 16 special-special status species with potential to occur, Mendocino Coast paintbrush
13 (CRPR 1B.2) was observed outside and immediately west of the CLP. Harlequin lotus
14 (CRPR 4.2) was mapped on the CLP. Suitable habitat is present in the BSA for state-
15 listed Roderick's fritillary, federally endangered Contra Costa Goldfields, and 13 other
16 special-status species ranked as CRPR 1B or 2B. Two late-blooming special-status
17 species, Baker's goldfields (CRPR 1B.2) and perennial goldfields (CRPR 1B.2) have
18 suitable habitat in the BSA that was surveyed during the species' identifiable periods;
19 neither species was observed, and no impacts are anticipated on Baker's goldfields or
20 perennial goldfields.

21 Mendocino Coast paintbrush was documented along the coastal bluff cliffs outside the
22 BSA; however, this area would not be disturbed because the directional bores would pass
23 under the ocean's bluffs and beach. Harlequin lotus was identified in a potential seasonal
24 wetland on the CLP. Documented in its native range, the presence of Harlequin lotus in
25 the BSA does not warrant legal consideration because the population is not considered
26 locally significant (i.e., it is found within its normal range, elevation, and habitat). In
27 addition, the wetland where Harlequin lotus was observed is likely jurisdictional, and it
28 would therefore be avoided to the extent practical, as described in greater detail below.
29 Should temporary disturbance affect Harlequin lotus and its habitat, **MM BIO-1** through
30 **MM BIO-7** would implement BMPs to minimize impacts and restore the site to preexisting
31 conditions.

32 As discussed in Section 3.4.1.1, *Environmental Setting*, some of the BSA has not been
33 surveyed during the appropriate identification period to confirm absence or presence of
34 special-status plants. Consequently, Project activities could affect special-status plants
35 that have not yet been documented. The following Project activities could result in
36 damage, destruction, or removal of special-status plants: equipment staging, trenching,
37 excavation of entry/exit pits for trenchless conduit installation, construction of intermediate
38 manholes, directional boring for marine cables, construction of the LMH, and ground bed

installation at the CLP. Should special-status plants be documented in the coastal bluffs of the BSA, directional boring toward the ocean would avoid impacts on the habitat. In addition to these direct effects, ground disturbance could render habitat for special-status plants vulnerable to colonization by invasive species. Establishment of invasive species in disturbed areas would decrease the potential for recruitment of special-status plant species.

To determine the presence of special-status plants, the Applicant would implement **MM BIO-14**, which specifies conducting appropriately timed floristic surveys in those portions of the BSA that were not accessible prior to preparation of this IS. Implementation of **MM BIO-1** through **MM BIO-6** would help to avoid and minimize potential impacts on federally protected wetlands through worker training, biological surveying and monitoring, identifying and delineating sensitive resources, avoiding sensitive resources through directional boring and bridge attachments, and implementing BMPs for directional boring activities and an Inadvertent Return Contingency Plan. **MM BIO-7** would reduce potential impacts on habitat that cannot be wholly avoided by requiring appropriate restoration of disturbed areas.

Implementation of these measures would reduce potential impacts on special-status plants to a less than significant level.

MM BIO-14: Conduct Appropriately Timed Floristic Surveys of Remaining Areas.

The remaining portions of the BSA that were not surveyed at the appropriate time to account for early- and mid-blooming plant species will be surveyed. The final 2018 botanical survey covered the entire BSA and coincided with the identifiable period of late-blooming species. A qualified biologist, approved by CSLC staff in consultation with CDFW or USFWS, shall conduct early- and mid-season botanical surveys of the natural and naturalized communities in the BSA—excluding developed areas and disturbed vegetation on the property containing the Private CLS—in spring and summer 2019. Botanical surveys shall follow methods described in *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018e). Should special-status plants be documented in the BSA, directional boring would avoid impacts on the special-status species and the occupied habitat.

3.4.3.2 Marine Components

Less than Significant with Mitigation. Special-status marine taxa with the potential to occur in the MSA include marine mammals, sea turtles, marine birds, and fish. Installation, operation, and repair of the marine components of the Project have the potential to affect marine species or groups of species, either directly or indirectly, through habitat modification and interactions with individuals. However, because of Project design

1 and the methods, duration, and extent of construction activities, these impacts would be
2 less than significant with mitigation.

3 As discussed in greater detail below, the potential effects on marine habitats in the MSA
4 would be temporary, affecting a small area of habitat. Disturbed habitat is expected to
5 recover rapidly to pre-disturbance conditions. Consequently, none of the potential Project-
6 related effects on marine ecosystems are expected to eliminate a marine plant or wildlife
7 community, or cause a fish or marine wildlife population to drop below self-sustaining
8 levels. This impact would be less than significant, and no mitigation is required.

9 *Contaminant Release*

10 Accidental release of fuel, fuel oil, hydraulic fluids, or drilling mud could affect special-
11 status marine species. These impacts are addressed in detail in Sections 3.10, *Hazards*
12 *and Hazardous Materials* and 3.11, *Hydrology and Water Quality*. Implementing
13 **MM HAZ-1**, **MM HYDRO-1**, **MM BIO-5**, and **MM BIO-6** would reduce this impact to a less
14 than significant level.

15 Horizontal directional drilling (HDD) of the boreholes poses a small risk of accidental
16 release of bentonite drilling fluid to the marine environment. Bentonite is a marine clay
17 that is used for lubricating the borehead cutting tool and transporting borehole cuttings
18 back to shore. During the HDD process, it is possible that some bentonite drilling fluid
19 could be released to the seafloor and thus into the water column. The greatest potential
20 for substantive effects on marine habitats and associated marine biota from an accidental
21 release of bentonite drilling fluids during HDD boring activities is release of a large volume
22 of drilling fluid. The bentonite contained in the fluid could result in short-term burial and
23 smothering of benthic epifauna and infauna, clog fish gills (Robertson-Bryan 2006), and
24 cause longer-term increased turbidity in the area of the release. **MM BIO-6** details
25 procedures for preventing the accidental release of drilling fluid during HDD work,
26 monitoring for a release, and responding to a release; these measures prevent an
27 inadvertent discharge of large volumes of bentonite drilling fluid to the marine
28 environment or minimize its impact. To monitor for a release, Rhodamine WT dye is
29 added to the drilling fluid to detect its presence in the ocean water above the HDD
30 borehole route during active HDD boring activities. **MM BIO-5** requires implementing
31 BMPs for HDD activities. Implementation of **MM BIO-5** and **MM BIO-6** would reduce this
32 potential impact to a less than significant level.

33 *Cable Entanglement*

34 Modern fiber optic cable installations provide the potential for cable exposures or
35 suspensions that could entangle marine species. Whale entanglements described in a
36 1957 paper raised concerns about hazards posed to marine species. The paper
37 documented and investigated 14 instances of sperm whale entanglements with

submarine cables at depths up to 3,720 feet (Heezen 1957). Replacement of historical telegraphic cables with modern fiber optic cable systems and installation techniques has improved torsional and flexion characteristics in subsea cables (Wood and Carter 2009), virtually eliminating the potential for exposed cable to entangle marine species. Furthermore, the burial of the cable out to a water depth of 5,904 feet, would further reduce any potential for entanglement of marine taxa with the cable. No mammal or wildlife entanglements have been reported in fiber optic cable systems installed in California waters since 2000 (AMS 2018a). Implementation of **MM BIO-15** would reduce the potential for entanglement of any kind with the installed cable to a less than significant level.

MM BIO-15: Inspection and Burial of Cable. The marine fiber-optic cable shall be buried to the extent feasible in accordance with the following.

- Bury the cable to the extent practicable in areas with soft bottom substrate and water depths of 5,904 feet or less.
- The burial report submitted by the Applicant after each phase shall include a detailed description of all buried and unburied sections and justification for any unburied sections.

Fishing gear that has become snagged and abandoned on exposed cable segments is another potential source of entanglement for marine species. The majority of gear that becomes snagged and thereby abandoned by fishers frequently has been caught on marine debris (Laist 1997; Watters et al. 2010) rather than on active and maintained cables. Nevertheless, snagged nets or fishing gear may incidentally entangle marine wildlife until it is removed or recovered.

The proposed Project includes measures to reduce the likelihood of exposed cable and tangled fishing gear by burying the cable. The Project's proposed routing and installation would include state-of-the-art cable route planning and installation techniques designed to increase burial success. The proposed routes were developed based on desktop and seafloor surveys that mapped substrate types along the cable routes. The cables would be buried in soft sediments to a depth of 3.3 feet where feasible in water depths less than 5,904 feet. In areas of hard bottom, the cable would be surface laid with only enough slack to allow the cable to conform to the seabed. Post-lay burial and inspection would be conducted by a remotely operated vehicle (ROV) in accordance with the installation procedures outlined in Section 2.0, *Project Description*. If areas of exposed cable are identified during the post-lay inspection survey, the segments would be reburied to a depth of 3.3 feet, or to the deepest depth feasible for the substrate. Implementation of these practices for cable laying and **MM BIO-16** would reduce the potential for cable entanglement with fishing gear and subsequent effects of abandoned gear to entangle marine wildlife to a less than significant level. In addition, the Applicant would enact a fishing agreement which would establish methods of gear replacement and costs claims

in the unlikely event that fishing gear is entangled in cable owned by the applicant. See **APM-1** in Commercial Fishing Section.

MM BIO-16: Cable Entanglements and Gear Retrieval. In the event that fishers snag a cable and lose or cut gear, the Applicant shall use all feasible measures to retrieve the fishing gear or inanimate object. Retrieval shall occur no later than 6 weeks after discovering or receiving notice of the incident. If full removal of gear is not feasible, the Applicant shall remove as much gear as practicable to minimize harm to wildlife (e.g. fishes, birds, and marine mammals). Within 2 weeks of completing the recovery operation, the Applicant shall submit to CSLC staff a report describing (a) the nature and location of the entanglement (with a map); and (b) the method used for removing the entangled gear or object, or the method used for minimizing harm to wildlife if gear retrieval proves infeasible.

Increased Turbidity

During plow and trenching activities, temporary spikes in near-seafloor turbidity may occur. Increased turbidity is typically restricted to the water immediately above and adjacent to the seafloor where the plowing or trenching is occurring. Depending on water depth and natural wave or current energy generated through the water column, any generated turbidity plumes can be expected to dissipate quickly and any resuspended sediments resettled to the seafloor. During ROV surveys of cable routes, seafloor sediments are frequently disturbed by the ROV thrusters and generate similar turbidity plumes (AMS 2008, 2016). These turbidity clouds quickly dissipate and the resuspended sediments resettle within minutes following the disturbance. Similar quick settlement can be expected from cable trenching and ploughing activities.

Similar to increases in turbidity from cable trenching and plowing activities, HDD boring of landfall conduits can accidentally release bentonite drilling fluid to nearshore subtidal habitats, resulting in temporarily altered sediment composition and increased turbidity. Bentonite is a marine clay that is used for lubricating the borehead cutting tool and transporting borehole cuttings back to shore. During the HDD boring process, **MM BIO-6** will be implemented to reduce the potential for bentonite drilling fluid to be released to the seafloor. The HDD boring process typically terminates the landfall conduit installation at water depths between 40 and 55 feet. In general, the offshore termination point along the cable route is selected to occur in soft sediment habitat. Throughout most of California, the seafloor sediments occurring at these water depths are composed of sand with some minor silt and clay components. Coastal seafloor sediments at these water depths are typically exposed to wind and wave surge, as well as regular resuspension of seafloor sediments, resulting in naturally occurring increased turbidity near the seafloor.

The accidental release of small volumes of bentonite drilling fluid into this environment is not expected to result in any detectable effects on marine biota that may be present in

the area of release or to result in any permanent changes to soft substrate habitat. Any released bentonite clay would be expected to be quickly resuspended by wind- and wave-generated surge present at these shallow water depths and to be transported with similar-sized sediment particles suspended in coastal waters to natural depositional areas along the coast. In addition, any potential increased turbidity resulting from the accidental release of bentonite drilling fluid would be expected to be non-detectable against existing background turbidity conditions at the release site or to quickly dissipate similar to any increased turbidity caused by cable trenching or ploughing.

Underwater Noise

Fish, marine mammals, and sea turtles could be exposed to temporary and isolated increased underwater noise from cable-laying activities and from work vessels involved in HDD boring and cable installation activities. Studies in the North Sea assessing cable trenching and ploughing projects for offshore wind farms reported underwater noise levels of 178 decibels (dB) (re 1 μ p at a distance of 3.3 feet) (Nedwell et al. 2003). Similarly, peak underwater noise levels for cable-laying ships has been reported to range between 170 to 180 dB (re 1 μ p at a distance of 3.3 feet) (Hale 2018) and 160 to 180 dB at a distance of 3.3 feet for small work boats (Caltrans 2015), depending on the vessel size and design. Peak nearshore background underwater noise levels have been reported averaging between 128 and 138 dB (re 1 μ p at a distance of 3.3 feet) (Fabre and Wilson 1997). Therefore, the generation of underwater noise by fiber optic cable installation is below established acute impact levels of 183 dB and 187 dB for fish less than and greater than 2 grams in mass, respectively, and only slightly higher than the 150-dB level established for behavioral disturbance (Caltrans 2015). Additionally, it can be anticipated that Project-generated underwater noise levels would reach sublethal levels for fish in approximately 95–210 feet and background underwater noise levels in 420–840 feet from the source, based on an assumed dB drop of 5–6 dB per doubling of distance from the noise source (McKenna et al. 2012). Given (1) the low magnitude of underwater noise generated by most cable-laying activities relative to established thresholds for acute effects on fish; and (2) the short duration and small distance by which underwater noise generated by cable-laying activities would exceed background conditions, any potential impact from underwater noise on fish taxa, including special-status species, would be less than significant.

Similar to fish, exposure to underwater noise from cable installation activities and work vessels poses some potential for acute and sublethal effects on marine mammals and sea turtles. As discussed above for fish, these Project-related operations can generate underwater noise levels ranging between 160 and 180 dB. NOAA (2018) established cumulative sound exposure levels (SELs) for marine mammals. These cumulative SEL levels are 183 dB for baleen whales; 185 dB for dolphins, toothed whales and true seals; 155 dB for porpoises; and 203 dB for sealions, fur seals, and otters. With the exception of the SELs for porpoises, all of the other NOAA-established underwater thresholds are

greater than the underwater noise generated by cable installation equipment and vessels. As discussed above for underwater noise effects on fish, assuming a 5- to 6-dB decrease in noise level for every doubling of the distance from the noise source, cable installation underwater noise should decrease to levels <155 dB in approximately 52–105 feet from the source. As presented in Table 3.4-4, only Dahl's porpoise is expected to occur in the coastal waters offshore Manchester Beach. If present during cable installation activities, the porpoises would need to be closer than 105 feet to the cable lay ship or work vessel to be affected by the generated underwater noise. If traveling or foraging in the area offshore Manchester Beach during cable lay activities, the porpoises can be expected to avoid the immediate area of the generated underwater noise. In addition, **MM BIO-17** requires implementation of a marine mammal monitoring program that includes (1) marine mammal observers onboard vessels during cable installation activities; and (2) procedures for cessation of cable installation activities in the event that any marine mammals come within an established safety zone. This program would prevent exposure of porpoises and other marine mammals and sea turtles to underwater noise levels of sufficient magnitude to result in any effect and therein result in less than significant with mitigation.

MM BIO-17: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan. The Applicant shall prepare and implement a Marine Wildlife Monitoring and Contingency Plan (MWMCP) that shall apply to cable installation and repair activities and consist of the following elements, procedures, and response actions.

- Awareness training for Project vessel crew that includes identification of common marine wildlife and avoidance procedures included in the MWMCP for Project activities.
- Provision of two qualified shipboard marine mammal observers on board all cable installation vessels during cable installation activities. The MWMCP shall establish the qualifications of and required equipment for the observers.
- In consultation with National Marine Fisheries Service (NMFS), establish a safety work zone around all Project work vessels that defines the distance from each work vessel that marine mammals and sea turtles may approach before all operations must cease until the marine mammal or sea turtle has moved beyond.
- Project-specific control measures for Project vessels (including support boats) and actions to be undertaken when marine wildlife is present, such as reduced vessel speeds or suspended operations.
- Reporting requirements and procedures for wildlife sightings and contact and requirements for post-installation reporting. The MWMCP shall identify the resource agencies that are to be contacted in case of marine wildlife incidents and that will receive reports at the conclusion of Project installation.

- The MWMCP shall be submitted to the CSLC and California Coastal Commission (CCC) for review at least 60 days prior to the start of marine installation activities.

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, U.S. Fish and Wildlife Service, State Lands Commission, or California Coastal Commission?

3.4.3.3 Terrestrial Components

Less than Significant with Mitigation. Per Mendocino County (1991a), ESHA delineated in the BSA includes streams for anadromous fishes, wetlands, riparian areas, occupied special wildlife habitat, special plant habitat, and sensitive natural communities as defined by CDFW (2018a). Eight sensitive natural communities have been identified in the BSA: coastal dune willow thickets, Sitka willow thickets, shining willow groves, arroyo willow thickets, slough sedge swards, coastal brambles, water parsley marshes, and a Pacific reed grass meadow (CDFW 2018a). The four willow communities are associated with riparian habitat. These ESHAs could be affected by development of temporary staging areas, trenching, installation of the LMH and intermediate manholes, construction of surface access vaults, and establishment of work areas required for directional boring. Additional impacts could result from the introduction of invasive weed species and contamination from fueling, equipment leaks, and chemical spills.

With the exception of the cable landing site, most of the ground-disturbing activities involved with Project construction would entail either trenching or trenchless construction to install the underground conduit system. While Project activities could result in impacts on sensitive habitats, implementation of **MM BIO-18** would ensure that all ESHAs are bored beneath, and direct impacts would be avoided. Because most of the underground conduit system would be installed directly in the shoulder on either side of SR 1, only limited amounts of undisturbed habitat would be subject to Project-related impacts. Moreover, such impacts would be temporary, and site restoration would return these areas to pre-construction conditions.

The cable landing site (100 by 150 feet required for directional boring and the entry and exit pits (4 by 8 feet for trenchless construction of the underground conduit system would be set back a minimum of 50 feet from riparian habitat. However, improper siting of the cable landing site could damage the delineated 0.029 acre of wet meadow present in the northeast quadrant of the CLP. Implementation of **MM BIO-19** would locate work and staging areas for the CLP and associated facilities outside wet meadow habitat.

MM BIO-18: Boring beneath Environmentally Sensitive Habitat Areas. Per methods outlined in **MM BIO-5**, all ESHAs will be bored beneath and avoided.

MM BIO-19: Locate Work and Staging Areas for the Cable Landing Site and Associated Facilities outside Wet Meadow Habitat. The Applicant shall situate work and staging areas for the cable landing site and associated facilities an appropriate distance from the wet meadow habitat to avoid direct and indirect impacts.

Implementation of **MM BIO-1** through **MM BIO-7** and **MM BIO-18** and **MM BIO-19** would reduce potential impacts on sensitive natural communities to a less than significant level.

3.4.3.4 Marine Components

Less than Significant with Mitigation. As discussed in Section 3.4.2, *Marine Biological Resources*, the proposed marine cable route does not transit any areas of special biological importance (e.g., ASBS, SEAs, MPAs, SMRs, SMPs, SMCAs, or ESHAs). The cable route does pass through portions of the MSA generally defined as EFH for groundfish. Other sensitive marine habitats may include kelp forests and communities of deep-sea corals and sponges. No kelp forests are known to exist along the proposed cable route. The nearest kelp forest is approximately 3 miles south of the MSA at Arena Rock, part of the Point Arena SMR. No deep-sea corals are known to occur along the proposed cable route. As mentioned in Section 2, *Project Description*, exposed hard relief habitat appears to occur along an approximately 3.7-mile) segment of the first proposed cable route of the Project in water depths between 377 and 476 feet. The preliminary characterization of the habitat is a mixture of low, moderate, and high relief outcroppings intermixed with soft sediment. Burial of a cable within this segment of the proposed cable route is questionable; surface lay may be required, which could result in some impact on low relief hard substrate habitat and associated marine biological resources.

Soft Substrate Communities

Impacts on soft substrate benthos may include disturbance of mobile organisms and localized displacement or mortality of infauna and epifauna from cable burial and installation, and the seaward completion of the HDD bore holes. Project components with the potential to affect soft substrate communities are the pre-lay grapnel run, cable installation with the cable plow, ROV operation, diver activities associated with exiting the HDD borehole at the seaward terminal point, and repairs (if needed). Cable installation would extend from the marine steel bore pipe exits and continue offshore along the transpacific routes.

The potential scale and duration of seafloor disturbance caused by Project installation and maintenance activities would be limited, resulting in predominantly localized and temporary disturbance to the seafloor. Marine invertebrates, fish, and other wildlife are anticipated to move away from, and thus avoid, all physical disturbances and to recolonize the area after the disturbance has occurred. Consequently, any impact of

1 Project activities on soft substrate habitat and associated biological communities would
2 be less than significant.

3 Burial of the cable through soft sediment seafloor areas of the cable route is expected to
4 temporarily increase turbidity in the pelagic zone. Any resuspended sediments are
5 expected to resettle onto the seafloor fairly quickly. In addition, water quality controls on
6 HDD are included in **MM BIO-6**. Consequently, any increased water turbidity is expected
7 to cause a less than significant effect on pelagic marine habitats and associated biological
8 resources.

9 *Hard Substrate Communities*

10 Cable installation along hard bottom substrate, if unavoidable, could directly affect hard
11 substrate habitats and associated marine biological resources, if the cable is installed
12 directly onto these habitats. Biota associated with hard substrate habitat are
13 predominantly slow growing and susceptible to crushing, dislodgement, and other
14 physical disturbances. Preliminary seafloor mapping of the proposed cable routes
15 appears to place the first proposed Project cable through an area of mixed low- and high-
16 relief hard substrate in 377 to 476 feet of water (see Appendix C6). Placement of the
17 cable through this area of high-relief habitat would avoid all moderate- and high-relief
18 features and would concentrate on routing the cable through low-relief and mixed bottom
19 habitat. The potential impact would be restricted to an area proportional to the width
20 (approximately 3 inches) and length of the cable through the hard substrate area and
21 would affect less sensitive hard substrate organisms. Laying the cable on moderate- and
22 high-relief features exposes the cable to unnecessary suspension, increased tension
23 stress, and possible damage.

24 Installation of a fiber optic cable on low-relief habitat initially results in burial or crushing
25 of any taxa attached to the hard substrate directly under the cable. As observed and
26 documented in visual surveys of cable routes in California coastal waters, low-relief (less
27 than 3.3 feet high), hard substrate habitats often are exposed to cycles of periodic burial
28 by sand as well as increased turbidity (AMS 2015). This typically results in lower species
29 diversity and abundances of the taxa inhabiting these features than occurs in high-relief,
30 hard substrate communities. These harsh physical conditions have been observed to
31 support a more ephemeral community that is dominated by organisms more tolerant of
32 high turbidity and sand scouring, or whose individual growth is sufficient to avoid burial
33 (AMS 2018a). Typical taxa observed in prior habitat and macrobenthic taxa surveys
34 conducted by ROVs for fiber optic cable routes in nearby MPAs include cup corals,
35 puffballs and other similar sponges; gorgonian soft corals; and some species of
36 anemones, such as *Stomphia* spp. and *Urticina* spp. (AMS 2018a [Appendix C5]).

37 High-relief (more than 3.3 feet high), hard substrate areas typically have higher species
38 diversity than low-relief habitats because their elevation results in lower turbidity, less

1 sand scouring, and less periodic burial. Such areas typically support organisms sensitive
2 to physical disturbances such as erect turf species, hard and soft hydrocorals, branching
3 corals, and branching and erect sponges. High-relief, hard substrate areas are generally
4 considered to be more sensitive to physical impacts than low-relief hard substrate habitat.

5 The potential for post-lay effects on hard substrate areas depends on the location of the
6 individual cable. Placement of the cable on the seafloor at all water depths always is
7 performed in a way that avoids suspension, which can result in movement of the cable in
8 response to currents and wave surge in shallow depths (i.e., less than 100 feet), causing
9 ongoing abrasion of hard substrate and damage to attached biota, as well as unnecessary
10 cable tension stress and possible damage. As noted above, the Applicant would avoid
11 any hard substrate habitat areas along the nearshore coastal route whenever possible;
12 moreover, the cable is to be buried in soft substrate to a water depth of 5,904 feet.

13 Past cable route and post-lay surveys conducted in California coastal waters have
14 observed minimal impacts on hard substrate communities. During their survey of the
15 AT&T Asia-America Gateway S-5 cable, which ran parallel to previously laid fiber optic
16 cables in low-relief hard substrate, AMS (2008) reported that no noticeable impacts
17 associated with previously laid cables in the area were detectable. Summaries from other
18 surveys indicated large erect sponges were observed growing on or over exposed cables
19 (AMS 2018a [Appendix C5]).

20 The routing of the marine segments of the cable is designed to maximize installation along
21 soft substrate, where the cables can be buried, and to avoid areas identified as hard
22 substrate where feasible. Also, despite the substrate near the bore exits being soft, the
23 cable-laying ship does not plan to anchor during cable installation. Anchoring of other
24 support boats and vessels would be kept to a minimum and would result in only minor,
25 temporary disturbances of soft substrate seafloor sediments. Implementation of **MM BIO-**
26 **20** would reduce cable installation in hard substrate habitat areas, and **MM BIO-21** would
27 provide compensation for the impairment or loss of hard substrate–associated marine
28 taxa and their role in marine ecosystems in the MSA.

29 **MM BIO-20: Minimize Crossing of Hard Bottom Substrate.** Prior to start of
30 construction, a survey shall be conducted to identify any hard bottom habitat,
31 eelgrass, kelp, existing utilities including but not limited to pipelines, power cables,
32 etc., and the survey map shall be submitted to CSLC staff for review. The proposed
33 cable routes and anchoring locations shall be set to avoid hard bottom habitat,
34 eelgrass, kelp, existing utilities including but not limited to pipelines, power cables,
35 etc., as identified in the survey.

36 **MM BIO-21: Contribute Compensation to Hard Substrate Mitigation Fund.** The
37 following mitigation is proposed for damage to slow-growing, hard substrate
38 organisms.

- California Coastal Commission (CCC) compensation fees (based on past projects) will be required to fund the U.C. Davis Wildlife Health Center's California Lost Fishing Gear Recovery Project or other conservation programs or impacts to high-relief, hard substrate affected by the Project. The amount of the hard bottom mitigation fee shall be calculated by applying a 3:1 mitigation ratio to the total square footage of impacted hard bottom and multiplying that square footage by a compensation rate of \$14.30 per square foot.
- A final determination of the amount of high-relief, hard substrate affected (used to calculate the total compensation fee) will be based on a review of the final burial report from the cable installation. The total assessment and methods used to calculate this figure will be provided to the CSLC and the CCC for review and approval. Both CSLC and CCC also will be provided documentation of the total amount of mitigation paid and the activities for which the funds will be used.

Because the impact would be temporary, animals would recolonize the area, and any impacts would be mitigated through compensation, the impact of the Project on hard bottom communities would be less than significant with mitigation.

Introduction of Nonnative and Invasive Species

As discussed in Section 3.4.2.6, *Nonnative and Invasive Species*, many nonnative and invasive species are introduced by vessels and boats—either as encrusting organisms on the hulls or other submerged parts of the vessels, or when ballast water is discharged from the vessels. The use of cable-laying vessels for the Project, which crosses the Pacific Ocean, has the potential to transport foreign species into California waters. The introduction of such species could cause permanent alterations of communities, including changes in species composition or relationships among species that are recognized for their scientific, recreational, ecological, or commercial importance. Ultimately, changes in these communities could prevent reestablishment of native biological populations around Point Arena.

Utility vessels could spread invasive, nonnative marine species through ballast water and biofouling, posing a risk to marine habitats and marine biota, including special-status species, resulting in a significant impact. All marine vessels and ships engaged in Project activities would be required to adhere to state and federal requirements related to ballast water discharge and invasive species management. No introduction of marine invasive species through ballast water exchange is anticipated in the marine study area because Project vessels will not exchange ballast water within the MSA. Implementation of **MM BIO-22** would reduce any potential Project-related contribution to the spread of invasive nonnative species to a less than significant level.

1 **MM BIO-22: Control of Marine Invasive Species.** Applicant shall ensure that the
2 underwater surfaces of all project vessels are clear of biofouling organisms prior
3 to arrival in state waters. The determination of underwater surface cleanliness shall
4 be made in consultation with CSLC staff. Additionally, and regardless of vessel
5 size, ballast water for all Project vessels must be managed consistent with CSLC's
6 ballast management regulations, and Biofouling Removal and Hull Husbandry
7 Reporting Forms shall be submitted to CSLC staff as required by regulation. No
8 exchange of ballast water for project vessels shall occur in waters shallower than
9 the 5,904 feet isobath.

10 ***c) Have a substantial adverse effect on state or federally protected wetlands***
11 ***(including, but not limited to, marsh, vernal pool, coastal, etc.) through direct***
12 ***removal, filling, hydrological interruption, or other means?***

13 3.4.3.5 Terrestrial Components

14 **Less than Significant with Mitigation.** Installation of Project facilities could potentially
15 affect 0.556 acre of potential waters of the United States and 0.584 acre of CCC
16 jurisdictional features. Many of the potential wetlands and non-wetland waters identified
17 in the BSA are roadside features. Wetlands could be directly affected by equipment and
18 personnel, the introduction of sedimentation from soil disturbance (e.g., open trenching,
19 excavation of entry/exit pits), and contamination from hazardous chemicals.

20 To reduce these potential impacts, the final Project design would avoid jurisdictional
21 wetlands and non-wetland waters to the extent practicable. Where temporary disturbance
22 (e.g., trenching) directly affects wetland features, site restoration (**MM BIO-7**) would return
23 the site to pre-construction conditions. In addition, implementation of **MM BIO-1** through
24 **MM BIO-6** would help to avoid and minimize potential impacts on federally protected
25 wetlands through worker training, biological surveying and monitoring, identifying and
26 delineating sensitive resources, avoiding sensitive resources through directional boring
27 and bridge attachments, and implementing BMPs for directional boring activities.

28 Implementation of these measures would reduce potential impacts on federally protected
29 wetlands to a less than significant level.

30 3.4.3.6 Marine Components

31 **Less than Significant Impact.** Because no federally protected wetlands occur in the
32 ocean, there would be no impact. Moreover, because marine cables would be bored
33 beneath the beach and seafloor, there would be no placement of dredged or fill material.
34 Potential water quality impacts associated with disturbance of ocean sediments are
35 addressed in section 3.10, *Hydrology and Water Quality*.

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?

3.4.3.7 Terrestrial Components

Less than Significant with Mitigation. The BSA is fragmented by county and private roads, SR 1, fencing, and development. These features, along with historical and current land use practices, have altered the movement of terrestrial, freshwater aquatic, and marine wildlife species. Based on current conditions and the proposed Project design (i.e., installation of underground equipment), construction would not further impede the movement of fish and wildlife species, block or interfere with resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The six waterbodies that either support or have the potential to support special-status fish and wildlife species and that act as travel corridors would be completely avoided. Conduit would be installed beneath each waterbody using directional boring, or by attaching the conduit above the waterbody on existing bridges. Appropriate setbacks (i.e., 50 feet from riparian habitat) would be implemented to avoid alteration of riparian habitat and fish and wildlife movement. Implementation of **MM BIO-1** through **MM BIO-7** would reduce this impact to a less than significant level.

3.4.3.8 Marine Components

Less than Significant with Mitigation. Marine fish, mammals, and sea turtles could be present in the Project area at any time of the year. Movement and noise from Project work vessels during cable installation or repair have the potential to temporarily disturb individuals' movements and activities. Based on previous observations, it is generally expected that any fish, marine mammals, or sea turtles would avoid Project vessels and activities. Ship strikes of large marine mammals have become a growing concern; however, ship strikes during cable installation are unlikely because the speed of the ship during cable-laying activities is very slow (approximately 0.5 to 1.5 nm per hour [0.5 to 1.5 knots] while plowing) compared with the speed of sea lions or migrating whales (AMS 2018a). Work vessel movement and noise often result in the disruption of animal movements or altered behavior. Such disturbances are typically temporary and confined to the immediate vicinity of the vessel. Disruption caused by Project vessels (e.g., noise) would not be substantially different from that resulting from normal ship traffic in the MSA (AMS 2018a). According to the Large Whale Ship Strike Database, the majority of strikes involve vessels traveling between 13 and 15 knots, and no strikes have been reported for vessels traveling slower than 2 knots (Jensen and Silber 2003).

Personnel involved in operating cable-laying vessels and other coastal work vessels potentially used on the Project regularly undergo training and familiarization to avoid marine mammals and sea turtles while transiting between port and the work site.

Implementation of **MM BIO-1**, which includes additional training and familiarization with special-status species present in the work area, also would augment and reinforce other routine marine mammal avoidance training. The likelihood of offshore construction vessels interfering substantially with the movement of any native, resident, or migratory fish—or with established, native, resident, or migratory wildlife—is considered negligible.

Despite the low potential for vessel collisions with marine mammals and turtles, there always remains a small risk of marine mammals and sea turtles encountering Project vessels during their routine movements and foraging activities. Any collisions with or harm to marine mammals and sea turtles would be a significant impact. Implementation of **MM BIO-17** would reduce the potential impact of Project work vessels colliding with marine mammals and turtles to a less than significant level.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)?

3.4.3.9 Terrestrial Components

Less than Significant with Mitigation. Mendocino County goals and objectives described in Section 3.4.1.2, *Regulatory Setting*, were developed to protect sensitive resources on both public and private lands. As previously identified, the Project has the potential to adversely affect sensitive natural communities (e.g., riparian habitat and wetlands); special-status plant, fish, and wildlife species; nesting special-status bird species, and marine resources. Implementation of **MM BIO-1** through **MM BIO-14** would satisfy the intent of the Mendocino County goals and objectives to protect sensitive resources. These measures also would meet the requirements of the coastal elements of the Mendocino County General Plan and Local Coastal Program. These measures would protect the environmentally sensitive areas identified in the BSA as well as the marine resources of Mendocino County; no conflict with local policies or ordinances is anticipated.

3.4.3.10 Marine Components

Less than Significant Impact. Although no local policies or ordinances pertain to the marine components of the Project, installation of the marine cables would entail work in EFH. However, impacts caused by installation and maintenance of the marine segments of the cable would be temporary, and the affected area would be small relative to the extent of EFH. The Project would not introduce permanent structures that would block emigration and immigration, and organisms are expected to recruit into the affected area and repopulate. Consequently, any potential effects on EFH along the cable route would be less than significant.

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?

3.4.3.11 Terrestrial Components

No Impact. The Project would not conflict with provisions of local, regional, or state habitat conservation plans or natural community conservation plans because no such plans exist for the Project area. There would be no impact.

3.4.3.12 Marine Components

No Impact. No adopted federal, state, regional, or local conservation plan covers the MSA.

3.4.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts on biological resources to a less than significant level:

- MM BIO-1: Provide Environmental Awareness Training
- MM BIO-2: Conduct Biological Surveying and Monitoring
- MM BIO-3: Delineate Work Limits and Install Temporary Construction Barrier Fencing to Protect Sensitive Biological Resources
- MM BIO-4: Identify and Avoid Sensitive Biological Resources through Use of Directional Boring
- MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
- MM BIO-7: Prepare and Implement a Site Restoration Plan
- MM BIO-8: Install Escape Ramps in Open Trenches
- MM BIO-9: Conduct Surveys for Point Arena Mountain Beaver
- MM BIO-10: Limit Construction Period to Minimize Impacts on Point Arena Mountain Beaver
- MM BIO-11: Avoid Point Arena Mountain Beaver Populations and Burrows
- MM BIO-12: Survey for and Avoid Behren's Silverspot Butterfly and Lotis Blue Butterfly Habitat
- MM BIO-13: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures
- MM BIO-14: Conduct Appropriately Timed Floristic Surveys of Remaining Areas
- MM BIO-15: Inspection and Burial of Cable
- MM BIO-16: Cable Entanglements and Gear Retrieval
- MM BIO-17: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan

- 1 • MM BIO-18: Bore Beneath Environmentally Sensitive Habitat Areas
- 2 • MM BIO-19: Locate Work and Staging Areas for the Cable Landing Site and
- 3 Associated Facilities outside Wet Meadow Habitat
- 4 • MM BIO-20: Minimize Crossing of Hard Bottom Substrate
- 5 • MM BIO-21: Contribute Compensation to Hard Substrate Mitigation Fund
- 6 • MM BIO-22: Control of Marine Invasive Species
- 7 • MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan
- 8 • APM-1: Fishing Agreement

3.5 CULTURAL RESOURCES

| CULTURAL RESOURCES - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.5.1 Environmental Setting

The cultural resources study area (Figure 2-1) is the Project area and encompasses part of SR 1 and the Caltrans ROW through Manchester. The Caltrans ROW in this portion of the Project area is restricted to the pavement and undeveloped shoulder of SR 1; it does not encroach on the community's property parcels.

3.5.1.1 Cultural Resources

Historic Context

Background research conducted for the Project revealed several key themes that frame the historical context for which potentially affected resources of this undertaking are best understood: regional development, water resource management, and crop production. A discussion of these themes follows. The ethnographic and archaeological context related to Native American occupation of the Project vicinity is discussed in Section 3.6, *Cultural Resources – Tribal*.

Early Exploration and Spanish Rule

The first European to explore the coastal region of present Mendocino County was Captain George Vancouver, who was sent by England to report on the extent of Spanish possessions on the Pacific coast. On November 10, 1792, Vancouver spent the night at Point Arena, which he named "Punta Barro de Arena" (sandy clay) (Kyle 2002). The following year, Archibald Menzies, a naturalist traveling with the Vancouver expedition, landed at Bodega Bay in present-day Sonoma County, which had been discovered and named by Spanish explorer Francisco de la Bodega y Cuadra in 1775 (Kyle 2002). Menzies' party conducted limited inland expeditions in search of botanical specimens before returning to the coast.

Beginning in the 1740s, Russian explorers conducted expeditions along the Pacific North Coast and the Bering Strait in search of fur seals. The coming of the Russians undoubtedly influenced Spain's rapid occupation of California and the occupation of Monterey and San Diego. By 1777, Spanish explorers and priests had established a chain of coastal missions, pueblos, and presidios from San Diego to San Francisco. The establishment of Russian-American Fur Company trading posts at Bodega Bay (1811) and Fort Ross (1812) heightened Spanish fears that their claim to California was in danger (Kyle 2002). Nevertheless, peaceful trade between Spaniards and Russians, though illegal under Spanish law, continued until the end of Spanish rule in 1821.

The Mexican Period

In 1821, Mexico achieved independence from Spain, and the following year California was declared a territory of the Mexican republic. Apart from sending in new governors and small numbers of soldiers, Mexican intervention in California was minimal over the next several years (Chapman 1921). However, two factors would have a major impact on the subsequent development of California. The first was the secularization of the missions in 1834, by which the Mexican governor in California downgraded the missions to the status of parish churches and divided their vast holdings into individual land grants (ranchos). Secularization not only brought a massive influx of Mexican settlers to California, it also allowed for the emergence of a powerful new class of wealthy land owners known as rancheros. The second factor was the coming of U.S. settlers to California. Early mountain men and trappers who had ventured into California as early as the 1820s were followed by a steady progression of pioneer settlers, beginning with the Bidwell-Bartleson party in 1841. Growing hostility between U.S. settlers and persons of Spanish or Mexican heritage known as Californios would culminate in a violent struggle for control of California.

United States Acquisition and Settlement

Point Arena/Manchester

The original Arena Township, which consists of the present town of Point Arena and the hamlet of Manchester, is located on a plateau that extends back from a prominent headland off the Pacific coast in southern Mendocino County. The first occupant of the region was a Mexican soldier, Rafael Garcia, who was granted nine leagues of land on which he herded cattle near the river that now bears his name. Shortly after its acquisition of California, the United States opened the land to American settlement. In 1859, Len Wilsey opened a store in what is now the town of Point Arena. Over the next several decades, more businesses were established, including two hotels, four saloons, a blacksmith shop, a post office, a school, a brewery, a barber shop, and a wharf and landing off Point Arena. An abundance of coastal redwoods in the region encouraged the establishment of several mills in the area. Numerous V-shaped flumes were built in the

original township to transport lumber to local merchants and to the wharf, where it was shipped to more distant markets. By the 1870s, Point Arena had become the busiest town between San Francisco and Eureka. In addition to the thriving timber operations, the shipping industry was a major commercial activity in the coastal town. Before the construction of a lighthouse in 1870, dozens of vessels were destroyed or lost off the turbulent and foggy Arena coastline. The Point Arena Lighthouse was destroyed in the earthquake of 1906 and subsequently rebuilt a short distance back from its original location. The town of Point Arena was officially incorporated in 1908, and many of its original buildings remain intact. Also located in the original Arena township are the Manchester Indian Rancheria, established in 1909, and the Point Arena Indian Rancheria, established in 1937. Both are currently occupied by members of the Bokeya band of the Central Pomo (Carpenter and Millberry 1914; Eargle 1986; Palmer 1880).

Modern Highways

The impetus for a modern highway system in northern California began during the last decade of the nineteenth century when the development and maintenance of good roads became a popular cause throughout the state. Many county-owned roads were in poor condition and were nearly impassable in winter. By the mid-1890s, public demand for improved roads was so strident that the State of California created the Bureau of Highways in 1895 to develop a plan for a new state highway system (Blow 1920).

During the early decades of the twentieth century, the shift from county to state control of highways was fueled by the growing number of automobiles and motorists' demands for better roads. Motorists formed automobile clubs such as the Good Roads Bureau of the California State Automobile Association to lobby for improved roads and promote their interests (Blow 1920). As a result of these pressures, the state legislature passed the Road Bond Act of 1909. The act provided \$18,000,000 for road construction and established the state as a major force in highway development (Blow 1920).

In 1920, only 12 miles of road in all of Mendocino County were paved (Blow 1920). SR 1, the Shoreline Highway, was originally conceived in 1909 as Legislative Route Number 1, from the Golden Gate Bridge to the Oregon border via Crescent City and the Smith River. The segment of highway that travels through the Project area, constructed circa 1933 between Jenner in Sonoma County and West Point in Mendocino County, represents a significant transportation event in the region's transportation history.

Existing Conditions

Terrestrial Archaeological and Built Environment Records Search

On July 6, 2018, ICF conducted a records search at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University in Rohnert Park, California (IC File No. 18-0034). A supplemental records search was

conducted on October 16, 2018 (IC File No. 18-0764). The Northwest Information Center maintains the State of California's official records of previous cultural resource studies and recorded cultural resources for Mendocino County. The records search area encompassed the Project area and a 0.5-mile buffer around it.

The records searches indicate that 20 cultural resources studies have been conducted within 0.5 mile of the Project area. Of those studies, 12 have been conducted within the Project area (Table 3.5-1). These studies have collectively covered most of the Project area.

Table 3.5-1. Previously Conducted Studies within the Project Area

| NCIC Study No. | Date | Author (s) | Title |
|----------------|------|-------------------|--|
| 00823 | 1977 | Flynn (ARS) | <i>The Karen Hay Minor Land Division, Hwy 1 above Creamery Lane and below Crispin Lane, Manchester, coastal Mendocino County</i> |
| 01800 | 1969 | Holman et al. | <i>Archaeological Survey Report of Selected Beaches and Parks from District 2</i> |
| 05206 | 1982 | Soule | <i>Brush Creek Tributary to Pacific Ocean</i> |
| 13217 | 1990 | Origer | <i>An Archaeological Survey for the AT&T Fiber Optics Cable, San Francisco to Point Arena</i> |
| 14313 | 1992 | Origer | <i>Archaeological Survey of Alternative Fiber Optics Cable Routes, Point Arena</i> |
| 16422 | 1994 | Origer | <i>A Cultural Resources Survey of the Fraser Property, Manchester, Mendocino County, California</i> |
| 22736 | 2000 | Jones and Stokes | <i>Final Cultural Resources Inventory Report for the Proposed Fiber Optic Cable Routes between Point Arena and Robbins and Point Arena and Sacramento, California</i> |
| 23451 | 2000 | Neri | <i>The Archaeological Inspection of a 1-Acre Property in Manchester; Mendocino County, California</i> |
| 23484 | 2000 | Flaherty | <i>Cultural Resource Reconnaissance of Sprint Regen Project Near Manchester, Mendocino County, California</i> |
| 34677 | 2008 | Newland and Much | <i>A Century After Barrett: A Village and Trail Network Model for the PDA'HAU Subdivision of the Central Pomo, Mendocino County, California (Overview, no field survey conducted)</i> |
| 36294 | 2009 | Haney (Caltrans) | <i>Historic Property Survey Report 01-Men-1, 20, 128, 162, 175, 253, 271/Archaeological Survey Report for a Proposed Metal Beam Guardrail Repair/Upgrade Project Along State Routes 1, 20, 128, 162, 175, 253, and 271 in Mendocino County, California</i> |
| 38865 | 2011 | Leach-Palm et al. | <i>Cultural Resources Inventory of Caltrans District 1 Rural Conventional Highways in Del Norte, Humboldt, Mendocino, and Lake Counties</i> |

Source: CHRIS-NWIC

1 As provided in Table 3.5-2, one prehistoric archaeological resource, two historic
2 archaeological resources, and one previously recorded historic-era built environment
3 resource were identified within 0.5 mile of the Project area.

Table 3.5-2. Previously Recorded Cultural Resources in and within 0.5 Mile of the Project Area

| Primary/ Trinomial | Age/Type | In Project Area? | Description | CHRS Code |
|---------------------------|----------------------------|------------------------|-------------------------------------|----------------|
| P-23-4529/ CA-MEN-3384 | Historic/archaeological | No | Swift & Company Creamery | 7R/Unevaluated |
| P-23-4613/ CA-MEN-3551 | Historic/built environment | Yes | Abandoned State Route 1 segments | 7R/Unevaluated |
| P-23-5547/ CA-MEN-3664 | Prehistoric/archaeological | No | Lithic scatter | 7R/Unevaluated |
| P-23-5581 | Historic/archaeological | No | Pole 46/6 refuse scatter | 7R/Unevaluated |

Source: NWIC 2018

4 Additional sources of information, such as historic maps from the U.S. Geological Survey
5 and General Land Office, were selectively reviewed to determine areas with a high
6 potential for the presence of historic and prehistoric sites and to gather historical data.
7 The following sources were reviewed:

- 8 • National Park Service's National Register of Historic Places (NRHP) Digital
9 Archive website (NPS 2018)
- 10 • Office of Historic Preservation's California Historical Landmarks website (OHP
11 2018)
- 12 • Structure and Maintenance and Investigations, Historical Significance—Local
13 Agency Bridges website (Caltrans 2018a) and Structure and Maintenance and
14 Investigations, Historical Significance—State Agency Bridges website (Caltrans
15 2018b)
- 16 • Bureau of Land Management's General Land Office Records website (BLM
17 2018a–d)
- 18 • *Handbook of North American Indians*, Volume 8 (McLendon and Oswalt 1978;
19 Bean and Theodoratus 1978)
- 20 • Historical USGS topographic maps (1:24,000, 1:65,500 scales)
- 21 • *Historic Spots in California* (Kyle 2002)
- 22 • Mendocino County Assessor Parcels (ParcelQuest 2018)
- 23 • California Office of Historic Preservation's (OHP's) Archaeological Determinations
24 of Eligibility for Mendocino County (OHP 2012a)

- California OHP's *Directory of Properties in the Historic Property Data File for Mendocino County* (OHP 2012b)

The *Caltrans State Bridge Inventory* (Caltrans 2018b) listed one bridge in the Project area: Bridge 10-0116, over Alder Creek along SR 1. Per the inventory, Caltrans architectural historians have recommended that the bridge is ineligible for listing in the NRHP. The resource was not evaluated for California Register of Historic Resources (CRHR) eligibility.

The California OHP website (OHP 2018) did not identify any California Historical Landmarks within the Project area. The nearest landmark is the Point Arena Light Station (OHP landmark No. 1035), 3 miles southwest of the Project area. The light station also was listed in the NRHP in 1989 for the role it played in the state's maritime history.

The National Park Service's NRHP Digital Archive (NPS 2018) identified one listed property, the Manchester Schoolhouse, on a parcel adjacent to the southern end of the Project area. The historic property was built in 1907 and continues to convey its significance under Criteria A and C at the local level as the only surviving public building in Manchester representing the era of historical community development associated with the region's timber harvest industry boon following the 1906 San Francisco Earthquake.

The California OHP's *Directory of Properties in the Historic Property Data File for Mendocino County* (OHP 2012b) listed three properties in the town of Manchester and one in the Manchester vicinity. Two of the properties (156555 and 184308), at 500 Rancheria Road and 1000 Rancheria Road, respectively, were listed with the status code of 6Y: Determined ineligible for listing in the NRHP by consensus through the Section 106 process—Not evaluated for the CRHR or Local Listing. One property (003558), Bridge 10-113, was listed with the status code of 7N: Needs to be reevaluated (formerly status code of 4—appears eligible for the NRHP or CRHR). The one listed property adjacent to the Project is the Manchester Schoolhouse (003559), listed with a status code of 7L: State Historical Landmark and Point of Historical Interest—Needs to be reevaluated using current standards, and a code of 1S: individual property listed in both the NRHP and CRHR.

Land patent records obtained from the Bureau of Land Management's General Land Office Records website (BLM 2018a–d) were reviewed for property ownership information specific to those portions of the Project area where Project landings and tie-ins are proposed beyond the highway. Table 3.5-3 identifies the original property ownership and types of land patents that were issued for those properties.

On August 23, 2018, a letter was sent to the Mendocino County Historical Society. The letter briefly described the proposed Project and requested information about cultural resources near the proposed Project area. To date, no response has been received.

Table 3.5-3. General Land Office Patent Search Results in the Project Area

| Patentee | Patent Date | Serial Number | Patent Type/Authority | Location |
|--|------------------|---------------|--|--|
| Danial Lovett, Elizabeth Lovett, John A. Smith | June 10, 1875 | CACAAA 024893 | March 17, 1842: Scrip or Nature of Scrip (5 Stat. 607) | T13N; R17W; Sec. 1; Lot/Tract 4: S ½ of SE ¼ (northern landing parcel) |
| Charles W. Reinking | February 1, 1876 | CA0090___.136 | April 24, 1820: Sale—Cash Entry (3 Stat. 566) | T13N; R17W; Sec. 24; S ½ of NE ¼ (Private CLS) |
| Sylvanus S. Hoyt | February 1, 1876 | CA0090___.155 | April 24, 1820: Sale—Cash Entry (3 Stat. 566) | T13N; R17W; Sec. 23: Lot/Tract 1 (AT&T CLS) |
| Clark Fairbanks | November 1, 1875 | CA0090___.068 | April 24, 1820: Sale—Cash Entry (3 Stat. 566) | T13N; R17W; Sec. 25; NE ¼ (south end of Project town of Manchester) |

1 Marine Cultural Resources Records Search

2 *Methods and Sources*

3 Research methods to inventory marine cultural resources were limited to an archival and
4 records search (AMS 2018b [Appendix D]). All marine cultural resources cited consisted
5 of shipwrecks. No downed aircraft, prehistoric archaeological sites, or isolated artifacts
6 were listed. The inventory completed for the study area covers the four potential marine
7 cable alignments plus a 10-nm buffer. No remote sensing survey of the seafloor for
8 shipwrecks and other debris, or predictive modeling for prehistoric archaeological
9 resources has yet been completed for the marine portion of the study area. Sources
10 consulted included cultural resource inventories (shipwreck and downed aircraft listings)
11 provided by the CSLC, the Bureau of Ocean Energy Management (BOEM) Pacific Outer
12 Continental Shelf Region (BOEM 2013), and the NOAA Automated Wreck and
13 Obstructions Information System database (1988). The NRHP, California Historical
14 Landmarks, California Inventory of Historical Resources, and local archives also were
15 consulted.

16 Other sources consulted include the USACE Los Angeles and San Francisco Districts,
17 National Maritime Museum in San Francisco, Los Angeles Maritime Museum, Commerce
18 Department files at the National Archives in Washington, D.C. and San Bruno, Regional
19 Records Centers at Laguna Niguel and San Bruno, The Huntington Library in San Marino,
20 the published volumes of Lloyds of London Ships Registry 1850–1980 and 1885–1950,
21 the U.S. Department of Commerce Merchant Vessels of the United States 1867–1933,
22 and the USCG Merchant Vessels of the United States 1933–1982 and Supplements
23 1982–1988 at the University of California Library, University of California at Santa Barbara
24 and Long Beach Library, and the State Library and State Archives and Records Office.

1 *Results*

2 SUBMERGED PREHISTORIC RESOURCES (OFFSHORE)

3 The records search yielded no maritime finds of prehistoric origin within the study area.
4 All known underwater prehistoric resources on file appear to be located in Oregon and
5 Southern California waters. It should be noted, however, that there is a recognized
6 potential for the remains of prehistoric and historic sites, artifacts, and Native American
7 watercraft to be present offshore, although there is a lower potential for their in-situ
8 preservation.

9 SUBMERGED HISTORIC RESOURCES (OFFSHORE)

10 Historic submerged cultural resources include historic period shipwrecks. No evidence of
11 downed aircraft was found in the archival search.

12 The locations of historic period shipwrecks are characterized by inaccuracies in reported
13 location. Many, if not most, vessels reported as lost in the study area have not been
14 accurately located or assessed for eligibility for listing in the CRHR. Therefore, the
15 potential for the Project to affect these shipwrecks cannot be accurately assessed.
16 However, given the large number of shipwrecks reported in or near the study area, it is
17 likely that one or more may be found by site-specific remote sensing surveys undertaken
18 for the final alignments.

19 Shipwrecks were mapped in relation to the alternate cable routes based on their reported
20 coordinates or other relevant information. Centered on Manchester Beach Cable origin,
21 the study area extends 10 nm north to include waters offshore of Cuffey's Cove and 10
22 nm south to just north of Gualala. The records search revealed 135 shipwrecks reported
23 lost within the study area. Thirty-nine of these shipwrecks were reported lost south of the
24 Point Arena headland and are therefore considered less likely to occur along the planned
25 cable routes.

26 None of these shipwrecks has been evaluated for its significance or importance in
27 California history. No degree of accuracy of location has been evaluated previously for
28 any of the shipwrecks reported in the study area. Details of offshore record search results
29 are found in the Marine Cultural Resources Technical Report (AMS 2018b [Appendix D]).

30 3.5.1.2 Fieldwork

31 Archaeological and built environment surveys of the Project area were conducted on
32 April 4, 2018, July 31, 2018, and March 4, 2019 (AMS 2018b [Appendix D]).

33 The archaeological survey consisted of a pedestrian inspection of the Project area,
34 walking a maximum of 49-feet-wide transects. The survey area (i.e., Project area)

consisted of both sides of the SR 1 ROW and the CLP at the north end of the Project area. Surface visibility was good to excellent along the SR 1 ROW because of low-lying vegetation and areas of disturbed soil and imported road base. Surface visibility on the CLP was poor (0 percent visibility) to good (70 percent visibility) with an overall visibility of 15 percent because of overgrown grasses and dense vegetation on most of the parcel. No newly identified archaeological resources were observed or recorded within the survey area during identification efforts. Two previously reported built environment resources, P-23-004613 and the Alder Creek Bridge, were revisited during the field survey and their location and conditions documented.

3.5.1.3 Findings

Built Environment Resources

Four built environment resources were identified in records search results and pedestrian surveys: the Alder Creek Bridge, two abandoned segments of highway, the town of Manchester, and the NRHP-listed Manchester Schoolhouse.

Alder Creek Bridge

The Alder Creek Bridge was constructed in 1946 during a reroute of SR 1. The bridge is included in the Caltrans State Highway Bridges Inventory (Bridge 10 0116) and is recommended ineligible for inclusion in the NRHP (Caltrans 2018b). The structure is more than 50 years old and had not been previously evaluated for CRHR eligibility.

An ICF architectural historian evaluated the Alder Creek Bridge for CRHR eligibility and found that the bridge does not meet the registration criteria for inclusion in the CRHR. In accordance with section 15064.5(a) (2) of the State CEQA Guidelines, the bridge is not a historical resource for the purposes of CEQA.

Abandoned Highway Segments (P-23-004613)

The two abandoned road segments were identified during previous surveys (P-23-004613) as potential historical resources (Leach-Palm et al. 2011). Neither segment was previously evaluated for NRHP or CRHR eligibility. Both segments were relocated and their conditions documented during ICF's pedestrian field survey.

The two abandoned road segments are previously paved portions of SR 1 that were in use as part of the coastal highway prior to the 1943–1947 reroute. The segments were part of the coastal highway built in 1933 between Jenner in Sonoma County and Westport in Mendocino County. The coastal highway was designated as SR 1 in 1933–1934, and designated as the Shoreline Highway in 1964. Both abandoned road segments are ubiquitous features that may be characterized as located adjacent to the current highway, lacking much of their pavement, and no longer used for highway travel.

1 An ICF architectural historian evaluated the two abandoned road segments
2 (P-23-004613) for NRHP and CRHR eligibility. Due to lack of historical significance or
3 integrity, the two road segments were found ineligible for listing in the NRHR or CRHR
4 under any associative criteria. In accordance with section 15064.5(a) (2) of the State
5 CEQA Guidelines, the two road segments are not historical resources for the purposes
6 of CEQA.

7 Town of Manchester

8 The cultural resources Project area includes part of SR 1 and the Caltrans right-of-way
9 through the community of Manchester. The Caltrans right-of-way in this portion of the
10 Project area is restricted to the pavement and undeveloped shoulder of SR 1. It does not
11 encroach on any property parcels and their built environment elements (e.g., fences and
12 sidewalks).

13 Manchester Schoolhouse

14 One historic property, the Manchester Schoolhouse, is located adjacent to the Project
15 area. As an NRHP-listed property, the Manchester Schoolhouse also is listed in the
16 CRHR and is a historical resource for the purposes of CEQA. As noted on the NRHP
17 nomination (Bowman 1978), the building was relocated from its original site in Manchester
18 to its current location to make room for a new public school building, and the historical
19 property's significance is not conveyed by elements of its current location. The historic
20 property boundary is limited to the historic building and does not include the surrounding
21 parcel or setting.

22 The Project area includes a Project parcel (APN 133-090-06-00) that is adjacent to the
23 parcel on which the historic property is located (APN 133-090-28-00). The two parcels
24 are separated by an unpaved, one-lane road. This portion of the Project is restricted to
25 the Project parcel and the pavement and undeveloped shoulder of SR 1. It does not
26 encroach on the NRHP historic property boundary.

27 **Archaeological Resources**

28 The records search and pedestrian survey revealed no archaeological resources in the
29 Project area.

30 **Submerged Offshore Prehistoric and Historic Resources**

31 The records search, including the shipwrecks database search, revealed no submerged
32 offshore prehistoric or historic resources in the Project area.

3.5.2 Regulatory Setting

Federal and state laws and regulations pertaining to cultural resources that are relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included in the City General Plan and the City's LCP are applicable to cultural resources in the Project area. In addition, the CDPR (1992) provides for the discovery and protection or investigation of cultural resources as mandated by CEQA and applicable County ordinances.

Mendocino Local Coastal Plan

- **30244:** Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.
- **3.5-10:** The County shall review all development permits to ensure that proposed projects will not adversely affect existing archaeological and paleontological resources. Prior to approval of any proposed development within an area of known or probable archaeological or paleontological significance, a limited field survey by a qualified professional shall be required at the applicant's expense to determine the extent of the resource. Results of the field survey shall be transmitted to the State Historical Preservation Officer and Cultural Resource Facility at Sonoma State University for comment. The County shall review all coastal development permits to ensure that proposed projects incorporate reasonable mitigation measures so the development will not adversely affect existing archaeological/paleontological resources. Development in these areas are subject to any additional requirements of the Mendocino County Archaeological Ordinance.

3.5.3 Impact Analysis

Potential impacts of the proposed Project on cultural resources are discussed in the context of State CEQA Guidelines Appendix G checklist items.

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. Only a portion of the Project area has been assessed for resource identification, evaluation, and impacts. The following discussion is based on that assessment.

The cultural resources study area encompasses part of SR 1 and the Caltrans ROW through Manchester. The Caltrans ROW in this portion of the Project area is restricted to the pavement and undeveloped shoulder of SR 1; it does not encroach on the community's property parcels.

1 The cultural resources investigation for the Project did not identify any historical resources
2 in the Project area. Therefore, there would be no impact, and no mitigation is required.

3 ***b) Cause a substantial adverse change in the significance of an archaeological***
4 ***resource pursuant to § 15064.5?***

5 **Less than Significant with Mitigation.** The proposed Project would not cause a
6 substantial adverse change in the significance of a unique archaeological resource as
7 defined in section 15064.5 because no archaeological resources were identified in the
8 Project area. However, if previously unknown archaeological resources (terrestrial and
9 submerged) are encountered during construction of the proposed Project, they could be
10 adversely affected. Implementation of **MM CUL-1** would reduce potential impacts on
11 previously unknown terrestrial archaeological resources to a less than significant level.
12 Implementation of **MM CUL-2**, **MM CUL-3**, and **MM CUL-4** would reduce potential
13 impacts on previously unknown offshore archaeological resources to a less than
14 significant level.

15 **MM CUL-1: Discovery of Previously Unknown Cultural Resources.** Prior to
16 ground-disturbance, the Applicant shall retain a qualified archaeologist to train
17 construction staff to be able to identify potential cultural resources. In the event
18 that potential resources are uncovered during Project implementation, all ground-
19 disturbing work within 100 feet of the find shall be temporarily suspended or
20 redirected until an archaeologist has evaluated the nature and significance of the
21 discovery. In the event that a potentially significant resource is discovered, the
22 Applicant; the CSLC; and any local, state, or federal agency with approval or
23 permitting authority over the Project that has requested or required such
24 notification shall be notified within 48 hours. The location of any such finds must
25 be kept confidential, and measures shall be taken to secure the area from site
26 disturbance and potential vandalism. Impacts on previously unknown significant
27 archaeological resources shall be avoided through preservation in place, if
28 feasible. A treatment plan, if needed to address a find, shall be developed by the
29 archaeologist submitted to CSLC staff for review and approval prior to
30 implementation of the plan. If the archaeologist determines that damaging effects
31 on the resource would be avoided or minimized, work in the area may resume.
32 Title to all abandoned shipwrecks, archaeological sites, and historic or cultural
33 resources on or in the tide and submerged lands of California is vested in the State
34 and under the jurisdiction of the CSLC. The final disposition of archaeological and
35 historical resources recovered on State lands under the jurisdiction of the CSLC
36 must be approved by the CSLC.

37 **MM CUL-2: Conduct a Pre-Construction Offshore Archaeological Resources**
38 **Survey.** Using the results of an acoustic survey (e.g., a Compressed High-Intensity
39 Radiated Pulse [CHIRP] System survey) for evidence of erosion/incision of natural

1 channels, the nature of internal channel-fill reflectors and the overall geometry of
2 the seabed, paleochannels and surrounding areas shall be analyzed for their
3 potential to contain intact remains of the past landscape that could contain
4 prehistoric archaeological deposits (e.g., Schmidt et al. 2014). The analysis shall
5 include core sampling in various areas, such as paleochannels, to verify the
6 seismic data analysis. Based on the CHIRP and coring data, a Marine
7 Archaeological Resources Assessment Report shall be produced by a qualified
8 maritime archaeologist and reviewed by the California Coastal Commission or the
9 State Historic Preservation Officer to document effects on potentially historic
10 properties. All acoustic surveys will be conducted by operators permitted by CSLC
11 through its Low-Energy Offshore Geophysical Permit Program
12 (<https://www.slc.ca.gov/ogpp/>).

13 **MM CUL-3: Conduct a Pre-Construction Offshore Historic Shipwreck Survey.** A

14 qualified maritime archaeologist, in consultation with CSLC staff, shall conduct an
15 archaeological survey of the proposed cable routes. The archaeological survey
16 and analysis shall be conducted following current CSLC, BOEM, and USACE (San
17 Francisco and Sacramento Districts) standard specifications for
18 underwater/marine remote sensing archaeological surveys (Guidelines for
19 Providing Geological and Geophysical, Hazards, and Archaeological Information
20 Pursuant to 30 CFR Part 585).

21 The archaeological analysis shall identify and analyze all magnetic and side-scan
22 sonar anomalies that occur in each cable corridor, defined by a lateral distance of
23 0.3 mile on either side of the proposed cable route. This analysis shall not be
24 limited to sidescan and magnetometer data and may include shallow acoustic
25 (subbottom) data as well as autonomous underwater vehicle and multi-beam data
26 that may have a bearing on identification of anomalies representative of potential
27 historic properties. All magnetic, side-scan sonar, and acoustic surveys will be
28 conducted by operators permitted by CSLC through its Low-Energy Offshore
29 Geophysical Permit Program (<https://www.slc.ca.gov/ogpp/>).

30 **MM CUL-4: Prepare and Implement an Avoidance Plan.** All cultural resources

31 identified in the Marine Archaeological Resources Assessment Report and the
32 Offshore Historic Shipwreck Survey Report shall be avoided by developing and
33 implementing an avoidance plan. If any cultural resources are discovered as a
34 result of the marine remote sensing archaeological survey, the proposed cable
35 route or installation procedures shall be modified to avoid the potentially historic
36 property. The Applicant shall route the cable no closer than 164 feet from the
37 center point of any given find. In the event a resource is discovered during
38 construction that did not show up on the remote sensing survey and was not part
39 of the avoidance plan, construction in that area will stop, CSLC will be notified, and
40 the cable will be rerouted to avoid the discovery.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation. No human remains are known to be located in or near the Project area. However, the possibility always exists that unmarked burials may be unearthed during subsurface construction activities. Consequently, there is the potential for the Project to disturb human remains, including those interred outside formal cemeteries. This impact is considered potentially significant but would be reduced to a less than significant level by implementing **MM CUL-5**.

MM CUL-5: Unanticipated Discovery of Human Remains. If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery, and an archaeologist must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. In addition, CSLC staff shall be notified within 24 hours. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission within 24 hours of this determination, and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.

3.5.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts on cultural resources to a less than significant level:

- MM CUL-1: Discovery of Previously Unknown Cultural Resources
- MM CUL-2: Conduct a Pre-Construction Offshore Archaeological Resources Survey
- MM CUL-3: Conduct a Pre-Construction Offshore Historic Shipwreck Survey
- MM CUL-4: Prepare and Implement an Avoidance Plan
- MM CUL-5: Unanticipated Discovery of Human Remains

1 3.6 CULTURAL RESOURCES – TRIBAL

| TRIBAL CULTURAL RESOURCES - Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|---------------------------------------|--|-------------------------------------|--------------------------|
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (k), or | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2 3.6.1 Environmental Setting

3 3.6.1.1 Ethnographic Context

4 The Project alignment passes through the ancestral homelands of the Central Pomo. This
5 group is a part of the larger Pomo group, which has inhabited the north-central coast of
6 California for over 2,000 years, from just north of Fort Bragg to just north of Bodega Bay,
7 and east to the eastern shore of Clear Lake (McLendon and Oswalt 1978). The Pomo are
8 composed of several culturally, but not politically, allied groups, speaking seven distinct
9 languages that belong to the Pomoan family of the Hokan stock (Shipley 1978). According
10 to Kroeber (1976), principal pre-contact Pomo villages were typically situated on the north
11 or east sides of streams. The present Manchester/Point Arena Rancheria is near the
12 Project area (Eargle 1986).

13 The Southern, Central, and Northern Pomo are more similar to one another culturally,
14 socially, and linguistically than to the Southeastern Pomo (Bean and Theodoratus 1978),
15 and are therefore discussed separately.

3.6.1.2 Southern, Northern, and Central Pomo

The Southern Northern and Central Pomo organized themselves into autonomous tribelets that were geographically composed of a large village and several smaller villages (Kroeber 1976), with one or more bilaterally related extended kin groups of from 100 to 2,000 persons comprising the tribelet. Extended kin groups were composed of nuclear family hearth groups, which averaged from five to six persons and were the basic economic and social groups of the Pomo. For much of the year, nuclear family groups occupied multifamily dwellings. They lived in separate temporary dwellings when a village population occupied seasonal fishing and collection areas (Bean and Theodoratus 1978).

The Pomo structured political authority and prestige principally in two fashions. The first involved kin-group chiefs of equal status with no other political figure possessing greater prestige. Alternatively, kin-group chiefs of equal status sometimes elected one of their number as the tribelet chief (Bean and Theodoratus 1978). Kin group chiefs were generally men. A village composed of a single kin group was organized under the leadership of a hereditary kin-group chief. In villages that contained several kin groups, each kin group was led by a hereditary captain who formed a governing body together with the captains of other kin groups. Among the Central Pomo one of these captains was elected by the kin group captains to serve as the head chief of the tribelet, while the office was hereditary among the Northern Pomo (Kroeber 1976). The head chief functioned as an advisor, met with and welcomed visitors, made peace after conflicts, arranged and presided over ceremonies, and counseled with the other captains regarding matters of group concern (Barrett 1908a). Kroeber (1976) followed Barrett's analysis of Pomo political organization, but noted that the head chief was the leader "not only of his own town but the group of little settlements that constituted a political unit [that is, head chiefs led both single- and multi-village tribelets]." Most tribelets had a ceremonial chief, who was master of all or particular ceremonies (Barrett 1908a; Loeb 1926).

The Pomo subsistence strategy was based on gathering and hunting various resources. Acorns were generally a staple, and other important foods included buckeye, berries, seeds, roots, bulbs, seaweed, and kelp. Pomo generally used stone mortars and pestles for vegetable processing, and also employed a basket hopper in conjunction with the mortar and pestle (Bean and Theodoratus 1978).

Hunting was the province of Pomo men and was conducted both individually and communally. Group hunting of deer involved either a single hunter with a deer-head mask assisted by several packers and drivers, or building a brush fence and conducting a regular surround and drive. Pomo exploited deer, elk, antelope, rabbits, squirrels, birds, bears, seals, sea lions, and marine and available lake and stream fish. Grasshoppers, caterpillars, and larvae were also eaten. Pomo fashioned knives from obsidian and chert, and used these materials to construct axes as well. Bone tools were not especially common, but bone was used for awls and fishhooks. Pomo hunted with bow and arrow,

1 heavy spears, clubs, bolas, fences, nets, and basketry traps, depending on the resources
2 exploited (Bean and Theodoratus 1978).

3 Pomo groups built three basic types of structures: dwelling houses, temporary shelters,
4 and semi-subterranean structures. The dwelling houses of the Central and Northern
5 Pomo living on the coast and in the adjacent redwood belt were primarily single-family
6 conical houses built from redwood bark slabs. The semi-subterranean structure served
7 three purposes. First, every village possessed at least one small circular semi-
8 subterranean structure, 15 to 20 feet in diameter, which served as a house and daily
9 sweat bath for men (Loeb 1926). A similar but larger (70 feet in diameter) structure
10 functioned as an assembly house for ceremonies and dancing (Merriam 1966–1967). An
11 earth-covered lodge 40 to 60 feet in diameter housed the Ghost Dance religious
12 ceremony (Bean and Theodoratus 1978).

13 3.6.1.3 Pomo and European Contact

14 The Northern, Central, and Southern Pomo appear to have had their first contact with
15 Europeans indirectly in the 1700s, when European trade goods began circulating
16 throughout southern Pomo territory from the San Francisco mission-presidia. Other forms
17 of contact occurred when the Spanish made occasional forays into Pomo territory for
18 mission converts (Bean and Theodoratus 1978; McLendon and Lowy 1978). In the early
19 1800s, Russian cultural influences may have also indirectly affected the Pomo through
20 Russian and Kashaya Pomo marriages. Mexican land grants from 1822 to 1848 displaced
21 some Pomo groups from their traditional lands, mission convert raids intensified in 1823,
22 and the Pomo population was drastically reduced during the smallpox epidemic of 1838
23 to 1839 (Bean and Theodoratus 1978).

24 Euro-Americans most heavily disrupted the Northern Pomo near present-day Fort Bragg
25 beginning in the 1850s. Expansion of the timber industry prompted the U.S. government
26 to establish the Mendocino Indian Reservation at Fort Bragg in order to contain the Pomo
27 and open more land to nonnative use and settlement. The Mendocino Indian Reservation,
28 in operation from 1856 to 1866, was home for as many as 3,500 people at one time
29 (Theodoratus 1974). The reservation comprised 25,000 acres, a fort, and 15 other
30 buildings. Lieutenant H. G. Gibson of the U.S. Army was the head of the fort, which he
31 named after the famed Mexican War soldier Captain Braxton Bragg (Carpenter and
32 Millberry 1914). When the reservation was discontinued in 1867, the Pomo were left to
33 find their own living arrangements (Bean and Theodoratus 1978).

34 Many non-reservation Pomo adjusted to their new life by establishing rancherias on land
35 owned by Euro-Americans and working in orchards and grain fields for wages. The Pomo
36 worked the fields until fall, when they returned to their rancherias to participate in
37 traditional and semi-traditional subsistence and social activities.

3.6.1.4 Pomo near the Project Area

One of the first and most extensive ethnographic studies of the Pomo was conducted by Samuel Barrett and detailed in his 1908 *Ethno-Geography of the Pomo and Neighboring Indians* text (Barrett 1908a). According to Barrett's account, he visited more than 100 Pomo villages and campsites, obtaining information from at least two tribal consultants per village. As identified in Barrett's 1908 map and currently mapped by Newland and Much (2008), one village, *kasi'ltcimada*, is believed to be located on the north bank of Alder Creek, east of where SR 1 crosses the creek. This location puts the village just east of the Project area's central portion. Other nearby villages identified by Barrett include *ko'dalau* in the hills above and east of Manchester, approximately 1.5 miles east of SR 1, and *pda'hau*, along the north bank and mouth of the Garcia River in the Stornetta Ranch, with an inland location 1.5 miles east of the coastal location.

In 1909, some tribal lands were repatriated to the Manchester Band of Pomo Indians. Currently, the Manchester Band owns two parcels of land: one north of the Garcia River along Mountain View Road, and the other along Windy Hollow Road north of Point Arena. These lands were granted either in 1937 or 1942 shortly after the Pomo became federally recognized in 1936.

3.6.1.5 Tribal Coordination

Pursuant to Executive Order B-10-11 concerning coordination with Tribal governments in public decision making (see Appendix A), the CSLC adopted a Tribal Consultation Policy in August 2016 to provide guidance and consistency in its interactions with California Native American Tribes (CSLC 2016). The Tribal Consultation Policy, which was developed in collaboration with Tribes, other State agencies and departments, and the Governor's Tribal Advisor, recognizes that Tribes have a connection to areas that may be affected by CSLC actions and "that these Tribes and their members have unique and valuable knowledge and practices for conserving and using these resources sustainably" (CSLC 2016).

Prior to preparation of the MND, the CSLC did not receive any requests for consultation pursuant to AB 52 from Tribes in the Project area. Under AB 52, lead agencies must avoid damaging effects on Tribal cultural resources, when feasible, regardless of whether consultation occurred or is required. The CSLC proceeded with outreach to the Native American Heritage Commission (NAHC) is "charged with the duty of preserving and ensuring accessibility of sacred sites and burials, the disposition of Native American human remains and burial items, maintain an inventory of Native American sacred sites located on public lands, and review current administrative and statutory protections related to these sacred sites" (NAHC 2018). The NAHC maintains two databases to assist specialists in identifying cultural resources of concern to California Native Americans (Sacred Lands File and Native American Contacts). On May 10, 2018, a request was sent

1 to the NAHC for a sacred lands file search of the Project area and a list of Native American
2 representatives who may be able to provide information about resources of concern
3 located within or adjacent to the Project area.

4 On May 23, 2018, the NAHC responded to CSLC with a list of 12 Tribes (13 Tribal
5 contacts since there were two contacts from the Cahto Tribe) listed in alphabetical order
6 below:

- 7 • Sonny Elliot, EPA Director, Cahto Tribe
- 8 • Aimie R. Lucas, Chairperson, Cahto Tribe
- 9 • Michael Hunter, Chairperson, Coyote Valley Band of Pomo Indians
- 10 • Merlene Sanchez, Chairperson, Guidiville Rancheria of California
- 11 • Iyesha Miller, Chairperson, Hopland Band of Pomo Indians
- 12 • Dino Franklin Jr., Chairperson, Kashia Band of Pomo Indians of the Stewarts Point
13 Ranch
- 14 • Jaime Cobarrubia, Chairperson, Manchester Band of Pomo Indians
- 15 • Noyo River Indian Community
- 16 • Leona Willams, Chairperson, Pinoleville Pomo Nation
- 17 • Salvador Rosales, Chairperson, Potter Valley Tribe
- 18 • Debra Ramirez, Chairperson, Redwood Valley or Little River Band of Pomo
- 19 • James Russ, President, Round Valley Indian Tribes of the Round Valley
20 Reservation
- 21 • Michael Knight, Chairperson, Sherwood Valley Band of Pomo Indians

22 The NAHC's reply from May 23, 2018, also stated that Native American cultural sites were
23 present within the area of the Project and recommended the CSLC contact the
24 Manchester Band of Pomo Indians as well as all other Tribes on the list provided by the
25 NAHC.

26 On September 5, 2018, CSLC staff provided a notice of the Project to all Tribes on the
27 list provided by the NAHC. In response to the NAHC Sacred Lands File search
28 recommendation, CSLC reached out to the Chair of the Manchester Band of Pomo
29 Indians via a formal outreach letter as well as their cultural resources department via a
30 telephone call followed by email containing additional Project details and maps. CSLC
31 staff has not received any additional information subsequent to its initial letter and emails
32 containing Project information.

33 CSLC staff did not receive any responses from the Tribal representatives identified in the
34 NAHC's May 23, 2018, letter. At the time of publication of the MND, CSLC staff had not
35 received any comments from the Tribes or was informed of any sensitive Tribal cultural
36 resources within or adjacent to the Project area.

3.6.2 Regulatory Setting

State laws and regulations pertaining to Tribal cultural resources and relevant to the Project are identified in Appendix A. Assembly Bill (AB) 52 made changes to CEQA regarding tribal cultural resources and consultation with California Native American Tribes who have previously requested to be notified of projects in the geographic area traditionally and culturally affiliated with that tribe. Tribal cultural resources include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a Tribe that is eligible under the California Register of Historic Resources or local register of historical resources. A tribal cultural resource can also be a resource that a lead agency determines, in its discretion and considering the significance of the resource to a Tribe, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1. Under AB 52, lead agencies must avoid damaging effects to tribal cultural resources, when feasible, regardless of whether consultation occurred or is required.

At the local government level, there are no goals, policies, or regulations applicable to this issue area for the Project, because of its location and the nature of the activity.

3.6.3 Impact Analysis

Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

(i) Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (k), or

(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant with Mitigation. The results from a records search of the NAHC's Sacred Lands Files stated that Native American cultural sites were present within the area of the Project. As provided above, CSLC staff conducted outreach efforts to the 12 Tribes listed by the NAHC to provide any further information about known Tribal cultural resource sites or any other Tribal cultural resources in or near the Project area. Although CSLC did not receive any input from the Tribes with the outreach efforts, Tribal cultural resources could be encountered during Project activities. To avoid potential impacts on Tribal cultural resources or mitigate them to a less than significant level, the following mitigation measures would be implemented.

MM TCR-1: Discovery of Previously Unknown Tribal Cultural Resources. Prior to

Project related ground-disturbing activities, the Applicant shall prepare a Tribal Cultural Resources Monitoring Plan subject to CSLC approval. The Plan shall be prepared in coordination with CSLC and a California Native American Tribe that is culturally affiliated with the Project site. The Plan shall include, but not be limited to, the following measures:

- The Applicant shall retain a monitor from a California Native American Tribe that is culturally affiliated with the Project site during all ground-disturbing activities
- The Applicant shall provide a minimum 5-day notice to the tribal monitor prior to all scheduled ground-disturbing activities
- The Applicant shall provide the tribal monitor safe and reasonable access to the Project site
- Procedures for tribal monitoring including availability of resources and information to monitor excavation activities
- Guidance on identification of potential tribal resources that may be encountered
- The tribal monitor will orient construction personnel on the requirements of the Plan, including the probability of exposing tribal resources, guidance on recognizing such resources, and direction on procedures if a find is encountered
- Preparation of a Treatment Plan (see **MM TCR-2** below) if tribal resources are discovered during excavation activities

MM TCR-2: Tribal Cultural Resources Treatment Plan. Should intact Tribal cultural

deposits be uncovered during Project implementation, CSLC staff and the tribal monitor shall be contacted immediately within 24 hours. The Applicant shall develop a Treatment Plan developed in consultation with the tribal monitor and shall submit the plan to CSLC staff for review and approval. CSLC staff, in consultation with the tribal monitor, shall have the authority to temporarily halt all work within 100 feet of the find. The location of any such finds must be kept confidential, and measures shall be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Additional measures to meet these requirements include assessment of the nature and extent of the deposit, and subsequent recordation and notification of relevant parties based on the results of the assessment. Impacts on previously unknown significant Tribal cultural resources shall be avoided through preservation in place, if feasible, or through a mitigation and data recovery plan established between the CSLC, designated Tribes, and qualified archaeologists to offset the effects of the impact.

1 **3.6.4 Mitigation Summary**

2 Implementation of the following mitigation measures would reduce the potential for
3 Project-related impacts on Tribal cultural resources to a less than significant level:

- 4 • MM TCR-1: Discovery of Previously Unknown Tribal Cultural Resources
5 • MM TCR-2: Tribal Cultural Resources Treatment Plan

1 3.7 ENERGY

| ENERGY - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.7.1 Environmental Setting

3 Most energy users in Mendocino County rely on Pacific Gas and Electric Company
 4 (PG&E) to provide imported electricity and natural gas to meet their demand (Mendocino
 5 County 2009). PG&E maintains transmission and distribution lines throughout Mendocino
 6 County. The company operates the Potter Valley Hydroelectric Facilities on the Eel River.
 7 In September 2018, PG&E started soliciting offers to buy the facility (PG&E 2018). Some
 8 homes are powered by solar or other systems and might feed electricity into the grid
 9 (Mendocino County 2009). Untapped alternative energy sources in Mendocino County
 10 consist of solar, wind, wood and agricultural wastes, and ocean waves (Mendocino
 11 County 2009).

12 3.7.2 Regulatory Setting

13 Federal and state laws and regulations pertaining to utilities and service systems that are
 14 relevant to the Project are identified in Appendix A. At the local level, the following policies
 15 regarding utilities and service systems are applicable to the Project.

- 16 • **Policy RM-69:** The County supports maintaining the Outer Continental Shelf as a
 17 petroleum reserve for use only in time of national emergency.
- 18 • **Policy DE-68:** Require that new applications for discretionary projects state their
 19 energy, water, and waste stream requirements at the time of application. As part
 20 of the review of the development application, distribute this information to the
 21 service providers and compare the capacity of existing and planned systems with
 22 the demand created by the proposed project.
- 23 • **Policy DE-206:** The County will encourage appropriate utility infrastructure
 24 necessary to support social and economic needs including wired, wireless and
 25 satellite communications.
- 26 • **Policy DE-207:** The County will facilitate investment in telecommunications
 27 infrastructure by providing clear guidelines for utility systems.

1 **3.7.3 Impact Analysis**

2 ***a) Result in potentially significant environmental impact due to wasteful, inefficient,***
3 ***or unnecessary consumption of energy resources, during project construction or***
4 ***operation?***

5 **Less than Significant Impact.** During construction, the Project would use a variety of
6 terrestrial equipment and marine vessels, including heavy equipment, trucks, cars, and
7 cable-laying and support ships. The Project encompasses four phases. Most of the
8 energy would be consumed during the first phase from installing the marine steel bore
9 and underground conduit system onshore. Installation of all the bore pipes and the entire
10 underground conduit system together in Phase 1 is an efficient way to do construction
11 because there is no need to remobilize all the construction equipment associated with the
12 bore pipes and installing the underground conduit system. In Phases 2 through 4, most
13 of the energy would be expended laying cable across the seafloor and with pulling cable
14 on shore.

15 During operations, the Project is assumed to use 292 megawatt-hours of electricity each
16 year, sufficient to power approximately 29 homes for a year, to power the cables. Most
17 users in Mendocino County obtain their power from PG&E through the grid, which is
18 sufficiently robust to accommodate the Project's power demand (as noted, the equivalent
19 of 29 additional homes). In 2025, California is expected to generate between
20 approximately 71,000 and 76,700 MW, while demand is expected to range from nearly
21 61,000 to 68,000 MW (CEC 2019).

22 The Project's use of energy during construction and operations is necessary to provide
23 for improved telecommunications services and is not wasteful or inefficient.

24 ***b) Conflict with or obstruct a state or local plan for renewable energy or energy***
25 ***efficiency?***

26 **No Impact.** The Project does not obstruct state or local plans for renewable energy or
27 energy efficiency.

28 **3.7.4 Mitigation Summary**

29 The Project would not result in significant impacts on energy; therefore, no mitigation is
30 required.

1 3.8 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

| GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Directly or indirectly cause 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. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2 3.8.1 Environmental Setting

3 3.8.1.1 Regional Setting

4 The Project area is in the Coast Ranges geomorphic province, which is characterized by
 5 northwest-trending mountain ranges formed by active uplift related to complex tectonics
 6 of the San Andreas fault/plate boundary system. These mountain ranges are made up of
 7 thick Mesozoic and Cenozoic sedimentary strata, and the northern ranges are dominated
 8 by the irregular landslide topography of the Franciscan Complex (CGS 2002).

1 This region is one of the most seismically active in California. This activity is caused by
2 the interaction of the Gorda, North America, and Pacific plates, which converge off the
3 coast of northern California (just west of Ferndale) to form the Mendocino Triple Junction.
4 At this triple junction, the Gorda plate is subducting under the North America plate and
5 converging obliquely along the Pacific plate. The San Andreas fault marks the boundary
6 of the Pacific and North America plates and terminates at the Triple Junction. The
7 complex interaction of these plates has generated major earthquakes and also generates
8 numerous low intensity earthquakes each year (Oppenheimer 2018). Manchester and the
9 Project vicinity are located in the San Andreas fault zone (Figure 3.8-1).

10 3.8.1.2 Site-Specific Setting

11 **Topography**

12 The Project area is located between SR 1 and the coastline, with elevations ranging from
13 sea level to approximately 190 feet above mean sea level. The topography is mainly
14 rolling hills. Along the coastline, the rolling hills end abruptly in actively eroding coastal
15 bluffs, which are more than 100 feet high at the north end of the Project area. The private
16 beach extends from the base of the bluffs some 200 to 450 feet to the coastline.

17 **Geology**

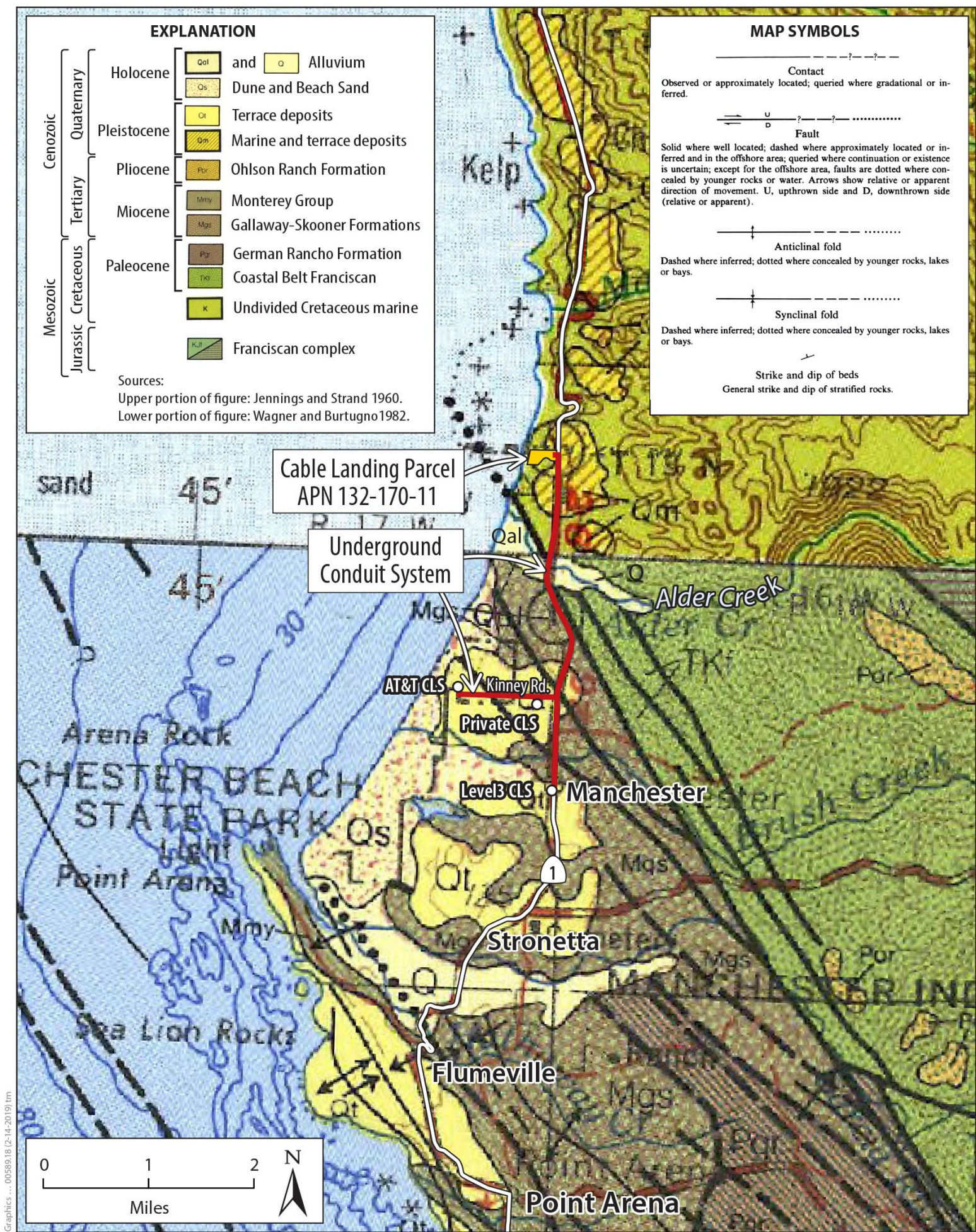
18 In the Project area, surficial geologic units (Figure 3.8-1) include the Jurassic Franciscan
19 Formation Complex, the Cretaceous Coastal Belt Franciscan, the Miocene Gallaway-
20 Skooner Gulch Formations, and Pleistocene and Holocene terrace and alluvial deposits
21 (Wagner and Bortugno 1982; Jennings and Strand 1960).

22 **Seismicity**

23 Surface Fault Rupture and Strong Ground Shaking

24 The Project area is in a highly tectonically active region of California, and both surface
25 fault rupture and strong ground shaking pose a hazard. Strands of the San Andreas fault
26 occur in the Project area (CGS 2010) (Figure 3.8-1), which could cause surface fault
27 rupture and the potential for some of the highest intensity ground shaking in California
28 (Branum et al. 2008). As a result, the California Geological Survey has delineated two
29 zones of required investigation, as defined by the Alquist-Priolo Earthquake Fault Zoning
30 Act and the Seismic Hazards Mapping Act, in the Project area (Division of Mines and
31 Geology 1974a, 1974b).

Figure 3.8-1. Geologic Map



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1 Liquefaction and Lateral Spread

2 *Liquefaction* is the process by which soils and sediments lose shear strength and fail
3 during seismic ground shaking. The vibration caused by an earthquake can increase pore
4 pressure in saturated materials. If the pore pressure is raised to be equivalent to the load
5 pressure, this causes a temporary loss of shear strength, allowing the material to flow as
6 a fluid. This temporary condition can result in severe settlement of foundations and slope
7 failure. The susceptibility of an area to liquefaction is determined largely by the depth to
8 groundwater and the properties (e.g., texture and density) of the soil and sediment within
9 and above the groundwater. The sediments most susceptible to liquefaction are
10 saturated, unconsolidated sand and silt soils with low plasticity within 50 feet of the ground
11 surface (CGS 2008).

12 The unconsolidated sand and silt soils that make up the Holocene terrace and alluvial
13 deposits in the Project area are likely liquefiable sediments. Because of the presence of
14 liquefiable sediments and the potential for strong ground shaking, liquefaction is a hazard
15 in the Project area (County of Mendocino 2008).

16 *Lateral spreading* is a failure of soil and sediment within a nearly horizontal zone that
17 causes the soil to move toward a free face (such as a streambank or canal) or down a
18 gentle slope. Lateral spreading can occur on slopes as gentle as 0.5 percent. Even a
19 relatively thin seam of liquefiable sediment can create planes of weakness that could
20 result in continuous lateral spreading over large areas (CGS 2008).

21 Landslides

22 The Project area is in a region prone to landslides, and landslides are designated in the
23 County's General Plan as one of the main hazards in the coastal zone (Mendocino County
24 1991a). In response to the region's landslide hazards, California Geological Survey
25 (formerly the Division of Mines and Geology) has mapped landslides in the region as part
26 of its California Landslide Inventory Program. No landslides have been delineated in the
27 terrestrial portion of the Project area (Davenport 1984), but the landslide potential along
28 the coast is high (Mendocino County 1991a). Landslides are also documented in the
29 steeper slopes of the Franciscan Formation and units underlain by the Franciscan
30 Formation (Liao et al. 2015).

31 **Soils**

32 Potential soil concerns in the Project area include expansive soils and soil erosion as
33 discussed below.

1 Expansive, or plastic, soils expand and contract with changes in moisture content and
2 can damage buried features, as well as structures. Soil plasticity in the Project area
3 ranges widely, even in small areas, from low to high (NRCS 2018).

4 The susceptibility of soils to erode in the Project area is mainly related to slope. Overall,
5 the primary area of concern is the coastal bluffs, where slopes are steepest and subject
6 to wave action (NRCS 2018; Mendocino County 2009). The Applicant prepared a Draft
7 Geotechnical Engineering Report (Appendix E) for the manhole location which indicates
8 that materials range from sandy to fractured, unweathered greywacke rock to the boring
9 depth of approximately 225 feet.

10 **Paleontological Resources**

11 The primary source of information used to collect information on existing paleontological
12 resources in the Project area was the paleontological database at the University of
13 California, Berkeley. Effects on paleontological resources were analyzed qualitatively,
14 based on professional judgment and the Society of Vertebrate Paleontology's *Standard*
15 *Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological*
16 *Resources* (SVP 2010). These guidelines reflect the accepted standard of care for
17 paleontological resources and identify two key phases in the process for protecting
18 paleontological resources from project effects.

- 19 • Assess the likelihood that the area contains significant nonrenewable
20 paleontological resources that could be directly or indirectly affected, damaged, or
21 destroyed as a result of the project.
- 22 • Formulate and implement measures to mitigate potential adverse effects.

23 Paleontological sensitivity is an assessment based on the paleontological potential of the
24 stratigraphic units present, the local geology and geomorphology, and other factors
25 relevant to fossil preservation and potential yield. The Society's guidelines criteria for
26 determining sensitivity are (1) the potential for a geological unit to yield abundant or
27 significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate,
28 invertebrate, or paleobotanical remains; and (2) the importance of recovered evidence for
29 new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data
30 (Table 3.8-1).

Table 3.8-1. Paleontological Sensitivity Ratings

| Potential | Definition |
|--------------|---|
| High | Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources...Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. |
| Undetermined | Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. |
| Low | Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, will only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule. |
| No | Some rock units, such as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites), have no potential to contain significant paleontological resources. Rock units with no potential require neither protection nor impact mitigation measures relative to paleontological resources. |

Source: SVP 2010

In evaluating a proposed project's potential to disturb or damage significant paleontological resources, the following factors are considered: first, most vertebrate fossils are rare and are therefore considered important paleontological resources. Second, unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site (SVP 2010).

The paleontological sensitivity of the geologic units in the Project area is described in Table 3.8-2 and depicted in Figure 3.8-1. Of particular note is the Gallaway-Skooner Gulch Formation. Of the 91 records of vertebrate fossils recorded in Mendocino County, 88 are from this formation, including mammals and a wide variety of sharks and other cartilaginous fish. This number also is notable because the Gallaway-Skooner Gulch Formation outcrops in Mendocino County in only a limited area in the Point Arena vicinity.

Although the records of fossils in the Franciscan Formation are sparse, the unit is known for the discovery of an ichthyosaur and a plesiosaur fossil, though much farther south in San Joaquin and San Luis Obispo Counties (UCMP 2018a, 2018b).

Table 3.8-2. Paleontological Resources by Geologic Unit

| Geologic Unit | Age | Fossils in Unit | Sensitivity for Paleontological Resources |
|-----------------------------------|-------------|--|--|
| Dune and beach sand deposits | Holocene | None matching age and depositional environment | Low because likely too young to contain fossils |
| Terrace deposits (marine) | Pleistocene | None matching age and depositional environment in region | Undetermined |
| Galloway-Skooner Gulch Formations | Miocene | Numerous cartilaginous fish species, including several species of shark, and mammals such as extinct seal species and an extinct aquatic herbivore | High |
| Coastal Belt Franciscan | Cretaceous | Uncertain | Undetermined |
| Franciscan Formation Complex | Jurassic | Plesiosaur, ichthyosaur | High |

Sources: UCMP 2018a, 2018b, 2018c

3.8.2 Regulatory Setting

Federal and state laws and regulations pertaining to geology and soils and relevant to the Project are identified in Appendix A. At the local level, the County addresses the potential for ground-shaking, liquefaction, landslides, and erosion in the Coastal Element of its General Plan, including Section 3.4, Hazards Management and Appendix 3, Geotechnical Evaluation Requirements (Mendocino County 1991b). The following policies and programs are applicable to the Project.

3.8.2.1 Mendocino County General Plan

The Coastal Element of the Mendocino County General Plan contains the following policies related to geologic and seismic hazards.

Coastal Element Policies: Hazards

- 3.4-1:** The County shall review all applications for Coastal Development permits to determine threats from and impacts on geologic hazards arising from seismic events, tsunami runup, landslides, beach erosion, expansive soils and subsidence and shall require appropriate mitigation measures to minimize such threats. In areas of known or potential geologic hazards, such as shoreline and bluff top lots and areas delineated on the hazards maps the County shall require a geologic investigation and report, prior to development, to be prepared by a licensed engineering geologist or registered civil engineer with expertise in soils analysis to

determine if mitigation measures could stabilize the site. Where mitigation measures are determined to be necessary, by the geologist, or registered civil engineer the County shall require that the foundation construction and earthwork be supervised and certified by a licensed engineering geologist, or a registered civil engineer with soil analysis expertise to ensure that the mitigation measures are properly incorporated into the development.

- **3.4-2:** The County shall specify the content of the geologic site investigation report required above in Coastal Element Policy 3.4-1. The specific requirements will be based upon the land use and building type as well as by the type and intensity of potential hazards. These site investigation requirements are detailed in Appendix 3, Geotechnical Evaluation Requirements (Mendocino County 1991b).
- **3.4-3:** The County shall review development proposals for compliance with the Alquist-Priolo Special Studies Zone Act (as amended May 4, 1975).
- **3.4-4:** The County shall require that water, sewer, electrical, and other transmission and distribution lines which cross fault lines be subject to additional safety standards beyond those required for normal installations, including emergency shutoff where applicable.
- **3.4-5:** The County shall require that residential, commercial and industrial structures be sited a minimum of 50 feet from a potentially, currently, or historically active fault. Greater setbacks may be required if warranted by local geologic conditions.
- **3.4-6:** In tsunami-prone areas as illustrated on resource maps or land use maps the County shall permit only harbor development and related uses and these shall be allowed only if a tsunami warning plan has been developed. The County shall supply an early warning system.
- **3.4-7** The County shall require that new structures be set back a sufficient distance from the edges of bluffs to ensure their safety from bluff erosion and cliff retreat during their economic life spans (75 years). Setbacks shall be of sufficient distance to eliminate the need for shoreline protective works. Adequate setback distances will be determined from information derived from the required geologic investigation and from the following setback formula:

$$\text{Setback (meters)} = \text{Structure life (years)} \times \text{Retreat rate (meters/year)}$$

The retreat rate shall be determined from historical observation (e.g., aerial photographs) or from a complete geotechnical investigation.

All grading specifications and techniques will follow the recommendations cited in the International Building Code or the engineering geologists report.

- 1 • **3.4-8:** Property owners should maintain drought-tolerant vegetation within the
2 required blufftop setback. The County shall permit grading necessary to establish
3 proper drainage or to install landscaping and minor improvements in the blufftop
4 setback.
- 5 • **3.4-9:** Any development landward of the blufftop setback shall be constructed so
6 as to ensure that surface and subsurface drainage does not contribute to the
7 erosion of the bluff face or to the instability of the bluff itself.
- 8 • **3.4-10:** No development shall be permitted on the bluff face because of the fragility
9 of this environment and the potential for resultant increase in bluff and beach
10 erosion due to poorly-sited development. However, where they would substantially
11 further the public welfare, developments such as staircase accessways to beaches
12 or pipelines to serve coastal-dependent industry may be allowed as conditional
13 uses, following a full environmental, geologic and engineering review and upon the
14 determinations that no feasible less environmentally damaging alternative is
15 available and that feasible mitigation measures have been provided to minimize
16 all adverse environmental effects.
- 17 • **3.4-11:** No development, except flood control projects, to protect existing
18 structures, nonstructural agricultural uses, and seasonal uses shall be permitted
19 in the 100-year floodway unless mitigation measures in accordance with FEMA
20 regulations are provided.
- 21 • **3.4-12:** Seawalls, breakwaters, revetments, groins, harbor channels and other
22 structures altering natural shoreline processes or retaining walls shall not be
23 permitted unless judged necessary for the protection of existing development or
24 public beaches or coastal dependent uses. Allowed developments shall be
25 processed as conditional uses, following full environmental geologic and
26 engineering review. This review shall include site-specific information pertaining to
27 seasonal storms, tidal surges, tsunami runups, littoral drift, sand accretion and
28 beach and bluff face erosion. In each case, a determination shall be made that no
29 feasible less environmentally damaging alternative is available and that the
30 structure has been designed to eliminate or mitigate adverse impacts upon local
31 shoreline sand supply and to minimize other adverse environmental effects. The
32 design and construction of allowed protective structures shall respect natural
33 landforms, shall provide for lateral beach access, and shall minimize visual impacts
34 through all available means.

35 It is the policy of Mendocino County to provide for the discovery and protection of
36 paleontological resources as mandated by CEQA and applicable County ordinances. This
37 is mandated in the Mendocino County General Plan Coastal Element (1991a), part of the
38 LCP, and is largely based on the California Coastal Act. See Section 3.5.4 for additional
39 LCP policies (30244 and 3.5-10) pertaining to paleontological resources.

Policy DE-116: Paleontological resources studies shall be conducted at the County's discretion for all project applications. The studies should identify paleontological resources in a project area and provide mitigation measures for any resources in a project area that cannot be avoided.

- If, during the course of implementing County-approved projects any paleontological resources (fossils) are discovered, all work shall be halted immediately within 50 feet of the discovery, the County Planning and Building Services Department shall be immediately notified, and a qualified paleontologist shall be retained to determine the significance of the discovery.
- The County and project applicant shall consider the mitigation recommendations of the qualified paleontologist for any unanticipated discoveries. The County and project applicant shall consult and agree upon implementation of a measure or measures that they deem feasible and appropriate. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of paleontological resources.

3.8.3 Impact Analysis

Evaluation of the geology, seismicity, soils, and paleontological impacts in this section is based on information from published maps, reports, and other documents that describe the geologic, seismic, soil, and paleontological conditions of the Project area and vicinity, and on professional judgment. The analysis assumes that the Project would conform to the latest California Building Standards, the seismic safety standards of the County General Plan and Coastal Act, and National Pollutant Discharge Elimination System (NPDES) requirements.

Project components that could cause impacts related to geology, seismicity, soils, and paleontology are above ground and below ground terrestrial construction, such as grading for landing sites, trenching for cables, directional boring, and presence of Project features that could be damaged.

1 **a) Directly or indirectly cause potential substantial adverse effects, including the**
2 **risk of loss, injury, or death involving:**

3 **(i) Rupture of a known earthquake fault, as delineated on the most recent**
4 **Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for**
5 **the area or based on other substantial evidence of a known fault? Refer to**
6 **Division of Mines and Geology Special Publication 42.**

7 **(ii) Strong seismic ground shaking?**

8 **(iii) Seismic-related ground failure, including liquefaction?**

9 **(iv) Landslides?**

10 **Less than Significant Impact.** The Project area is in a designated Alquist-Priolo Fault
11 Zone because of the presence of the San Andreas fault, and surface fault rupture could
12 occur; however, the Project would not be under the purview of the Alquist-Priolo Act
13 because it does not involve habitable buildings; instead the project would be regulated by
14 the requirements of the Coastal Act.

15 A Coastal Development Permit would be necessary for Project approval. The
16 requirements of a Coastal Development Permit would comply with, and possibly add to,
17 the requirements of the California Building Standards Code (CBSC). Should a surface
18 fault rupture occur, damage to the cables and associated facilities would be temporary
19 and localized, and would not result secondarily in harm to humans. The Project would not
20 erect new structures but would install equipment in existing ones. It also would install
21 below-ground facilities, such as the underground conduit system. HDD activities are not
22 sufficiently strong to trigger earthquakes, liquefaction, or landslides. HDD would occur
23 under the ocean bed from the bluff where an LMH will be installed. Because HDD would
24 not affect the face of the steep coastal bluff, it would not trigger erosion or landslides.
25 Adherence to standard engineering practices and design criteria relative to seismic and
26 geologic hazards in accordance with the Coastal Development Permit and the CBSC
27 would reduce this impact to a level that is less than significant. No mitigation is required.

28 **b) Result in substantial soil erosion or the loss of topsoil?**

29 **Less than Significant with Mitigation.** Construction activities could cause substantial
30 soil erosion or loss of topsoil are grading for the CLP (e.g., excavation for bore entry and
31 exit pits, bore push pits and manholes), two staging areas within the CLP and another
32 somewhere in Manchester (not identified at this point), and underground conduit system
33 (Figure 2-3). Because the impacted areas would be relatively limited and temporary, they
34 would be restored to pre-Project or better conditions after construction (Section 2.3.4.8).
35 Trenches would be backfilled and compacted immediately after conduit installation, and
36 topsoil would be managed as described in Section 2.3.4.8. In addition, standard erosion
37 and sediment control measures and other housekeeping BMPs would be identified in the

SWPPP (see **MM HYDRO-1** in Section 3.11, *Hydrology and Water Quality*). Restoration would include grading to restore original contours; installing erosion-control devices at locations susceptible to erosion; and seeding, mulching, and fertilizing to return the site to pre-construction conditions. Preparation and implementation of an approved SWPPP and applicable BMPs and subsequent restoration as required in **MM HYDRO-1** would reduce impacts to less than significant.

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?

Less than Significant Impact. As described earlier in the other seismic hazards, land sliding, lateral spread, and liquefaction discussions, these are possible in the Project area. Because the scale and type of HDD for steel marine bores and trenchless boring that would be used for underground conduit system, the standard construction practice of backfilling and compacting open trenches immediately after conduit installation would lessen the potential risks associated with lateral spread and subsidence. Therefore, the impact is less than significant. No mitigation is required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. Expansive soils could be present in the Project area. If present, these soils could cause lateral movement or upheaval of the conduits and cables, which could damage or break them. However, the conduits used for the Project would be designed to withstand local soil conditions. In addition, the County reviews all applications for coastal development for issues related to expansive soils and requires appropriate treatment to minimize such issues. In addition, the CSLC's engineers review the Project design. Therefore, this impact would be less than significant. No mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project would not include the use of septic tanks or alternative wastewater disposal systems, such as leach fields. There would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. Excavation during Project construction could damage paleontological resources by physically disturbing or damaging (e.g., crushing) them or removing them from their stratigraphic context. The factors that determine the potential to damage paleontological resources are the paleontological sensitivity of the unit and the

depth and extent of excavation. The geologic units (Figure 3.8-1) in the Project area sensitive for paleontological resources include the following:

- Gallaway-Skooner Gulch Formation (high sensitivity)
- Franciscan Formation (high sensitivity)
- Coastal Belt Franciscan (undetermined sensitivity)
- Pleistocene terrace deposits (undetermined sensitivity)

In particular, a large number of fish fossils are known from the Gallaway-Skooner Gulch Formation in Mendocino County. The construction activities requiring moderate to deep excavation (i.e., excavation deeper than 3 feet are provided in Table 3.8-3. Depending on the location, these activities could damage paleontological resources. The Applicant would implement Mendocino County General Plan Policy DE-116 to avoid damage of paleontological resources. Implementing Policy DE-116 would reduce this impact by making construction personnel aware of the potential for paleontological resources to be present and requiring work to stop if unexpected paleontological resources are encountered. This impact would be less than significant, and no mitigation is required.

Table 3.8-3. Project Activities Requiring Moderate to Deep Excavation

| Activity | Excavation |
|---|--|
| Entry pits for directional bores | 4 feet deep by 10 feet wide by 12 feet long |
| Push pits for conventional bores | 6 feet wide by 25 feet long, excavated to bore depth |
| Entry and exit pits for trenchless construction | 4 feet wide by 8 feet long by 5 feet deep |
| Trenches | 12 to 18 inches wide and 36 to 48 inches deep |
| Manholes | 8 feet by 10 feet |
| Intermediate manholes | 4 feet square and 6 feet deep |
| Landing manhole | 8 feet wide by 12 feet long by 9 feet deep |

3.8.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts from potential erosion to less than significant:

- MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan

3.9 GREENHOUSE GAS EMISSIONS

| GREENHOUSE GAS EMISSIONS - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|-------------------------------------|--------------------------|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

3.9.1 Environmental Setting

A *greenhouse gas* is defined as any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). These GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the greenhouse effect. There is overwhelming scientific consensus that human-related emissions of GHGs above natural levels have contributed significantly to global climate change by increasing the concentrations of the gases responsible for the greenhouse effect, which causes atmospheric warming above natural conditions.

According to NOAA, the atmospheric concentration of CO₂ measured at Mauna Loa, Hawaii in May 2016 was 407.70 parts per million (ppm) (NOAA 2018) compared to the pre-industrial levels of 280 ppm +/- 20 ppm (IPCC 2007). NOAA's Mauna Loa data also show that the mean annual CO₂ concentration growth rate is accelerating. In the 1960s, it was about 0.9 ppm per year; in the first decade of the 2000s, it was almost 2 ppm per year; and from May 2015 to May 2016, it was nearly 4 ppm. Because GHG emissions are known to increase atmospheric concentrations of GHGs, and increased GHG concentrations in the atmosphere exacerbate global warming, a project that adds to the atmospheric load of GHGs adds to the problem. To avoid disruptive and potentially catastrophic climate change, annual GHG emissions must not only stabilize but also must be substantially reduced. The impact on climate change from the increase in ambient concentrations of GHGs differs from criteria pollutants (see Section 3.3, *Air Quality*), in that GHG emissions from a specific project do not cause direct, adverse localized human health effects. Rather, the direct environmental effect of GHG emissions is the cumulative effect of an overall increase in global temperatures, which in turn has numerous indirect effects on the environment and humans.

The Intergovernmental Panel on Climate Change completed a Fifth Assessment Report in 2014 which contains information on the state of scientific, technical, and socioeconomic knowledge about climate change. The Fifth Assessment Report includes working group

reports on basics of the science, potential impacts and vulnerability, and mitigation strategies.²¹ Global climate change has caused physical, social, and economic impacts in California (e.g., land surface and ocean warming; decreasing snow and ice; rising sea levels; increased frequency and intensity of droughts, storms, and floods; and increased rates of coastal erosion). In its Climate Change 2014 Synthesis Report (IPCC 2014), which is part of the Fifth Assessment Report, the Panel notes:

Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems...warming of the climate system is unequivocal, and, since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.

Although modeling indicates that climate change will occur globally and regionally, there remains uncertainty about characterizing the precise local climate characteristics and predicting precisely how various ecological and social systems will react to any changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that some degree of climate change is expected because of past and future GHG emissions.

The potential of a gas or aerosol to trap heat in the atmosphere is called global warming potential (GWP). The GWP of different GHGs varies because they absorb different amounts of heat. Carbon dioxide, the most ubiquitous GHG, is used to relate the amount of heat absorbed to the amount of the gas emissions; this is referred to as *CO₂ equivalent* (CO₂e). The CO₂e is the amount of GHG emitted multiplied by the GWP. The GWP of CO₂, as the reference GHG, is 1. Methane has a GWP of 25; therefore, 1 pound of methane equates to 25 pounds of CO₂e. Table 3.9-1 provides a range of gases with GWP over a 100-year timeframe and their estimated lifetime in the atmosphere.

Table 3.9-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

| Greenhouse Gas | 100-Year Global Warming Potential (Average) | Life in Atmosphere (Years) |
|-----------------------------------|---|----------------------------|
| Carbon dioxide (CO ₂) | 1 | 50–200 |
| Methane (CH ₄) | 25 | 12 |
| Nitrous oxide (N ₂ O) | 298 | 114 |
| HFCs | 124 to 14,800 | 1 to 270 |
| PFCs | 7,390 to 12,200 | 3,200 to 50,000 |
| Sulfur hexafluoride | 22,800 | 3,200 |

Source: CARB 2018b

²¹ For additional information on the Fifth Assessment Report, see <https://www.ipcc.ch/report/ar5/>.

3.9.1.1 Emission Inventories and Projections

A GHG inventory is a quantification of all GHG emissions and sinks²² within a selected physical or economic boundary. Table 3.9-2 outlines the most recent global, national, and statewide GHG inventories to help contextualize the magnitude of Project emissions.

Table 3.9-2. Global, National, and State Greenhouse Gas Emissions Inventories

| Emissions Inventory | CO ₂ e (metric tons) |
|---|---------------------------------|
| 2010 IPCC global GHG emissions inventory | 52,000,000,000 |
| 2016 EPA national GHG emissions inventory | 6,511,300,000 |
| 2016 CARB state GHG emissions inventory | 429,400,000 |

Terms:

CO₂e = carbon dioxide equivalent

GHG = greenhouse gas

Sources: IPCC 2014; EPA 2018b; CARB 2018b

3.9.1.2 National Inventory

The primary source of GHG in the United States is energy-use related activities, which include fuel combustion and energy production, transmission, storage, and distribution. The electricity and transportation sectors generated 56 percent of the total U.S. emissions in 2016 (each sector represented 28 percent of total emissions), with CO₂ being the primary GHG (81 percent of total emissions). The United States, which has about 4.3 percent of the global population, emits roughly 13 percent of all global GHG emissions (see Table 3.9-2).

3.9.1.3 State Inventory

California has approximately 0.53 percent of the global population and emits less than 0.85 percent of the total global GHG emissions, which is approximately 40 percent lower per capita than the overall U.S. average. Despite growing population and gross domestic product (GDP), gross GHG emissions continue to decrease, as do emissions per capita (per capita emissions have dropped from 13.5 metric tons in 2005 to 10.9 metric tons in 2016), exhibiting a major decline in the “carbon intensity” of California’s overall economy (CARB 2018b). The transportation sector remains responsible for the largest share of GHG emissions in the 2016 state inventory, accounting for approximately 36 percent of the total. While GHG emissions generated by most sectors have been flat or decreasing, emissions within the transportation sector have been increasing since 2013. However, since its peak in 2004, California, as a whole, has reduced its total annual emissions by 13 percent; transportation sector emissions are 10 percent lower (CARB 2018b).

²² A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

1 Even though California is aggressively moving to reduce its annual GHG emissions, it is
2 already experiencing the effects of GHG-related climate change, which is a relevant
3 aspect of the environmental setting. A 2018 report entitled *Indicators of Climate Change*
4 *in California* (OEHHA 2018) concludes that the changes occurring in California are largely
5 consistent with those observed globally. These climate change indicators show the
6 following.

- 7 • Annual average temperatures in California are on the rise, including increases in
8 daily minimum and maximum temperatures.
- 9 • Extreme events, including wildfire and heat waves, are more frequent.
- 10 • Spring runoff volumes are declining as a result of a diminished snowpack.
- 11 • The number of “winter chill hours” crucial for the production of high-value fruit and
12 nut crops, are declining.
- 13 • Species are on the move, showing up at different times and locations than
14 previously recorded, including both flora and fauna at higher elevations.

15 For the purposes of this assessment, the Project site is located within the jurisdiction of
16 the Mendocino County Air Quality Management District (District or MCAQMD). There are
17 no local GHG inventories for the District.

18 **3.9.2 Regulatory Setting**

19 There is currently no overarching federal law specifically related to climate change or the
20 reduction of GHG emissions. During the Obama administration, the EPA developed
21 regulations under the CAA and adopted the Clean Power Plan. However, on February 9,
22 2016, the Supreme Court issued a stay of prior regulations, pending litigation. In addition,
23 former EPA Administrator Scott Pruitt signed a measure to repeal the Clean Power Plan.
24 The fate of federal GHG regulations is uncertain, given the current federal administration
25 and the pending deliberations in federal courts.

26 California has adopted statewide legislation to address various aspects of climate change
27 and mitigation for GHG emissions. Much of this legislation establishes a broad framework
28 for the state’s long-term GHG emissions reduction and climate change adaptation
29 program. Of importance are AB 32 and SB 32, which outline the state’s GHG emissions
30 reduction goals (i.e., 1990 emissions levels by 2020 and 40 percent below 1990
31 emissions levels by 2030).

32 CARB adopted the initial AB 32 Scoping Plan describing its approach to meeting the
33 AB 32 goal in 2008. The First Update to the Climate Change Scoping Plan was approved
34 in 2014 and builds upon the initial Scoping Plan with new strategies and
35 recommendations (CARB 2014).

1 With enactment of SB 32, CARB prepared a 2017 Climate Change Scoping Plan Update
2 (CARB 2017). In addition to the Scoping Plan, CARB maintains an online inventory of
3 GHG emissions in California. The most recent inventory, released June 6, 2017, includes
4 emissions from 2000 to 2015. This inventory is an important companion to the Scoping
5 Plan because it documents the historical emission trends and progress toward meeting
6 the 2020 and 2030 targets, which are 431 MMTCO₂e and 260 MMTCO₂e, respectively.

7 To monitor progress in emissions reduction, the Scoping Plan includes a modeled
8 reference scenario, or “business as usual” (BAU) projection that estimates future
9 emissions based on current emissions; expected regulatory implementation; and other
10 technological, social, economic, and behavioral patterns. Prior BAU emissions estimates
11 assisted CARB in demonstrating progress toward meeting the 2020 goal of
12 431 MMTCO₂e. The 2030 BAU reference scenario was modeled for the 2017 Scoping
13 Plan Update, representing forecasted state GHG emissions with existing policies and
14 programs but without additional action beyond that to reduce GHGs. This modeling
15 provides that California is expected to achieve the 2020 target but that a significant
16 increase in the rate of GHG reductions is needed to meet the 2030 and 2050 targets
17 (CARB 2017).

18 At the regional and local level, the District has not adopted a formal GHG reduction plan
19 or strategy.

20 **3.9.3 Impact Analysis**

21 The impact analysis includes emissions generated by all terrestrial activity and marine
22 vessels operating within 24 nm offshore. While this distance goes beyond the area
23 typically analyzed in CEQA documents (3 nm as seen in Figure 1-1), CSLC staff has
24 conservatively elected to analyze emissions to 24 nm for consistency with the state’s
25 GHG inventory and reduction planning framework (CARB 2018b).

26 ***a) Generate greenhouse gas emissions, either directly or indirectly, that may have*** 27 ***a significant impact on the environment?***

28 **3.9.3.1 Construction**

29 **Less than Significant with Mitigation.** As discussed in Section 3.3, *Air Quality*,
30 construction of the proposed Project would require both terrestrial (e.g., conduit
31 installation) and marine activities. Off-road equipment, on-road vehicles, and marine

vessels would emit CO₂, CH₄, and N₂O. Emissions were estimated using the methods described in Appendix B and are summarized in Table 3.9-3.²³

Table 3.9-3. Estimated Construction Greenhouse Gas Emissions (metric tons)

| Phase | Carbon Dioxide (CO ₂) | Methane (CH ₄) | Nitrous Oxide (N ₂ O) | Carbon Dioxide Equivalent (CO ₂ e) |
|--------------|-----------------------------------|----------------------------|----------------------------------|---|
| Phase 1 | 961 | <1 | <1 | 981 |
| Phase 2 | 563 | <1 | <1 | 572 |
| Phase 3 | 561 | <1 | <1 | 570 |
| Phase 4 | 560 | <1 | <1 | 569 |
| Total | 2,645 | <1 | <1 | 2,691 |

The District (MCAQMD 2010, 2013) recommends project-level analyses following the GHG analysis guidance contained in the BAAQMD's air quality guidelines. BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, they recommend that emissions be quantified and disclosed (BAAQMD 2017). The District has not established a numeric construction threshold. The CSLC has conservatively determined that, for the purposes of this analysis, any substantial increase in construction-related GHG emissions above net zero would result in a significant impact.

Table 3.9-3 provides that construction of the Project would generate 2,691 metric tons of CO₂e. These emissions would only occur during the brief construction period. However, they would result in a net increase in GHG emissions. This is a potentially significant impact. The CSLC would require the Applicant to implement **MM GHG-1** to offset GHG emissions during construction to net zero (2,691 metric tons CO₂e). Because GHG emissions would be completely offset, the impact would be less than significant with implementation of **MM GHG-1**.

MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions. The Applicant shall purchase carbon offsets equivalent to the Project's projected GHG emissions (2,691 metric tons CO₂e) to achieve a net zero increase in GHG emissions during the construction phase for emissions within 24 nm of the California coast. A carbon offset is a credit derived from the reduction of GHG emissions through a separate reduction project, often in a different location from the emission source. To be acceptable for an emissions reduction credit, the carbon offset must be permanent, quantifiable, verifiable, and enforceable. Several existing voluntary offset exchanges have been validated by the CARB, including

²³ Construction is likely to begin in 2020, however the emissions analysis assumed a 2019 start date. Emission factors for offroad equipment and onroad vehicles decline over time due to implementation of increasingly stringent emissions standards and retirement of older, more emissions intensive engines. Accordingly, the emissions presented in Table 3.3-2, which assume a 2019 construction start are conservative for the proposed project.

the California Action Reserve Voluntary Offset Registry, American Carbon Registry, and Verified Carbon Standard. The Applicant shall purchase all offsets prior to ground breaking and provide copies of the offset retirement verification to the CSLC.

3.9.3.2 Operations

Less than Significant Impact. The Project's normal operation consists of monthly inspections, requiring a vehicle trip, and testing of two standby diesel-fueled emergency generators.²⁴ Electricity would also be consumed at one of three potential CLS facilities. Annual GHG emissions from these sources were quantified using the methods described in Appendix B. Consistent with District guidance (MCAQMD 2010), operational emissions generated by roundtrip vehicle trip and electricity consumption of more than 1,100 metric tons CO₂e per year would result in a significant impact. Emissions from the stationary generators of more than 10,000 metric tons of CO₂e per year would be significant.

Table 3.9-4 summarizes the results of the analysis and compares operational emissions to the District's operational thresholds.

**Table 3.9-4. Estimated Operational Greenhouse Gas Emissions
(metric tons per year)**

| Source ¹ | Carbon Dioxide (CO ₂) | Methane (CH ₄) | Nitrous Oxide (N ₂ O) | Carbon Dioxide Equivalent (CO ₂ e) |
|--|-----------------------------------|----------------------------|----------------------------------|---|
| Project vehicle round trip and electricity | 28 | <1 | <1 | 28 |
| <i>District threshold</i> | – | – | – | 1,100 |
| Project generator | 1 | <1 | <1 | 1 |
| <i>District threshold</i> | – | – | – | 10,000 |

Note:

¹ The Mendocino County Air Quality Management District (MCAQMD 2010) recommends different allowable emissions thresholds for non-stationary (e.g., mobile vehicle trips and electricity) and stationary (e.g., generators) sources. Therefore, emissions from the vehicle trip and electricity consumption are presented separately from emissions emitted by the generator for comparison to the applicable District thresholds.

As provided in Table 3.9-4, operational emissions would be well below District thresholds. This impact would be less than significant.

²⁴ If a marine cable requires repair, marine vessels may be used within State waters. Such an event is not expected and relates to an emergency condition. For this reason, it is not considered a part of normal operations and emissions were not compared to the District's thresholds.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. AB 32 and SB 32 are the State's plans for reducing GHG emissions. The Project's consistency with AB 32 and SB 32 was assessed to determine the significance of this impact.

AB 32 codifies the State's GHG emissions reduction targets for 2020. CARB adopted the 2008 Scoping Plan and 2014 first update as a framework for achieving AB 32. The 2008 scoping plan and 2014 first update outlined a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. CARB adopted the 2017 Climate Change Scoping Plan in November 2017 as a framework for achieving the 2030 GHG emissions reduction goal described in SB 32.

The 2008 and 2014 Scoping Plans indicate that some reductions would need to happen from the following sources of GHG emissions:

- Vehicle emissions
- Mileage standards
- Sources of electricity
- Increased energy efficiency at existing facilities
- State and local plans, policies, or regulations to lower carbon emissions, relative to BAU conditions

The 2017 Climate Change Scoping Plan carries forward GHG emissions reduction measures from the 2014 first update as well as new measures to help achieve the State's 2030 target across all sectors of the California economy.

Policies in the 2017 Climate Change Scoping Plan are State programs (e.g., SB 350) that require no action at the local or project level. The Project does not entail any features or elements that would obstruct implementation of these State programs. Moreover, as provided in Table 3.9-4, the Project's long-term operational emissions within the area of the California inventory would be minimal (29 metric tons CO₂e per year) and below the District's recommended thresholds of 1,100 metric tons CO₂e per year and 10,000 metric tons CO₂e per year, which are based on State reduction goals. The majority (27.5 metric tons) of these emissions are associated with electricity consumption and would be reduced to zero through the State's renewables portfolio standard, which requires 100 percent fossil-free electricity by 2045. Short-term construction emissions would also be offset to net zero through implementation of **MM GHG-1**. Therefore, the Project would not conflict with achieving State's adopted GHG reduction goals under AB 32 and SB 32, or

1 its long-term emissions reduction trajectory (as articulated under Executive Order
2 B-55-18²⁵). This impact would be less than significant.

3 **3.9.4 Mitigation Summary**

4 Implementation of the following mitigation measure would reduce the potential for Project-
5 related GHG impacts to less than significant by offsetting construction-generated GHG
6 emissions to net zero:

- 7
 - MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions

²⁵ Executive Order B-55-18 identifies a statewide reduction target of carbon neutrality by 2045.

3.10 HAZARDS AND HAZARDOUS MATERIALS

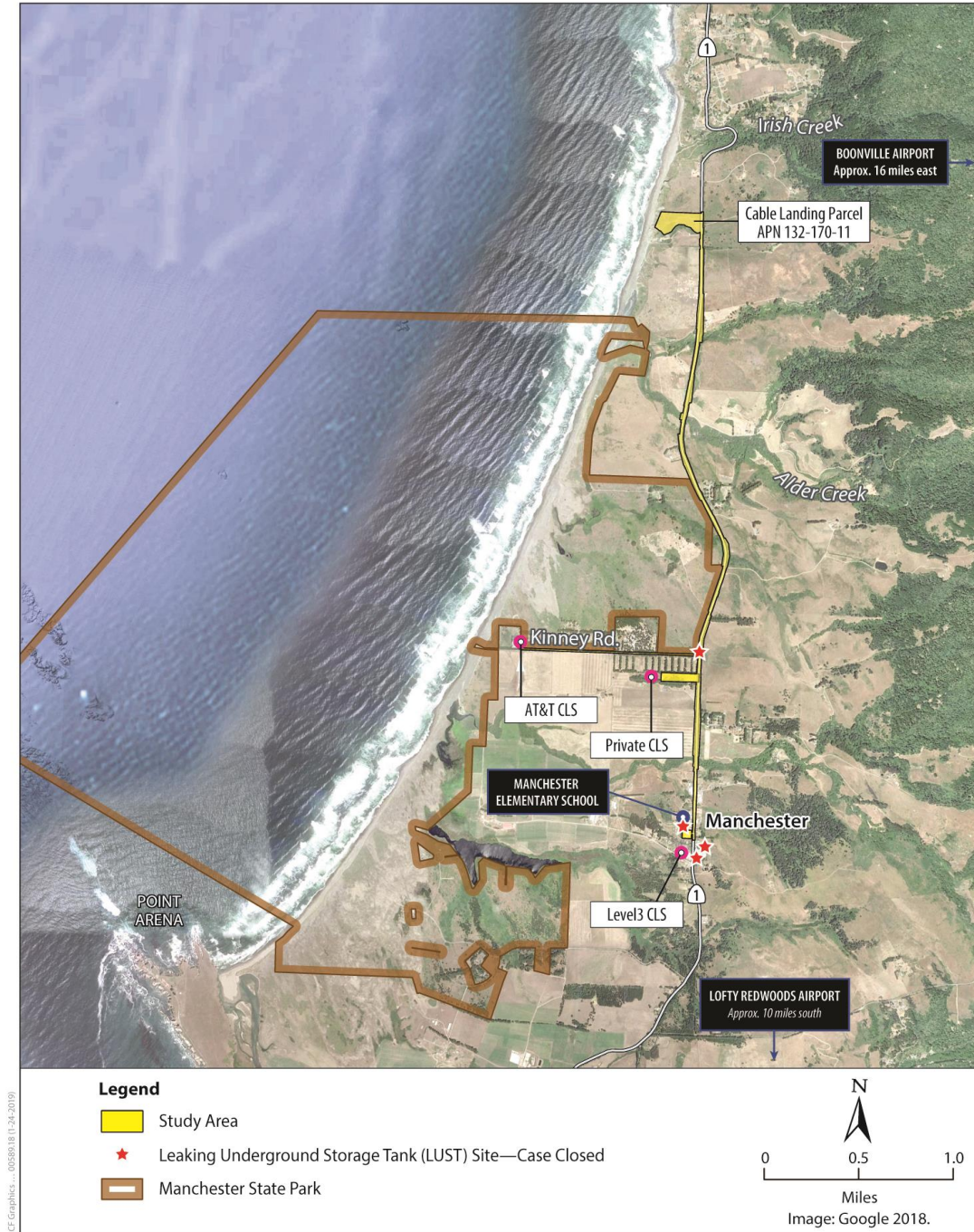
| HAZARDS AND HAZARDOUS MATERIALS - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within 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, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

3.10.1 Environmental Setting

3.10.1.1 Project Location and Surroundings

The Project area is on a coastal plain north of Point Arena, along California's northern coast. Manchester Elementary School is the nearest school, approximately 0.25 mile north of the intersection of Biaggi Road and SR 1. The closest airport is the private Lofty Redwoods Airport, approximately 10 miles south. The closest public airport is the Boonville Airport, approximately 16 miles east. The Project area is in the Redwood Coast Fire Department's service area. See Figure 3.10-1 for the Project's proximity to these locations.

Figure 3.10-1. Known Hazardous Sites



3.10.1.2 Online Review

The California Environmental Protection Agency's Cortese List Data Resources website was searched on September 25, 2018. No listings pertaining to the Project area were found during the online review of the California Department of Toxic Substances Control (DTSC) Envirostor database (DTSC 2018). The SWRCB Geotracker Site identified four leaking underground storage tank sites in the Project area along SR 1 that have a "Completed-Case Closed" status (SWRCB 2015). No sites in Mendocino County were identified on the SWRCB's *Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit* (SWRCB 2018a). One site in Manchester is on an SWRCB list with a Cleanup and Abatement Order for the effects of earthen materials that threaten to be discharged into tributaries of Alder Creek (SWRCB 2018b). Additionally, no sites in Mendocino County are on the California Environmental Protection Agency's list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC (SWRCB 2018b). See Figure 3.10-1 for locations of hazardous materials sites.

3.10.2 Regulatory Setting

Federal and state laws and regulations pertaining to hazards and hazardous materials and relevant to the Project are identified in Appendix A. At the local level, the following policy from the Development Element is most applicable to the Project (Mendocino County 2009).

- **Policy DE-203:** All development projects shall include plans and facilities to store and manage solid waste and hazardous materials and wastes in a safe and environmentally sound manner.

3.10.3 Impact Analysis

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?

Less than Significant with Mitigation. The Project is not expected to create a health hazard, as stated in a) and b) above. Safe handling of materials would be considered during all phases of the Project (terrestrial and marine) to protect the public, Project personnel, and the environment. At the end of the Project period, all disturbed areas would be returned to their natural state, leaving no potential health hazard.

The Project would involve the routine transport, storage, use, and disposal of small quantities of hazardous materials during construction such as gasoline, diesel, lubricants,

1 and solvents. The use, handling, transportation, storage, and disposal of these hazardous
2 materials (needed to do Project-related work) are regulated by laws and regulations. The
3 emergency generators and associated diesel tanks would be installed in accordance with
4 the CBSC. Significant impacts on the surrounding environment could occur if routine
5 operations or unanticipated accidents release hazardous materials into the environment.
6 Implementation of **MM HAZ-1** would avoid potential impacts associated with the
7 accidental release of hazardous substances or would reduce them to a less than
8 significant level.

9 Construction and decommissioning activities include the use of offshore vessels and
10 offshore and onshore equipment that may result in the accidental release of hazardous
11 materials, and subsequent environmental and human exposure, due to accidental spills
12 of petroleum (including diesel fuel) from Project vessels or equipment. Implementation of
13 **MM HAZ-1** would avoid potential impacts associated with the accidental release of
14 hazardous substances or would reduce them to a less than significant level.

15 In addition, the potential impacts stemming from an inadvertent return of drilling fluid
16 (consisting of bentonite and water) and associated mitigation measures are discussed in
17 Section 3.4, *Biological Resources* (**MM BIO-5** and **MM BIO-6**) and Section 3.11,
18 *Hydrology and Water Quality* (**MM HYDRO-1**).

19 **MM HAZ-1 Hazardous Materials Management and Contingency Plan.** The
20 Applicant shall develop and implement Hazardous Materials Management and
21 Contingency Plan (Plan) measures for onshore and offshore operations. Measures
22 shall include, but not be limited to, identification of appropriate fueling and
23 maintenance areas for equipment, daily equipment inspection schedule, a spill
24 response plan, spill response supplies to be maintained on-site and on marine
25 vessels, and a complete list of the agencies to be notified (with their telephone
26 number), including but not limited to California State Lands Commission's 24-hour
27 emergency notification number (562) 590-5201, California Governor's Office of
28 Emergency Services (Cal OES) contact number (800) 852-7550, etc. For any
29 offshore activities involving work vessels, the primary work vessel will be required
30 to carry on board a minimum 400 feet of sorbent boom, 5 bales of sorbent pads at
31 least 18-inch by 18-inch square and small powered boat for rapid deployment to
32 contain and clean up any small spill or sheen on the water surface. The Plan shall
33 provide for the immediate call out of additional spill containment and cleanup
34 resources in the event of an incident that exceeds the rapid clean up capability of
35 the on-site work force.

36 **c) Emit hazardous emissions or handle hazardous or acutely hazardous materials,**
37 **substances, or waste within 0.25 mile of an existing or proposed school?**

38 **Less than Significant with Mitigation.** Manchester Elementary School is on the west
39 side of SR 1 north of Biaggi Road in Manchester (Figure 3.10-1). If the southernmost CLS

1 site (Level3 CLS seen in Figure 3.10-1) is chosen, then the underground conduit system
2 would be installed along the west side of SR 1 within the public road ROW along the
3 school's frontage. Even though it is anticipated that it would take 12 weeks to complete
4 Project-related work for the underground conduit system, the school's frontage would be
5 affected for only up to 1 week as construction progresses along SR 1. The Project is not
6 anticipated to emit any hazardous emissions or handle hazardous or acutely hazardous
7 materials, substances, or waste. As discussed under a) and b) above, **MM HAZ-1** would
8 be implemented to minimize the potential for improper handling or accidental releases of
9 hazardous materials. Therefore, the impact would be less than significant with mitigation.

10 ***d) Be located on a site which is included on a list of hazardous materials sites***
11 ***compiled pursuant to Government Code section 65962.5 and, as a result, would it***
12 ***create a significant hazard to the public or the environment?***

13 **Less than Significant with Mitigation.** As noted in Section 3.10.1, *Environmental*
14 *Setting*, the California Environmental Protection Agency's Cortese List Data Resources
15 website was searched on September 25, 2018, for potential hazardous materials and
16 leaking underground storage tank sites in the Project area. No active hazardous materials
17 sites were identified within the Project area during the online review for each of the
18 databases.

19 In case potentially hazardous materials are encountered, the Applicant will prepare and
20 implement **MM HAZ-2**. Implementation of **MM HAZ-2** would reduce the potential impact
21 to a less than significant level.

22 **MM HAZ-2: Contaminated Materials Management Plan.** Prior to Project
23 construction, a plan shall be prepared that identifies the actions and notifications
24 to occur if evidence of soil contamination is encountered during onshore
25 excavation. The Applicant shall notify the County of Mendocino Health and Human
26 Services Agency Environmental Health Department within 24 hours of discovery
27 of contaminated materials encountered during the course of Project construction
28 or decommissioning activities. Work in the area suspected of contamination shall
29 stop until the notified agencies, together with the Applicant, have determined next
30 steps.

31 ***e) For a project located within an airport land use plan or, where such a plan has***
32 ***not been adopted, within 2 miles of a public airport or public use airport, would the***
33 ***project result in a safety hazard or excessive noise for people residing or working***
34 ***in the project area?***

35 **No Impact.** There would be no impact because the closest airport is the private Lofty
36 Redwoods Airport (approximately 10 miles to the south), and the closest public airport is
37 the Boonville Airport (approximately 16 miles to the east) of the proposed Project site.

This question does not apply to the offshore Project components. Lastly, the Project is not located within an airport land use plan or within 2 miles of a public or private airstrip.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Project would occur within the public road ROW along SR 1 and other local roads and on private lands. The proposed construction activities would not impair implementation of or physically interfere with the Mendocino County Operational Area Emergency Operations Plan (2016) in the Project area because the built Project would not alter existing conditions for emergency response. Therefore, no impact would result.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Less than Significant Impact. Public Resources Code 4201–4204 directs California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard within State Responsibility Areas (SRAs), based on relevant factors such as fuels, terrain, and weather. The Project area is in a moderate fire hazard severity zone (CAL FIRE 2007) (Fire Hazards Severity Zone Map, Appendix F). Much of the terrestrial Project activity would take place within the SR 1 road ROW and on private land for the CLS. These areas have a moderate fire hazard severity rating; experience regular traffic by the public; and are near emergency response services, such as fire protection. The Project would not require construction crews to traverse wildlands. Because the Project would not require the use of ignition sources, except for operation of the construction vehicles, and because it is located in a moderate fire hazard severity zone, the impact would be less than significant.

3.10.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts from potential hazardous materials to less than significant:

- MM HAZ-1: Hazardous Materials Management and Contingency Plan
- MM HAZ-2: Contaminated Materials Management Plan
- MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
- MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan

1 **3.11 HYDROLOGY AND WATER QUALITY**

| HYDROLOGY AND WATER QUALITY - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would: | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) Result in substantial erosion or siltation on or off site; | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site; | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| iii) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 **3.11.1 Environmental Setting**

3 3.11.1.1 Surface Waters

4 Surface waters encompass oceans, lakes, rivers, and wetland areas. The proposed
5 Project is located in both terrestrial and marine areas. The terrestrial Project components
6 would be the CLP, underground conduit system, and one of three potential CLS sites
7 (Figure 2-1). The marine Project components would be offshore in an open-water area
8 along the Pacific coast (Figure 3.4-2). The surface water resources near the terrestrial
9 Project components include coastal marshes (CLP) and Alder Creek and Brush Creek
10 (underground conduit system) (Figures 3.10-1 and 2-1). The northern Project boundary
11 is less than 0.5 mile south of Irish Creek (measured from the northernmost point of the
12 underground conduit system); the southern boundary is less than 0.5 mile north of Lagoon

1 Creek (measured from the Level3 CLS). Surface drainage is conveyed by ditches and
2 culverts. The entire Project area is within the Alder Creek–Frontal Pacific Ocean
3 watershed.

4 The confluence of Alder Creek is with the Pacific Ocean and extends upstream 16.8 miles
5 (Figures 3.1-2 and 3.10-1). Elevations range from about 0 feet at the mouth of the Creek
6 to 2,598 feet in the headwater areas (CDFG 2003). The confluence of Brush Creek is
7 also with the Pacific Ocean and extends upstream 13.3 miles (Figures 3.1-2 and 3.10-1).
8 Elevations range from sea level at the mouth of the Creek to 2,290 feet in the headwater
9 areas (CDFG 2005). The Lake Davis Wetlands and Coastal Dunes Natural Preserve are
10 located immediately north of the AT&T CLS and Private CLS sites within Manchester
11 State Park (Figure 3.1-2). The Brush Creek Lagoon Lake Wetlands and Coastal Dunes
12 Natural Preserve are south of the Project area.

13 Offshore, water transport along the northern and central portions of the California coast
14 is primarily driven by the California Current. The California Current is generally
15 characterized as a broad, shallow, slow-moving southward current. During winter, the
16 California Current is occasionally displaced by the northward-moving Davidson Current.
17 The nearshore manifestations of the California Current can vary in both speed and
18 direction as winds, tides, and surf conditions can dramatically alter local conditions.

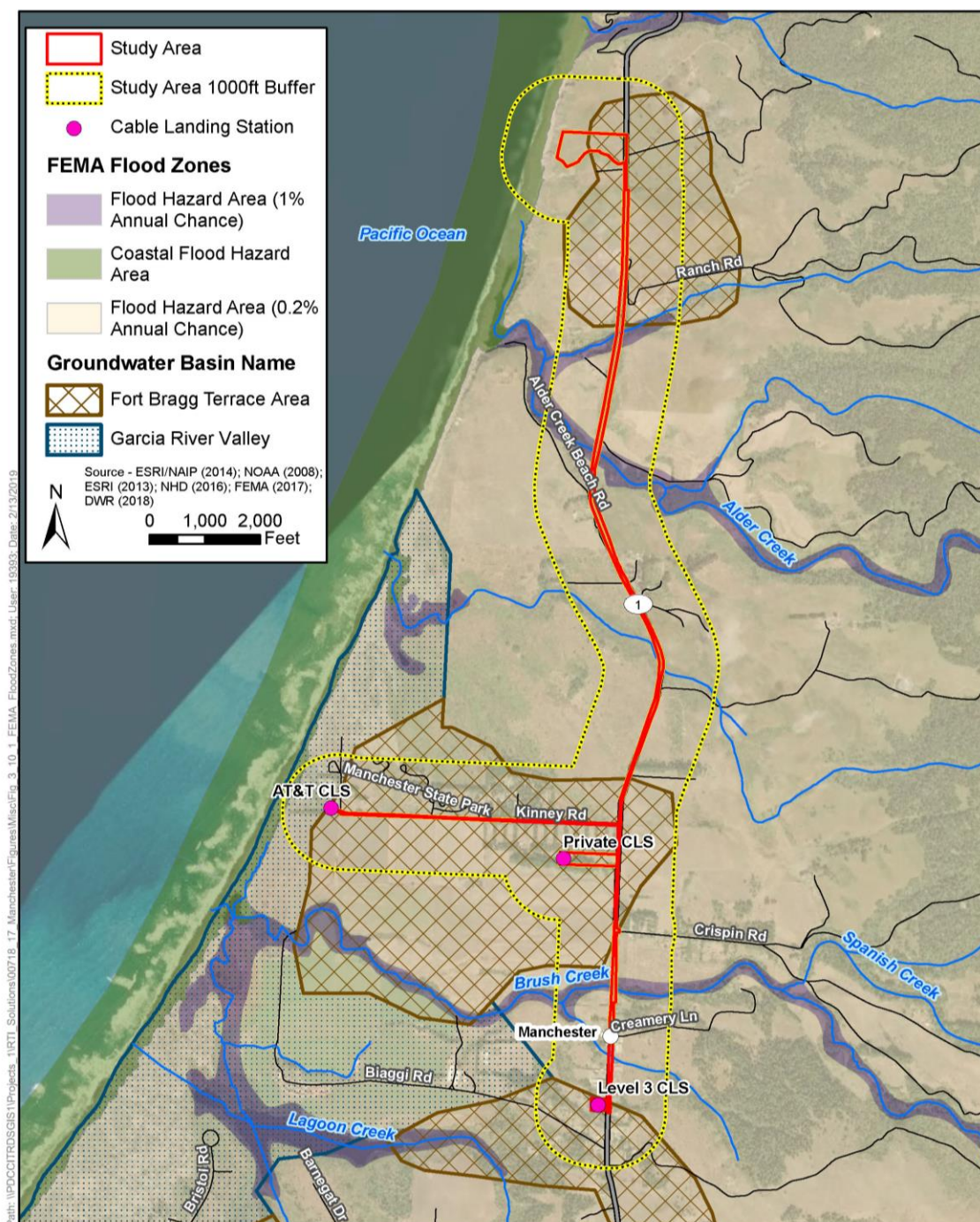
19 Along the central coast, northwest winds may blow briefly at any time of year. These
20 winds push the surface waters offshore, allowing cold, nutrient-rich water to rise up from
21 the depths, a process called *upwelling*. Upwelling is most intense near points of land that
22 jut out from the coast, such as Point Arena. The AT&T CLS connection site is
23 approximately 2 miles north of Point Arena; the Level3 CLS connection site is
24 approximately 2 miles northeast of Point Arena (Figure 2-1).

25 Currently, no waters in the Project area are listed as impaired on the Section 303(d) list.
26 However, the confluence of Alder Creek and the Pacific Ocean at Manchester State Park
27 is being considered for placement on the Section 303(d) list for fecal indicator bacteria
28 (which includes enterococcus, fecal coliform, and total coliform).

29 3.11.1.2 Groundwater

30 Groundwater is contained in aquifers below the ground surface. The CLP, all three CLSs,
31 and portions of the underground conduit system lie within the Fort Bragg Terrace Area
32 groundwater sub-basin (Figure 3.11-1). The Fort Bragg Terrace Area consists of a series
33 of discontinuous, uplifted marine terrace deposits that lie along the northern California
34 coastline within Mendocino County. The area of terrace deposits extends for
35 approximately 50 miles along the coast from about Rockport on the north end to Point
36 Arena on the south end. Because the terrace deposits cap the bedrock, the aquifer is
37 generally unconfined (DWR 2004).

Figure 3.11-1. FEMA Flood Zones and Groundwater Basins



Some portions of the underground conduit system are not within a recognized groundwater basin (DWR ND). In these areas, groundwater could occur in pockets.

3.11.1.3 Flooding

The majority of the Project area is within Federal Emergency Management Agency (FEMA) Zone X (unshaded), which is outside the 500-year floodplain and not within the FEMA special flood hazard area. These areas are of minimal flood hazard, outside the 0.2 percent annual chance floodplain. However, where the underground conduit system crosses Alder Creek and Brush Creek, areas are within FEMA Zone A (Figure 3.11-1). FEMA Zone A is within the 100-year floodplain zone and is a FEMA special flood hazard area. In addition, immediately adjacent to the coast is FEMA Zone VE, a 100-year floodplain zone that applies to coastal areas (FEMA 2017).

3.11.2 Regulatory Setting

Federal and state laws and regulations pertaining to hydrology and water quality and relevant to the Project are identified in Appendix A. At the local level, the County's General Plan—Hydrology and Water Quality and Geology, Soils, and Mineral Resources Elements—discusses the potential for concerns related to water quality, flooding, and erosion and includes policies to reduce impairments and safety issues.

3.11.2.1 Mendocino County Storm Water Management Program

The Mendocino County Storm Water Management Program develops, implements, and enforces a series of stormwater management practices, referred to as BMPs. These BMPs are designed to reduce the discharge of pollutants from urban runoff or municipal separate storm sewer systems to the "maximum extent practicable," to protect water quality, and to satisfy the appropriate water quality requirements of the CWA.

Mendocino County also requires construction BMPs to reduce water quality impacts. Mendocino County Ordinance No. 4313 Storm Water Runoff Pollution Prevention Procedure (Mendocino County Code Chapter 16.30 et seq.) requires implementation of appropriate BMPs to prevent the discharge of construction waste, debris, or contaminants from construction materials, tools, and equipment from entering the storm drainage system.

3.11.3 Impact Analysis

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than Significant with Mitigation. Construction activities associated with the proposed Project include ground-disturbing activities such as directional boring, trenching, backfilling, and grading. Ground-disturbing activities and runoff from work

1 areas could cause soil erosion and sedimentation, reducing water quality in Alder or
2 Brush Creeks (Figure 3.11-1). The potential impacts on water quality are related to
3 sediment and sediment-bound pollutants that may be mobilized into drainages structures
4 or other waterbodies. Additionally, hazardous materials (e.g., gasoline, oils, grease, and
5 lubricants) from construction equipment could be accidentally released during construction.
6 Accidental discharge of hazardous materials to surface waters during construction could
7 temporarily adversely affect water quality or result in a violation of water quality standards.
8 Contaminants from construction vehicles and equipment and sediment from soil erosion
9 could increase the pollutant load in runoff being transported to receiving waters.
10 Implementing mitigation measures **MM HYDRO-1**, **MM BIO-5**, and **MM BIO-6** would
11 reduce impacts to a less than significant level. **MM BIO-5** requires implementing BMPs
12 during directional boring activities to avoid impacts on water quality. Implementation of
13 **MM BIO-6** would minimize the potential of an inadvertent release of HDD fluid entering a
14 waterbody. As outlined in **MM HYDRO-1**, the Project would include preparation and
15 implementation of a SWPPP that would be consistent with the Statewide Construction
16 General Permit (Order No. 2012-0006-DWQ). The SWPPP would detail the construction-
17 phase erosion and sediment control BMPs and the housekeeping measures for control
18 of contaminants other than sediment. Erosion control BMPs would include source control
19 measures, such as wetting of dry and dusty surfaces to prevent fugitive dust emissions,
20 preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw mulch,
21 and hydroseeding), for inactive areas and finished slopes to prevent sediments from
22 being dislodged by wind, rain, or flowing water. Sediment control BMPs would include
23 measures such as installation of fiber rolls and sediment basins to capture and remove
24 particles that have already been dislodged.

25 The SWPPP would establish good housekeeping measures such as construction vehicle
26 storage and maintenance, handling procedures for hazardous materials, and waste
27 management BMPs, which would include procedural and structural measures to prevent
28 the release of wastes and materials used at the site. The SWPPP also would detail spill
29 prevention and control measures to identify the proper storage and handling techniques
30 of fuels and lubricants, and the procedures to follow in the event of a spill.

31 **MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan.**

32 A SWPPP consistent with the Statewide National Pollution Discharge Elimination
33 System Construction General Permit (Order No. 2012-0006-DWQ) shall be
34 developed and implemented. The SWPPP shall detail the construction-phase
35 erosion and sediment control BMPs and the housekeeping measures for control
36 of contaminants other than sediment. Erosion control BMPs shall include source
37 control measures, such as wetting of dry and dusty surfaces to prevent fugitive
38 dust emissions, preservation of existing vegetation, and effective soil cover (e.g.,
39 geotextiles, straw mulch, and hydroseeding), for inactive areas and finished slopes
40 to prevent sediments from being dislodged by wind, rain, or flowing water.
41 Sediment control BMPs shall include measures such as installation of fiber rolls

1 and sediment basins to capture and remove particles that have already been
2 dislodged. The SWPPP shall establish good housekeeping measures such as
3 construction vehicle storage and maintenance, handling procedures for hazardous
4 materials, and waste management BMPs, which shall include procedural and
5 structural measures to prevent the release of wastes and materials used at the
6 site. The SWPPP also shall detail spill prevention and control measures to identify
7 the proper storage and handling techniques of fuels and lubricants, and the
8 procedures to follow in the event of a spill.

9 As noted above, Mendocino County Ordinance No. 4313 Storm Water Runoff Pollution
10 Prevention Procedure requires implementation of appropriate BMPs to prevent the
11 discharge of construction waste or contaminants during construction and grading work
12 from entering the storm drainage system. The SWPPP would direct the construction
13 contractor to store all waste materials outside the riparian area and dispose of excess
14 drilling mud, cuttings, and other waste materials at an adequately sized disposal facility
15 located away from the water to prevent waste from entering the waterbody.

16 Measures for hazardous materials management, such as identification of appropriate
17 fueling and maintenance areas for equipment, are provided in the Hazardous Materials
18 Management and Contingency Plan (**MM HAZ-1**). If contaminated material is
19 encountered during the course of the Project, the Contaminated Materials Management
20 Plan (**MM HAZ-2**) would be implemented. The plan identifies the actions and notifications
21 to occur if evidence of soil contamination is encountered during onshore excavation.

22 Excavation for the steel bore pipes below the beach would be 35 feet (minimum). Shallow
23 groundwater is likely to occur in the subsurface of the underground conduit system where
24 trenching would be conducted. Construction dewatering in areas of shallow groundwater
25 may be required during excavation activities, which could result in the exposure of
26 pollutants from spills or other activities and may contaminate groundwater. For water to
27 be discharged to surface waters, the contractor would need to notify the North Coast
28 Regional Water Quality Board and comply with the Board's requirements related to the
29 quality of water and discharges. The Construction General Permit includes dewatering
30 activities as authorized non-stormwater discharges, provided that dischargers prove the
31 quality of water to be adequate and not likely to affect beneficial uses. The permit also
32 includes discharge sampling, monitoring, and reporting requirements. In addition to the
33 requirements outlined in the Construction General Permit, the Project would be in
34 compliance with the Waste Discharge Requirements for Low Threat Discharges to
35 Surface Waters in the North Coast Region (Order NO. R1-2015-0003, General NPDES
36 NO. CAG0024902). If it is found that the groundwater does not meet water quality
37 standards, it must (1) be treated as necessary prior to discharge so that all applicable
38 water quality objectives (as designated in the Water Quality Control Plan for the North
39 Coast Region [North Coast RWQCB 2018]) are met; or (2) hauled offsite for treatment

1 and disposal at an appropriate waste treatment facility that is permitted to receive such
2 water.

3 During drilling of the bore hole, a drilling fluid (a non-toxic, inert material, typically a
4 solution of bentonite clay and water) would be circulated. The drilling fluid minimizes fluid
5 losses to permeable rock and soil types. To minimize the potential for release of material
6 into the marine environment, the last section of the bore hole would be drilled using
7 potable water as a drilling fluid. Spent (used for drilling from under the CLP to offshore)
8 drilling fluids (except for those lost to the surrounding subsurface material) and cuttings
9 (natural material that is drilled through as the HDD moves forward) would be collected
10 and disposed of at a permitted landfill. The potential for significant releases of drilling
11 fluids into the terrestrial environment would be minimized through implementation of
12 **MM BIO-5** and **MM BIO-6**.

13 As discussed in Section 3.4, *Biological Resources*, some drilling fluids might inadvertently
14 be released into the sea water. Any drilling fluids released to the marine environment
15 through subsurface fractures would likely be dispersed rapidly by currents and wave-
16 induced turbulence. The potential for significant releases of drilling fluids into the marine
17 environment would be minimized through implementation of **MM BIO-5** and **MM BIO-6**.

18 All Project activities would be subject to existing regulatory requirements. During Project
19 operation, the proposed Project would be required to meet all applicable water quality
20 objectives for surface waters and groundwater contained in the Water Quality Control
21 Plan for the North Coast Region (North Coast RWQCB 2018), would act in accordance
22 with related regulatory agencies guidelines, and meet the goals and objectives of the
23 County's General Plan. Further, discharge of pollutants from urban runoff would be
24 minimized with implementation of practices required by the Mendocino County Storm
25 Water Management Program, and other CEQA, federal, and state requirements.
26 Therefore, construction and operation activities would not violate water quality standards
27 or waste discharge requirements. Impacts on water quality would be less than significant
28 with mitigation.

29 ***b) Substantially decrease groundwater supplies or interfere substantially with***
30 ***groundwater recharge such that the project may impede sustainable groundwater***
31 ***management of the basin?***

32 **No Impact.** The majority of the Project area (Figure 3.11-1) is not within a recognized
33 groundwater basin. There would be minimal areas of additional impervious surface added
34 (e.g., the LMH at the cable landing site). Recharge in the area would continue to occur
35 through infiltration of precipitation. There is no intention to use surface water or
36 groundwater for construction activities or Project operation, and no groundwater pumping
37 is required. The Project's minimal use of water would not deplete or interfere with
38 groundwater supply or recharge or impede sustainable groundwater management of the
39 basin. Therefore, there would be no impact on groundwater supplies or recharge.

1 ***c) Substantially alter the existing drainage pattern of the site or area, including***
2 ***through the alteration of the course of a stream or river or through the addition of***
3 ***impervious surfaces, in a manner that would:***

4 ***i) Result in substantial erosion or siltation on or off site;***

5 ***ii) Substantially increase the rate or amount of surface runoff in a manner that***
6 ***would result in flooding on or off site;***

7 **Less than Significant with Mitigation.** During construction, existing drainage patterns
8 could temporarily be altered through minor grading, potentially resulting in temporary
9 erosion. BMPs would be implemented to manage runoff and potential erosion, as
10 described in the SWPPP prepared under **MM HYDRO-1** in compliance with the
11 Construction General Permit and required by the County of Mendocino BMPs. Good
12 housekeeping practices identified in the SWPPP would prevent runoff and contain
13 associated sediment.

14 Minimal additional impervious surface would be added as part of the Project. The Project
15 site would remain similar to its existing configuration. The proposed Project would not
16 substantially alter the existing drainage pattern. Implementation of **MM BIO-7**, would
17 reduce impacts on existing vegetation and plant communities. As a result, excess soil
18 disturbance would be minimized, and associated soil erosion and siltation impacts would
19 also be reduced. In unpaved areas, restoration includes installing erosion-control devices
20 at locations susceptible to erosion, seeding, mulching, and fertilizing to return the site to
21 pre-construction conditions. Implementation of **MM HYDRO-1** and **MM BIO-7** would
22 reduce surface runoff impacts to less than significant.

23 ***iii) Create or contribute runoff water that would exceed the capacity of existing***
24 ***or planned stormwater drainage systems or provide substantial additional***
25 ***sources of polluted runoff; or***

26 ***iv) Impede or redirect flood flows?***

27 **No Impact.** During construction, the drainage pattern of the site or area may be
28 temporarily altered. Construction equipment would be relocated to minimize flood risks.
29 The Project would install communication cables below ground. The Project would not
30 create or contribute runoff water that would exceed the capacity of existing or planned
31 stormwater drainage systems, or provide substantial additional sources of polluted runoff.
32 The Project would not impede or redirect flood flows. There would be no impact.

33 ***d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to***
34 ***project inundation?***

35 **No Impact.** The Project site is not located in a tsunami or seiche zone. The Project site
36 is partially located within a 100-year floodplain (flood Zones A and VE) and a special flood

hazard area, as mapped by FEMA (2017). The underground conduit system would cross the 100-year flood hazard area where the system bisects Alder Creek and Brush Creek. A manhole may be placed within the 100-year floodplain. The underground conduit system and manhole would not store pollutants. The Project would not release pollutants if the conduit system or manholes became inundated; therefore, there would be no impact.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The proposed Project would comply with the appropriate water quality objectives for the region. Commonly practiced BMPs would be implemented to control construction site runoff and to reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff. As part of compliance with permit requirements during ground disturbing or construction activities, implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Water Quality Control Plan. The NPDES Construction General Permit also requires stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses. In addition, implementing of the appropriate General Plan policies would require the protection of groundwater recharge areas and groundwater resources, as required by a sustainable groundwater management plan. There would be no impact.

3.11.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts on hydrology and water quality to less than significant:

- MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan
- MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
- MM BIO-7: Prepare and Implement a Site Restoration Plan
- MM HAZ-1: Hazardous Materials Management and Contingency Plan
- MM HAZ-2: Contaminated Materials Management Plan

1 3.12 LAND USE AND PLANNING

| LAND USE AND PLANNING - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.12.1 Environmental Setting

3 The Project area is north of and within the unincorporated community of Manchester in
4 Mendocino County. The terrestrial components of the Project are entirely in the Coastal
5 Zone according to the Land Use Policy Map of the Mendocino County General Plan
6 (Figure 3-14 in the General Plan). The Project's terrestrial facilities include the CLP, three
7 potential CLS sites, and two approximately 5-mile-long parallel conduit/cable
8 alignments—one on each side of SR 1. The Project alignment is within the previously
9 disturbed ROWs of the SR 1 transportation corridor and Kinney Road. Other utilities
10 already exist within the proposed Project alignment, and the proposed telecommunication
11 facilities would be built entirely underground within the existing ROWs, as described in
12 Section 2, *Project Description*.

13 The CLP is an undeveloped site north of Manchester. The CLP and lands adjacent to it
14 are in agricultural (grazing) and open space use.

15 The approximately 5-mile-long Project alignment traverses a primarily rural area of
16 coastal Mendocino County from the CLP south through the unincorporated community of
17 Manchester to Biaggi Road. From the CLP southward along SR 1 to Manchester, existing
18 development is rural and sparse, and primarily limited to buildings and residences
19 associated with agricultural, rural residential, and recreational or open space uses.

20 Manchester State Park surrounds the AT&T CLS site on the west, north, and east. Kinney
21 Road provides vehicle access to the AT&T CLS site and the central portion of the State
22 park. Manchester State Park occupies 1,500 terrestrial acres and has an underwater
23 lease with the CSLC of approximately 4,157 offshore acres (Franzoia pers. comm. 2019).
24 The park stretches approximately 2 miles north and approximately 1.5 miles south of the
25 AT&T CLS site along the coastline. The Manchester Beach/Mendocino Coast KOA
26 campground is on the north side of Kinney Road, east of the AT&T CLS site and the State
27 park.

28 The Private CLS site is located in the southwest quadrant formed by Kinney Road and
29 SR 1. Access to the site is via a private road off SR 1. Manchester State Park surrounds

the site on the west, north, and east. The Manchester Beach/Mendocino Coast KOA campground is on the north side of Kinney Road, approximately opposite the Private CLS site.

If the Level3 CLS site is selected, the Project alignment would continue south from Kinney Road along SR 1. It would pass primarily agricultural and rural residential uses and cross Brush Creek. The Project alignment terminates in Manchester at the intersection of SR 1 and Biaggi Road, where it would connect to the Level3 CLS facility.

Development within Manchester is denser, with smaller parcels. The area is characterized by commercial development and public facilities in addition to residential uses. The nearest residential properties are approximately 50 feet from the Project alignment along SR 1, both north of Kinney Road and within Manchester. Some commercial facilities are within 20 feet of the Project alignment in Manchester.

The Project alignment and facilities would be within the following County zoning districts: Rangeland (RL), Agricultural (AG), Open Space (OS), Public Facilities (PF), Rural Residential 5 Acre Minimum (RR5), and Rural Village (RV) (Mendocino County 2013).

The Greater Farallones National Marine Sanctuary is located in the Pacific Ocean, southwest of the Project area. The northernmost border of the sanctuary is approximately 0.75 mile south of the CLP (Figure 2-1). Proposed Project facilities are not within Sanctuary boundaries.

3.12.2 Regulatory Setting

Federal and state land use and planning laws and regulations relevant to the Project are identified in Appendix A. At the local level, the Project area is under the jurisdiction of the County's General Plan and LCP. No general plan or LCP policies are specifically applicable to the Project area with respect to land use and planning.

3.12.3 Impact Analysis

a) Physically divide an established community?

No Impact. As described in Section 2, *Project Description*, cables would be installed underground and the CLS would be housed in existing facilities. Therefore, the project would not divide an established community. There would be no impact.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project would install communication cables below ground. The aboveground land uses would not change. The LMH would slightly reduce the area

1 available for grazing at the CLP, which is zoned for rangeland use. Project facilities at the
2 CLS sites would be installed within existing structures that are either used for similar
3 purposes (AT&T CLS) or were built to house them (Private CLS, Level3 CLS). The Project
4 alignment would be co-located within existing utility ROWs and would not change the land
5 use in the ROWs.

6 Because there would be no change in land use along the Project alignment, there would
7 be no conflict with local land use policies in those locations. There would be no impact.

8 The Project facilities sites and Project alignment are not within any habitat conservation
9 plan or natural community conservation plan area. There would be no impact.

10 **3.12.4 Mitigation Summary**

11 The Project would not result in significant impacts on land use and planning; therefore,
12 no mitigation is required.

1 3.13 MINERAL RESOURCES

| MINERAL RESOURCES - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.13.1 Environmental Setting

3 The Project site consists of the CLP and underground conduit system. No mineral
4 resource areas of value to the region, residents of the state, or of local importance occur
5 in or near the Project area (CGS 2018; Division of Mine Reclamation 2018; County of
6 Mendocino 2009).

7 3.13.2 Regulatory Setting

8 Federal and state laws and regulations governing mineral resources and relevant to the
9 Project are identified in Appendix A.

10 3.13.3 Impact Analysis

11 ***a) Result in the loss of availability of a known mineral resource that would be of***
12 ***value to the region and the residents of the State?***

13 ***b) Result in the loss of availability of a locally important mineral resource recovery***
14 ***site delineated on a local general plan, specific plan or other land use plan?***

15 **No Impact.** There are no known mineral resources in or near the Project area, and neither
16 construction nor operation of the Project would hinder access to a mineral resource zone.
17 Therefore, the Project would not result in the loss of any known mineral resource areas
18 of value to the region or residents of the state, or of local importance; or the loss of
19 availability of any designated mineral resource recovery site. There would be no impact.

20 3.13.4 Mitigation Summary

21 The Project would not result in impacts on mineral resource areas of regional, state, or
22 local importance; therefore, no mitigation is required.

1 3.14 NOISE

| NOISE - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Generate excessive ground-borne vibration or ground-borne noise levels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Be located within the vicinity of a private airstrip or 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 and expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.14.1 Environmental Setting

3 The proposed Project area is located in a rural, largely undeveloped area of Mendocino
4 County and runs along SR 1 for several miles. Consequently, the existing ambient noise
5 levels in the Project vicinity are largely dictated by traffic noise on SR 1. Other noise
6 sources, such as landscaping and farming equipment, ocean wave-break noise, and
7 animal noise, may be present. Residences and businesses line SR 1 in the town of
8 Manchester. Figure 3.1-2 provides the location of sensitive receptors, including
9 residences, an elementary school, a commercial campground, and a State park.
10 Section 3.4, *Biological Resources* addresses noise associated with offshore work.

11 3.14.2 Regulatory Setting

12 Federal and state noise laws and regulations relevant to the Project are presented in
13 Appendix A. At the local level, Mendocino County has adopted noise level standards in
14 the County zoning code and compatibility standards and noise policies in the
15 Development Element of the County's General Plan. These noise standards from the
16 County ordinance are generally intended for zoning purposes and development of new
17 land uses. Neither the County ordinance noise standards nor the Development Element
18 of the General Plan discuss noise limits for the temporary use of construction equipment.

1 **3.14.3 Impact Analysis**

2 ***a) Generate a substantial temporary or permanent increase in ambient noise levels***
3 ***in the vicinity of the project in excess of standards established in the local general***
4 ***plan or noise ordinance, or applicable standards of other agencies?***

5 3.14.3.1 Construction

6 **Less than Significant with Mitigation.** The proposed Project would involve the use of
7 marine equipment that would result in an increase in the level of noise above existing
8 conditions. The marine-based activities and equipment for laying cable (24 hours per day)
9 would be used in the ocean and not near any human noise-sensitive land uses that could
10 be affected; thus, the marine-based activities would be considered to have no noise
11 impacts on human noise-sensitive land uses. The noise impacts of marine-based
12 activities on aquatic species are discussed in Section 3.4, *Biological Resources* and
13 would be reduced through implementing a mitigation measure for a marine mammal
14 monitoring program (**MM BIO-17**).

15 Terrestrial construction activities would occur during day-time hours and involve noise-
16 generating equipment such as trucks, concrete rollers, vibratory compactors, cranes,
17 excavators, backhoes, boring machines, and asphalt saws, which are the loudest pieces
18 of operating equipment. The equipment used at the CLP (LMH installation, marine
19 directional bores, OGB system installation, and marine cable pulling) would be used in a
20 rural, isolated section of the coast where there is no development. Any equipment used
21 at the CLP would be more than 1,000 feet from the nearest residence. Consequently,
22 noise from equipment at this location would not be substantially noticeable to any noise-
23 sensitive land uses in the Project vicinity.

24 Construction equipment associated with the underground conduit system, LMH
25 installation, and CLS, depending on the final CLS location, would be much closer to noise-
26 sensitive land uses, specifically residences in the vicinity of SR 1 and the campground on
27 Kinney Road. Along SR 1, there are both isolated residences and clusters of residences
28 (i.e., town of Manchester and Pacific View Drive neighborhood) that are within 1,000 feet
29 of the roadway. Some sensitive receptors are directly adjacent to the roadway—as close
30 as 50 feet or less from where Project construction work would occur (Figure 3.1-2).
31 Activities involving subterranean work, such as horizontal directional drilling, would be
32 attenuated by the ground.

33 Installation of the CLS facilities would, depending on the final location, result in noise from
34 construction equipment that could be audible to nearby sensitive receptors. Construction
35 noise associated with the CLS would be temporary and would only occur during daytime
36 hours. Construction of the underground conduit system—trench construction, trenchless
37 conduit installation, cable pulling, and conventional boring—would result in the loudest

levels of noise. Conduit installation that would be conducted with a boring machine would result in noise only at the entry and exit pits.

Although noticeable noise that would affect sensitive receptors would be generated during the terrestrial activities (e.g., conduit installation), the construction activities would be of short duration. Particularly, noise during construction of the trenches for conduit installation would progress along SR 1 on a daily basis, and each sensitive receptor along SR 1 would be exposed to noise for a relatively brief period of time, likely less than 1 week. The greatest noise associated with asphalt cutting would occur for only a few hours. Further activities associated with the conduit installation, such as cable pulling, backfilling, and surface restoration, would also involve construction work that would progress directionally, affecting any given sensitive receptor for a relatively short period. Sensitive receptors near the CLS facilities would be exposed to noise levels for a longer duration—approximately 5 months—but noise from work at the CLS facilities would be intermittent during those 5 months. Noise attenuates with distance and is blocked by objects within the line of sight. This means that buildings, fences, and dense vegetation can block noise from sensitive receptors if they are between the noise source and the receptor. While the noise source would move along the construction alignment and existing features could block noise, construction noise is expected to exceed ambient noise levels. To reduce substantial temporary noise over ambient conditions, the Applicant would implement **MM N-1**. Implementation of this measure would reduce this impact to a less than significant level.

MM N-1: Restrict Terrestrial Construction Work on Sundays. On Sundays, the Applicant shall not conduct any activities that exceed ambient noise levels within 300 feet of sensitive receptors.

3.14.3.2 Operations

Less than Significant Impact. After the construction period of the proposed Project is completed, limited permanent, operational noise would be associated with Project facilities. The backup generators would be used only during power loss, which is not expected to be a common occurrence, and during occasional testing. Therefore, the operational noise impacts would be less than significant.

b) Generate excessive ground-borne vibration or ground-borne noise levels?

Less than Significant with Mitigation. Project construction would occur only during day-time hours. While the Project would require the temporary use of heavy construction equipment, none of it is considered impact equipment (such as pile drivers), as defined by the Federal Highway Administration (FHWA 2006). Nevertheless, non-impact equipment, which does not make forceful contact with the ground surface, can also generate noticeable ground-borne vibration. At a distance of 50 feet, which would likely be the closest that construction activities would be to residences, the vibration levels

generated by construction equipment would be negligible. Vibration levels from a vibratory roller, which could be used during roadway re-paving, could be perceptible at a distance of 50 feet but they would be temporary. Implementation of **MM N-1** would protect residences from ground-borne vibration on Sundays. Thus, although construction vibration could be perceptible to nearby sensitive receptors, the short-term nature of vibration and restricting work on Sundays would not result in ground-borne vibration that is considered excessive.

Permanent ground-borne vibration would not occur. Occasional use of emergency backup generators could generate some ground-borne vibration at the CLS facilities, but use of the generators is expected to be limited to infrequent testing and times of power loss. Distances between residences and the potential CLS sites are listed in Section 3.3.1.4. Of the three potential CLS sites, the Level3 CLS is the closest to any residence. The impact would be less than significant with implementation of **MM N-1**.

c) Be located within the vicinity of a private airstrip or 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 and expose people residing or working in the project area to excessive noise levels?

No impact. The Project is not within 2 miles of a public airport or private airstrip; therefore, there would be no impact.

3.14.4 Mitigation Summary

Implementation of the following mitigation measure would reduce the potential for Project-related impacts related to noise to a less than significant level:

- **MM N-1: Restrict Terrestrial Construction Work on Sundays**

3.15 POPULATION AND HOUSING

| POPULATION AND HOUSING - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Induce substantial unplanned 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

3.15.1 Environmental Setting

The Project would be constructed in rural Mendocino County, including the unincorporated community of Manchester. Residences are incidental along SR 1. The community of Manchester has nearly 180 residents (U.S. Census Bureau 2018).

3.15.2 Regulatory Setting

No federal or state laws relevant to this issue area apply to the Project. Implementation of the Project would not involve the acquisition of any property or the relocation of any existing residents, businesses, or other uses. The 2014 Mendocino County General Plan Housing Element and the LCP include goals and policies for the County to meet its defined housing needs. No housing goals or policies are applicable to the Project area or Project activities.

3.15.3 Impact Analysis

a) Induce substantial unplanned 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)?

No Impact. The Project would not directly or indirectly induce population growth. Its purpose is to install underground cable and associated facilities that would provide faster Internet connections to meet increasing demand between northern California and Asia. Construction activities would last only a few months and would not generate new permanent jobs in the region. A maximum of 10 people would be working on Project construction at any one time. The presence of construction personnel during the approximately 6-month construction period may contribute to a slight increase in demand for temporary (rental) housing or hotel amenities. However, the small number of construction personnel employed would not create a significant demand for housing.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project consists of directional boring and trenching, as well as the installation of CLS facilities within existing structures. Most of the installation of conduit and cable would take place within existing ROWs on Kinney Road and on either side of SR 1, and no housing is present within the properties proposed for the landing sites or the CLS facilities. Because no housing is present within the Project area, this action would not displace existing housing or people. Therefore, relocation or construction of replacement housing would not be necessary.

3.15.4 Mitigation Summary

The Project would not result in any impacts on population and housing, and no mitigation is required.

1 3.16 PUBLIC SERVICES

| PUBLIC SERVICES | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 of the public services: | | | | |
| Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Police Protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.16.1 Environmental Setting

3 The terrestrial components of the Project would be located in a rural portion of Mendocino
 4 County; therefore, the County provides most of the services. Fire suppression services in
 5 the Project vicinity are provided by Redwood Coast Fire Protection District. The Project
 6 area is also within an SRA of CAL FIRE. CAL FIRE provides fire protection for California's
 7 privately owned wildlands as well as various emergency services.

8 Law enforcement in the county is provided by the Mendocino County Sheriff's Office. The
 9 sheriff is the chief law enforcement officer and is the coordinator for law enforcement and
 10 mutual aid, as well as search and rescue services. The sheriff's jurisdiction extends
 11 throughout the entire county, including incorporated cities and State-owned property
 12 (County of Mendocino 2009).

13 The Manchester Union Elementary School District encompasses the Project area and
 14 operates one school that accommodates grades kindergarten through 8 (California
 15 Department of Education 2018). The school is located at 19550 South Highway 1, just
 16 north of the intersection of SR 1 and Biaggi Road on the west side of the highway.

17 Manchester State Park abuts the western edge of the Project area along two segments
 18 of SR 1 and along the north side of Kinney Road. The park encompasses 1,500 acres
 19 onshore, with an adjacent 3,782-acre underwater lease. The park lies south, west, and
 20 north of the town of Manchester. The beach entrance is 0.5 mile north of town on SR 1
 21 (CDPR 2018).

22 3.16.2 Regulatory Setting

23 Federal and state laws and regulations pertaining to public services and relevant to the
 24 Project are identified in Appendix A. At the local level, the County's 2009 General Plan

includes goals and policies regarding fire protection, law enforcement, school, and public facility needs (Mendocino County 2009). No public services goals or policies are applicable to the Project.

3.16.3 Impact Analysis

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 including Fire protection, police protection, schools, parks, or other facilities:

Fire Protection?

Less than Significant Impact. In the event of an emergency at any of the terrestrial sites, the Redwood Coast Fire Protection District would be required to provide fire protection or other emergency services. As the Redwood Coast Fire Protection District is in the Project vicinity on SR 1 just north of Biaggi Road, the response time to Project work sites would be minimal. The marine cables would terminate at a CLS near Manchester. The CLS would contain fire suppression equipment in an enclosed structure (Figure 2-5); therefore, the potential for the Project to result in substantial adverse impacts related to performance objectives for public services would be less than significant.

Police Protection?

No Impact. As the Project does not include any full-time employees and equipment would be contained within an enclosed building, the Project is not anticipated to create a significant security hazard nor generate a need for additional law enforcement personnel. Therefore, there would be no impact.

Schools?

No Impact. The Project would not involve construction of residences that would generate demand for schools. Therefore, there would be no impact.

Parks and Other Public Facilities?

No Impact. The Project would not involve construction of residences that would generate demand for parks or other public facilities. Therefore, there would be no impact.

3.16.4 Mitigation Summary

The Project does not have potential for significant impacts on public services; therefore, no mitigation is required.

1 3.17 RECREATION

| RECREATION | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.17.1 Environmental Setting

3 There are no recreational facilities or opportunities within the Project area; however, there
 4 are recreational opportunities in the Project vicinity. Onshore activities include hiking,
 5 surfing, fishing, walking, jogging, and other beach-going activities. Nearshore and
 6 offshore activities include surfing, windsurfing, scuba diving, kayaking, boat fishing,
 7 pleasure boating, and sailing. A commercial campground is situated along Kinney Road.
 8 Manchester State Park provides beach and coastal access and includes camping,
 9 parking, restrooms, and potable water.

10 3.17.2 Regulatory Setting

11 Federal and state laws and regulations pertaining to recreation and relevant to the Project
 12 are identified in Appendix A. At the local level, there are no goals, policies, or regulations
 13 applicable to recreation for the Project because of its location and the nature of the
 14 proposed activity.

15 3.17.3 Impact Analysis

16 ***a) Would the project increase the use of existing neighborhood and regional parks***
 17 ***or other recreational facilities such that substantial physical deterioration of the***
 18 ***facility would occur or be accelerated?***

19 ***b) Does the project include recreational facilities or require the construction or***
 20 ***expansion of recreational facilities which might have an adverse physical effect on***
 21 ***the environment?***

22 **No Impact.** The Project entails installation and operation of up to four transpacific
 23 submarine cable systems at a landing site just north of the town of Manchester. The
 24 Project does not include any recreational facilities or residential uses that would increase
 25 the use of recreational facilities. The Project would not impede or hinder access to any

1 terrestrial recreational sites. Construction workers staying in the area during non-working
2 days could make occasional use of the area's recreational opportunities. Because the
3 Project would not directly affect recreational facilities, no physical deterioration of any
4 recreational facilities would occur, and no increase in demand for recreational facilities is
5 expected. There would be no impact.

6 However, since offshore recreational activities (pleasure boating, recreational fishing,
7 kayaking) may be precluded for a short period of time, **MM T-1**, Publication of U. S. Coast
8 Guard Local Notice to Mariners will provide notification to those recreational users,
9 reducing any potential impact.

10 **3.17.4 Mitigation Summary**

11 Although there would be no impact to recreational facilities, implementation of the
12 following mitigation measure would reduce any potential for Project-related impacts on
13 offshore recreation:

- 14 • MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners

1 3.18 TRANSPORTATION

| TRANSPORTATION - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.18.1 Environmental Setting

3 3.18.1.1 Onshore Transportation

4 The Project is located in an unincorporated area of Mendocino County along SR 1. The
5 CLP, AT&T CLS, Private CLS, and Level3 CLS are all west of SR 1, as provided in
6 Figure 2-1.

7 Mendocino County is generally served by a multimodal transportation system composed
8 of a highway system, county roads, local roads, bicycle and pedestrian facilities, rail
9 system, and airport facilities. SR 1 is the key north-south highway through the county and
10 serves the coastal area. There are no other highways in the Project vicinity. Mountain
11 View Road, just south of Manchester, runs east to west and connects SR 1 to SR 128.

12 Level of Service (LOS) is a ranking used for traffic flow. LOS ranges from A to F, with A
13 indicating very good free-flowing traffic operations and F indicating stop-and-go
14 conditions. The County's General Plan does not have a policy that sets an acceptable
15 LOS standard. Caltrans' Traffic Volumes on California State Highways (2016) identifies
16 an LOS of C for SR 1 for both the base year and the horizon year.

17 There are no sidewalks or other pedestrian facilities in the Project vicinity. SR 1 is
18 legislatively designated as the Pacific Coast Bike Route; however, the shoulders along
19 SR 1 are limited. There are no rail facilities in the Project vicinity, and the closest airport
20 is the private Lofty Redwoods Airport approximately 10 miles to the south. Transit service
21 is provided by the Mendocino Transit Authority. Bus Route 75 travels along SR 1 and
22 serves the Project vicinity.

1 3.18.1.2 Offshore Transportation

2 There are no bays or marinas in the Project vicinity, and there are no ports in Mendocino
3 County. The closest cove offering boat launching facilities and a pier is at the Point Arena
4 Cove, approximately 5 miles south of the Project area.

5 Shipping lanes along the California coast are generally 4 to 20 nm offshore. Members of
6 the Western States Petroleum Association voluntarily keep laden vessels a minimum of
7 50 nm from the shoreline (Oil & Gas Journal 1992).

8 **3.18.2 Regulatory Setting**

9 Federal and state laws and regulations pertaining to transportation and relevant to the
10 Project are identified in Appendix A. The County does not include any policies or action
11 items within the Circulation Element associated with short-term construction projects.

12 **3.18.3 Impact Analysis**

13 ***a) Conflict with a program, plan, ordinance, or policy addressing the circulation***
14 ***system, including transit, roadway, bicycle, and pedestrian facilities?***

15 **No Impact.** The Project would not result in changes to the traffic volume on SR 1 and
16 therefore would not conflict with established measures of effectiveness stated in a plan,
17 ordinance, or policy.

18 ***b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3,***
19 ***subdivision (b)?***

20 **Less than Significant with Mitigation**

21 3.18.3.1 Onshore Activities

22 Transportation of workers, materials, and equipment to and from the Project area would
23 generate vehicle trips. Most traffic related to terrestrial activities would travel along SR 1.

24 Approximately 30 tractor-trailer loads of construction equipment and materials would be
25 delivered directly to the staging areas at the commencement of construction. In addition,
26 one fuel truck would make a delivery to the staging area daily, and there would be about
27 three deliveries of materials and supplies weekly. The Applicant would coordinate traffic
28 control during construction with Caltrans and Mendocino County, and would obtain
29 encroachment permits from both, as needed. Standard traffic, pedestrian, and bicycle
30 control measures, such as installing signage and flaggers, would be noted in a Traffic
31 Management Plan and implemented to minimize disturbance to traffic flow.

1 Terrestrial and nearshore construction would occur during daylight hours except on
2 Sundays **MM N-1**. However, conduit installation and cable pulling would require up to
3 48 hours of continuous effort, at the CLP and at areas on the beach.

4 Based on conservative worker estimates, the Project would create an estimated total of
5 10 trips per day from local residences or hotels where construction workers would stay,
6 5 tractor-trailer trips per day, and 1 fuel and miscellaneous delivery trip per day. This
7 would total 16 trips per day during construction, primarily on SR 1. This increase in
8 vehicles on local roadways, primarily SR 1, would not reduce the existing LOS
9 designation.

10 Considering the capacity of SR 1 and local roads, the estimated numbers of Project trips,
11 and coordination with Caltrans and Mendocino County as needed for traffic control, the
12 Project is not expected to have a significant impact on local traffic congestion.

13 3.18.3.2 Offshore Activities

14 For cable pulling support, the cable ship would position itself approximately 328 feet
15 seaward of the end of the bore pipe into which the cable is to be pulled. Marine vessel
16 traffic would not be affected this close to the shoreline and along this remote section of
17 the California coastline. Offshore construction activities are proposed to take place on a
18 continuous, 24-hour basis.

19 Cable laying and plowing, as described in detail in Section 2, *Project Description*, could
20 interfere with local marine vessel traffic, including commercial and recreational fishing
21 operations (see Section 5.2, *Commercial and Recreational Fishing*). To minimize
22 interference and conduct safe marine construction, the work would be conducted in
23 accordance with the applicant proposed Marine Anchor Plan (see Table 4-1 in Chapter
24 4), which would be included with the Contractor Work Plan. The USCG is responsible for
25 maintaining aids to navigation and safe waterways. The Applicant would file a notice with
26 the USCG to inform local mariners of Project activities. The notice would include
27 information such as type, duration, and location of operations and a phone number for a
28 point of contact for the Project. Implementing the Marine Anchor Plan and USCG
29 issuance of a Local Notice to Mariners **MM T-1** would minimize impacts on marine vessel
30 traffic to less than significant with mitigation.

31 **MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners.** The Applicant
32 shall ensure that its contractor submits to the USCG District 11
33 (<https://www.navcen.uscg.gov/?pageName=lnmDistrict®ion=11>), 14 days prior
34 to operation, a request to publish a Local Notice to Mariners that includes the
35 following information.

- 36 • Type of operation (i.e., dredging, diving operations, construction).

- Location of operation, including latitude and longitude and geographical position, if applicable.
- Duration of operation, including start and completion dates (if these dates change, the USCG needs to be notified).
- Vessels involved in the operation.
- VHF-FM radio frequencies monitored by vessels on the scene.
- Point of contact and 24-hour phone number.
- Chart Number for the area of operation.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The Project does not include any design features or introduce incompatible uses that would increase hazards on local roadways.

d) Result in inadequate emergency access?

No Impact. Primary access to the terrestrial facilities and locations would be accomplished from SR 1, as provided in Figure 2-1. Because the terrestrial alignment would be mainly within public road ROWs (SR 1 and Kinney Road), traffic would be controlled and coordinated with Caltrans and Mendocino County. Traffic control would conform to the specifications of these jurisdictions and noted in the Traffic Management Plan described under b) above. Emergency access along SR 1 would be maintained during Project construction, staging, and access activities. No impact on emergency access to the Project area or adjoining properties is anticipated.

3.18.4 Mitigation Summary

Implementation of the following mitigation measure would reduce the potential for Project-related impacts on transportation to a less than significant level:

- MM N-1: Restrict Terrestrial Construction Work on Sundays
- MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners

1 3.19 UTILITIES AND SERVICE SYSTEMS

| UTILITIES AND SERVICE SYSTEMS - Would the Project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

2 3.19.1 Environmental Setting

3 Sewage disposal in the Project area is handled by private onsite facilities, primarily septic
4 tank and leach field systems, although alternative engineered wastewater systems may
5 be used. Water supply in the Project area is generally supplied by onsite methods such
6 as wells or springs that are recharged annually by winter rains. The yield from these
7 sources may vary from year to year, and deficiencies may occur, especially during years
8 of low rainfall.

9 Currently, there are no operating landfills in Mendocino County. Solid waste generated in
10 the county is exported for disposal to the Potrero Hills Landfill in Solano County. Electricity
11 for the county is generally provided by PG&E (Mendocino County 2009).

12 3.19.2 Regulatory Setting

13 Federal and state laws and regulations pertaining to utilities and service systems and
14 relevant to the Project are identified in Appendix A. At the local level, the following policies
15 regarding utilities and service systems are applicable to the Project.

- 1 • **Policy DE-68:** Require that new applications for discretionary projects state their
2 energy, water, and waste stream requirements at the time of application. As part
3 of the review of the development application, distribute this information to the
4 service providers and compare the capacity of existing and planned systems with
5 the demand created by the proposed project.
- 6 • **Policy DE-203:** All development projects shall include plans and facilities to store
7 and manage solid waste and hazardous materials and wastes in a safe and
8 environmentally sound manner.
- 9 • **Policy DE-205:** The County will seek to reduce the impacts of above-ground
10 utilities. Standards and policies to reduce impacts include:
 - 11 ○ Promoting the underground installation of utilities to reduce visual impacts
12 to significant scenic resources.
 - 13 ○ Locating utility systems in established corridors where possible.
 - 14 ○ Ensuring that above-ground utilities are located and designed to minimize
15 visual impact and clutter.
 - 16 ○ Avoiding vegetation removal, new road construction, and silhouettes
17 against the sky.
 - 18 ○ Pursuing the undergrounding of utility lines in new development, and in the
19 downtown core of community areas.
- 20 • **Policy DE-206:** The County will encourage appropriate utility infrastructure
21 necessary to support social and economic needs including wired, wireless and
22 satellite communications.

23 3.19.3 Impact Analysis

24 ***a) Require or result in the relocation or construction of new or expanded water,***
25 ***wastewater treatment, stormwater drainage, electric power, natural gas, or***
26 ***telecommunications facilities, the construction or relocation of which could cause***
27 ***significant environmental effects?***

28 **No Impact.** The Project does not involve construction of new water or wastewater
29 treatment facilities. The Project would not create any new stormwater sources or require
30 construction of new stormwater drainage, electric power, telecommunication, or natural
31 gas facilities. Therefore, there would be no impact.

32 ***b) Have sufficient water supplies available to serve the project and reasonably***
33 ***foreseeable future development during normal, dry, and multiple dry years?***

34 **No Impact.** Water would be used during construction for the boring machine, dust
35 suppression, and drinking water. Project activities would occur at onshore staging or work
36 areas as well as onboard Project vessels. Water required for personal consumption and
37 sanitary purposes would be minimal. Supplies would be portable and brought onsite for

the duration of the Project activities. Following Project completion, no additional water usage would be necessary. Local water supplies would not be affected. Therefore, there would be no impact.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The Project would not generate wastewater that would require treatment at a wastewater service provider. Therefore, there would be no impact.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. Waste generated by the Project would include general construction waste, seafloor debris (e.g., discarded fishing gear), spent drilling fluids and cuttings, and trash from workers. All such materials would be taken to a local transfer station that receives waste for export to an approved landfill. According to the County's General Plan, solid waste in the county is exported for disposal to the Potrero Hills Landfill in Solano County (Mendocino County 2009). The Potrero Hills Landfill has a remaining capacity of 13.8 million cubic yards and a cease operations date of February 2048 (California Department of Resources Recycling and Recovery 2018). The impact would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. All debris associated with construction, operation, and decommissioning would be recycled to the extent feasible. Solid waste would be disposed of in accordance with local, state, and federal laws and regulations as required by the Project plans and specifications. Solid waste would be transported to the nearest transfer station that receives waste for export to an approved landfill or diversion to recycling facilities. The impact would be less than significant.

3.19.4 Mitigation Summary

The Project does not have potential for significant impacts on utilities and service systems; therefore, no mitigation is required.

1 3.20 WILDFIRE

| WILDFIRE - If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

2 3.20.1 Environmental Setting

3 As stated in Section 3.16, *Public Services*, the terrestrial components of the Project would
 4 be located in a rural portion of Mendocino County. Mendocino County implements an
 5 Emergency Operations Plan (Mendocino County 2016) with the goal to integrate
 6 emergency response services provided by federal, state, and local responders under the
 7 initial lead of the Mendocino County Sheriff's Office as the emergency operations center.

8 The Project area is located in a moderate fire zone (Appendix F). Fire suppression
 9 services in the Project vicinity are provided by Redwood Coast Fire Protection District
 10 (Mendocino County 2009). The Project area is located within a State Responsibility Area
 11 (SRA) of CAL FIRE. CAL FIRE provides fire protection for California's privately owned
 12 wildlands as well as various emergency services.

13 3.20.2 Regulatory Setting

14 Federal and state laws and regulations pertaining to public services and relevant to the
 15 Project are identified in Appendix A. At the local level, the County's 2009 General Plan
 16 includes goals and policies regarding fire protection (Mendocino County 2009).

- 17 • **Goal DE-24 (Safety):** To reduce, to the extent possible, the risk and exposure of
 18 life, property and the environment to hazardous conditions and events such as

earthquakes, landslides, wildfires, floods, inundation, energy emergencies, and toxic releases.

- **Policy DE-214:** The County shall deny development proposals that present substantial fire hazard risk to residents and safety providers responding to a wildland fire.
- **Policy DE-215:** Development shall be located, designed and managed to reduce fire risk to life, property and natural resources, and incorporate adequate fire protection consistent with the General Plan and adopted regulations.
- **Policy RM-82:** Promote the conservation and use of native species or drought-tolerant, fire resistive and noninvasive vegetation.
- **Policy RM-83:** In rural areas, promote vegetation and landscape management programs that protect wildlife and livestock habitat, discourage pest species and non-native species, reduce wildfire risk, and conserve water resources.

3.20.3 Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The Project is located in an area of moderate wildfire risk, not in areas classified as high or very high fire hazard severity zones. Construction would be a temporary activity; an active working crew would control any potential combustible materials though standard OSHA worker protection requirements. The Project includes buried cable infrastructure and equipment located inside an existing building that would not exacerbate wildfire risks; routine operations would not increase the amount of available fuel or create potential ignition sources (such as overhead power lines) in proximity to wildland forested areas. The backup generators would be located on concrete pads and operated only during testing; thus, the generators would not cause fire risks. The communication cables would be installed underground and grounded, which would prevent the potential for electrical shorts or arcing. Project operations would not hinder

1 any potential emergency response. Therefore, the Project would not exacerbate existing
2 risks of wildfire, and there would be no impact.

3 **3.20.4 Mitigation Summary**

4 The Project does not have the potential to exacerbate wildfire risks; therefore, no
5 mitigation is required.

1 **3.21 MANDATORY FINDINGS OF SIGNIFICANCE**

2 **3.21.1 Introduction**

3 The lead agency shall find that a project may have a significant effect on the environment
 4 and thereby require an EIR to be prepared for the project where there is substantial
 5 evidence, in light of the whole record, that any of the following conditions may occur.
 6 Where prior to commencement of the environmental analysis a project proponent agrees
 7 to mitigation measures or project modifications that would avoid any significant effect on
 8 the environment or would mitigate the significant environmental effect, a lead agency
 9 need not prepare an EIR solely because without mitigation the environmental effects
 10 would have been significant (per State CEQA Guidelines section 15065).

| MANDATORY FINDINGS OF SIGNIFICANCE | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|--------------------------|
| a) Does the project have the potential to substantially 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, substantially 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

3.21.2 Impact Analysis

a) Does the project have the potential to substantially 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?

Less than Significant with Mitigation. As described in Section 3.4, *Biological Resources*, the Project would not significantly adversely affect fish or wildlife habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of an endangered, rare, or threatened species. With implementation of mitigation measures **MM BIO-1** through **MM BIO-22**, **MM HYDRO-1**, and **MM HAZ-1**, as well as construction BMPs, the minor, brief, and localized impacts on special-status species and their habitats would be less than significant.

The Project's potential effects on historic and archaeological resources are described in Section 3.5, *Cultural Resources*, and Section 3.6, *Cultural Resources – Tribal*. Based on cultural resources records review of the Project area, no cultural resources are known to be present within the Project footprint. Implementation of mitigation measures **MM CUL-1** through **MM CUL-5** and **MM TCR-1** and **MM TCR-2** would reduce the potential for Project-related impacts on previously undiscovered cultural, paleontological, and Tribal cultural resources to a less than significant level.

b) Does the project 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.)?

Less than Significant Impact. Past, current, and reasonably foreseeable projects identified by Mendocino County in the Project vicinity (within approximately 20 miles are limited to the Eureka Hill Road at Garcia River Bridge Seismic Retrofit Project.

3.21.2.1 AT&T Japan-U.S. Cable Network – Existing

- Existing fiber optic cables in the Project vicinity include two cables that extend from Manchester to Japan. The CLS is located near Kinney Road in Manchester. This existing cable system has been operating since 2000. Original cable installation methods and potential impacts on the marine environment were similar to those for the proposed Project (e.g., cable plowing). Onshore, cables are underground. Offshore, the majority of cable is buried; however, where burying was not possible, the cables were installed in a similar method as described for the proposed Project

(i.e., laid directly on the ocean bottom). Where not buried in the ocean, cables may have limited effects on marine biota, but effects would not substantially disrupt benthic habitats or result in substantial risks of marine mammal entanglement. In addition, potential impacts to the fishing community have been addressed by an existing Fishing Agreement, which would be amended to include the proposed RTI cables (**APM-1**) Therefore, the Project would not result in a cumulative impact related to similar existing projects.

3.21.2.2 Eureka Hill Road at Garcia River Bridge Seismic Retrofit

- The Eureka Hill Road at Garcia River Bridge Seismic Retrofit Project proposes to improve the overall safety of the bridge by providing the existing bridge with seismic retrofits that meet current Caltrans design standards. Potential impacts on all environmental resources evaluated were found to be less than significant or less than significant with mitigation. The Eureka Hill Road Project is within the range of the Point Arena mountain beaver; however, the construction period for the project would not overlap with construction of the proposed Project, and no potential cumulative effects are anticipated for bridge operations. Furthermore, implementation of **MM BIO-10** and **MM BIO-11** would reduce any potential impact from the proposed Project on the Point Arena mountain beaver to a less than significant level, and the Eureka Hill Road Project does not identify any impacts on the Point Arena mountain beaver. Therefore, there would not be a cumulative impact on this species. The Eureka Hill Road Project would be located approximately 10 miles from the Project, and no cumulative impacts are anticipated.

As provided in this MND, the Project has the potential to significantly affect the following environmental disciplines: Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation, and Cultural Resources – Tribal. However, measures have been identified that would reduce these impacts to a level of less than significant. For any Project-related impact to contribute cumulatively to the impacts of past, present, or reasonably foreseeable projects, the other projects would need to result in an impact on the same resource area, occur at the same time, or occur within an area overlapping the proposed Project. No such project was identified that would result in a cumulative impact; therefore, this impact would be less than significant.

c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation. The Project's potential to adversely affect human beings is addressed throughout this document. As discussed in sections on aesthetics (Section 3.1), public services (Section 3.16), and recreation (Section 3.17), the Project would not affect resources used or enjoyed by the public, residents, or others in the

1 Project area. The Project would not affect agriculture or forestry resources (Section 3.2);
2 energy (Section 3.7); land use and planning (Section 3.12); mineral resources
3 (Section 3.13); population and housing (Section 3.15); or utilities and service systems
4 (Section 3.20).

5 Potential Project-related effects on public safety and well-being are discussed in sections
6 on air quality (Section 3.3); cultural resources (Section 3.5, **MM CUL-1** through
7 **MM CUL-5**); cultural resources – tribal (Section 3.6, **MM TCR-1** and **MM TCR-2**);
8 geology, soils, and paleontology (Section 3.8, **MM HYDRO-1**); greenhouse gas emissions
9 (Section 3.9, **MM GHG-1**); hazards and hazardous materials (Section 3.10, **MM HAZ-1**
10 and **MM HAZ-2**); hydrology and water quality (Section 3.11, **MM HYDRO-1**, **MM HAZ-1**
11 and **MM HAZ-2**, **MM BIO-5** through **MM BIO-7**); recreation (Section 3.17 **MM T-1**);
12 transportation (Section 3.18, **MM N-1** and **MM T-1**); noise (Section 3.14, **MM N-1**); and
13 wildfire (Section 3.21). None of these analyses identified a potential adverse effect on
14 human beings that could not be avoided or minimized through implementation of identified
15 mitigation measures or compliance with standard regulatory requirements. With
16 mitigation in place, all Project impacts on human beings would be less than significant.

4.0 MITIGATION MONITORING PROGRAM

The California State Lands Commission (Commission or CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the RTI Infrastructure Inc. Manchester Subsea Cables Project (Project). In conjunction with approval of this Project, the CSLC adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15091, subdivision (d), and 15097.

The Project authorizes RTI Infrastructure, Inc. (Applicant or RTI) to build infrastructure in terrestrial and marine areas just north of Manchester in Mendocino County in order to connect up to four fiber optic cables coming from Asia and Australia.

4.1 PURPOSE

It is important that significant impacts from the Project are mitigated to the maximum extent feasible. The purpose of a MMP is to confirm compliance and implementation of MMs; this MMP shall be used as a working guide for implementation, monitoring, and reporting for the Project's MMs.

4.2 ENFORCEMENT AND COMPLIANCE

The CSLC is responsible for enforcing this MMP. The Project Applicant is responsible for successful implementation of and compliance *with the* MMs identified in this MMP. The term Applicant, in this context, includes all field personnel and contractors working for the Applicant.

4.3 MONITORING

CSLC staff may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as necessary. Some monitoring responsibilities may be assumed by other agencies, such as the County of Mendocino. The CSLC or its designee shall ensure that qualified environmental monitors are assigned to the Project.

Environmental Monitors. To confirm implementation and success of the MMs, an environmental monitor must be on-site during all Project activities with the potential to create significant environmental impacts or impacts for which mitigation is required. Along with CSLC staff, the environmental monitor(s) are responsible for:

- Confirming that the Applicant has obtained all applicable agency reviews and approvals

- Coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation (for this Project, many of the monitoring procedures would be conducted during the deconstruction phase)
- Confirming that the MMP is followed

The environmental monitor shall immediately report any deviation from the procedures identified in this MMP to CSLC staff or its designee. CSLC staff or its designee shall approve any deviation and its correction.

Workforce Personnel. Implementation of the MMP requires the full cooperation of Project personnel and supervisors. Many of the MMs require action from site supervisors and their crews. The following action shall be taken to facilitate successful implementation:

- Relevant mitigation procedures shall be written into contracts between the Applicant and any contractors.

General Reporting Procedures. A monitoring record form shall be submitted to the Applicant, and once the Project is complete, a compilation of all the logs shall be submitted to CSLC staff. CSLC staff or its designated environmental monitor shall develop a checklist to track all procedures required for each MM and shall confirm that the timing specified for the procedures is followed. The environmental monitor shall note any issues that may occur and take appropriate action to resolve them.

Public Access to Records. Records and reports are open to the public and are to be provided upon request.

4.4 MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table 4-1) for Biological Resources; Cultural Resources; Cultural Resources – Tribal; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise; Recreation; and Transportation. All other environmental disciplines were found to have less than significant or no impacts; therefore, they are not included in the table. The table lists the following information by column:

- Potential Impact
- Mitigation Measure (full text of the measure)
- Location (where impact occurs and where MM should be applied)
- Monitoring/Reporting Action (action to be taken by monitor or Lead Agency)
- Timing (before, during, or after construction; during operation, etc.)
- Responsible Party (entity responsible to ensure MM compliance)
- Effectiveness Criteria (how the agency can know if the measure is effective)

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|---|-----------------------------|------------------------------------|--|----------------------|--------------------------------------|
| Biological Resources | | | | | | |
| Impacts on Special-Status Species and Habitats | <p>MM BIO-1: Provide Environmental Awareness Training. The Applicant shall provide environmental awareness training for construction personnel working on the terrestrial and marine components of the Project. The biological monitor(s), approved by CSLC staff prior to the start of construction activities, shall be responsible for conducting an environmental awareness training for all Project personnel and for new personnel as they are added to the Project, to familiarize workers with surrounding common and special-status species and their habitats, applicable regulatory requirements, and mitigation measures that must be implemented to avoid or minimize potential impacts on biological resources.</p> <p>The training materials shall be developed and submitted to CSLC staff for approval at least 4 weeks prior to the start of Project activities. The Applicant shall identify a representative to serve as the main contact for reporting any special-status species that is observed in or near the Project area by any employee or contractor, and shall provide the contact information for both this representative and the qualified biologist to onsite construction workers, USFWS,</p> | Terrestrial Project area | Onsite monitor to verify | Implementing MM will educate construction workers regarding special-status species and habitat | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|---|-----------------------------|------------------------------------|---|----------------------|-------------------------|
| | CDFW, and CSLC staff before construction commences. The qualified biologist shall maintain a list of contractors who have received training and shall submit a summary of the awareness training to CSLC staff within 30 days after construction begins and after construction is completed. | | | | | |
| Impacts on Special-Status Species and Habitats | <p>MM BIO-2: Conduct Biological Surveying and Monitoring. A qualified biological monitor, approved by CSLC staff, shall be present on-site to survey the work area for Point Arena mountain beaver burrows, nesting birds, and plants prior to the commencement of Project activities to minimize the potential for impacts on any sensitive species or other wildlife that may be present during Project implementation.</p> <p>Qualifications for biological monitors typically include a college degree in a field of biology or environmental science and experience with pre-construction and construction monitoring.</p> <p>In addition, the biological monitor shall be on-site at all times during Project construction. If at any time during Project construction special-status species are observed in the Project area or within a pre-determined radius surrounding the</p> | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status species and habitat | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|---|--------------------------|------------------------------------|---|----------------------|--------------------------------------|
| | terrestrial Project components (as determined by the on-site biologist), the biologist shall have the authority to stop all work and the Applicant shall contact the appropriate agency, (i.e., CDFW or USFWS and CSLC staff) to discuss ways to proceed with the Project. Monitoring results shall be summarized in a monthly report and provided to CSLC staff during construction. | | | | | |
| Impacts on Special-Status Species and Habitats | <p>MM BIO-3: Delineate Work Limits and Install Temporary Construction Barrier Fencing to Protect Sensitive Biological Resources. Prior to the start of Project construction, the limits of the onshore construction area at the CLP shall be clearly flagged and limited to the minimum area necessary to complete the work. Natural areas outside the construction zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time and shall be sited at least 100 feet from wetlands.</p> <p>Before construction begins, the contractor shall work with a qualified biologist, approved by CSLC staff in consultation with CDFW or USFWS, to identify environmentally sensitive locations to avoid during construction and locations that require barrier fencing. Staging</p> | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status species and habitat | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|---|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>areas and access routes shall be sited to avoid any special-status plants and seasonal wetland habitat present in the Project area. Prior to ground-disturbing activities, the contractor shall install stakes and flagging to identify environmentally sensitive areas that require avoidance. The environmentally sensitive areas shall be clearly identified on the construction specifications. The staking and flagging shall be installed before construction activities are initiated and shall be maintained for the duration of construction.</p> <p>Throughout the course of construction, the biological monitor (MM BIO-2) shall inspect the staking and flagging to ensure that it is visible for construction personnel. If fencing is installed, the biological monitor shall inspect it regularly to ensure that it is functioning properly and not inadvertently trapping or snaring wildlife.</p> | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|--|-----------------------------|------------------------------------|---|----------------------|-------------------------|
| Direct Impacts on Sensitive Biological Resources | MM BIO-4: Identify and Avoid Sensitive Biological Resources through Use of Directional Boring. To avoid substantial adverse effects on sensitive biological resources (e.g., sensitive natural communities, habitat for special-status species, and populations of special-status plants), the Applicant shall use directional boring techniques to avoid direct impacts on such resources (or bridge attachments at creeks). | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status species and habitat | Applicant and CSLC | Throughout construction |
| Impacts from Horizontal Directional Drilling and Directional Boring Activities | MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities. The Applicant shall implement the following BMPs related to Horizontal Directional Drilling and directional boring. <ul style="list-style-type: none"> For the large marine Horizontal Directional Drilling (HDD), at least 60 days prior to start of construction, the following shall be submitted to CSLC staff for review: <ul style="list-style-type: none"> Engineering design drawings as issued for construction certified by a California registered Civil/Structural Engineer. A site-specific geotechnical report certified by a California registered Geotechnical Engineer to confirm fitness of | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status species and habitat | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|--|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>purpose of the proposed drilling program and also include any geotechnical recommendations for safe HDD installation.</p> <ul style="list-style-type: none"> ○ A set of detailed calculations certified by a California registered Civil/Structural Engineer to ensure safe HDD installation to avoid hydrofracture risk and overstress to the bore pipes. • In cases where the Horizontal Directional Drilling is under CSLC jurisdiction, a minimum depth of cover of 35 feet is required unless a shallower depth is recommended by a California registered Geotechnical Engineer. • Design the bore path to an appropriate depth below the waterbody or other biological resource to minimize the risk of an inadvertent release of drilling fluids. • In cases where the bore is under a stream, prevent the conduit from becoming exposed by natural scour of the streambed by boring a minimum of 5 feet below the streambed. • Locate drill entry and exit points far enough from the banks of streams or waterbodies to minimize impact on those areas. | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|---|--------------------------|------------------------------------|---|----------------------|-------------------------|
| | <ul style="list-style-type: none"> Avoid removal of riparian vegetation between bore entry and exit points in preparation of trenchless stream crossing operations. | | | | | |
| Accidental Release of Drilling Fluid (Special-Status Species, Habitats, and Water Quality) | <p>MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan. At least 30 days prior to start of construction, a Final Inadvertent Return Contingency Plan for Horizontal Directional Drilling (HDD) and directional boring shall be submitted to CSLC staff for review. The plan shall include measures to stop work, maintain appropriate control materials on-site, contain drilling mud, prevent further migration into the stream or waterbody, and notify all applicable authorities. Control measures shall include constructing a dugout/settling basin at the bore exit site to contain drilling mud to prevent sediment and other deleterious substances from entering waterbodies. In addition, workers shall monitor the onshore and offshore to identify signs of an inadvertent release of drilling fluids. The plan shall include a complete list of the agencies (with telephone number) to be notified, including but not limited to California State Lands Commission's 24-hour emergency notification number (562) 590-5201, California Governor's Office of</p> | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status species and habitat | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|-----------------------------|------------------------------------|---|-----------------------|---|
| | Emergency Services (Cal OES) contact number (800) 852-7550, etc. | | | | | |
| | Implement MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (see below) | | | | | |
| Impacts on Vegetation and Special-Status Plant Species | MM BIO-7: Prepare and Implement a Site Restoration Plan. Prior to construction, the Applicant shall prepare a Site Restoration Plan to reduce impacts on vegetation and plant communities at the cable landing site and in other areas of the Project as appropriate. The Applicant shall submit the plan to CSLC staff for approval. The plan shall include details for site preparation and revegetation methods, monitoring, performance criteria, and reporting. As detailed in the Site Restoration Plan, the impact area shall be restored to pre-existing contours. The topsoil shall be stored on-site and evenly distributed over the site's restored contours. Species native to the region shall be seeded in the impact area. If impacts on special-status plant species are anticipated, a qualified biologist shall collect seeds of the species and store them in a cool, dry location. The qualified biologist, approved by the CSLC and other appropriate agencies, shall disperse the seeds upon completion of site restoration. It is anticipated that natural resource agencies will review and approve | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Point Area mountain beaver) | Applicant and CSLC | Throughout construction and post- construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|---|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>the Site Restoration Plan as part of the permitting process.</p> <p>The Applicant shall be responsible for avoiding and minimizing the introduction of new invasive plants and the spread of invasive plants previously documented in the BSA. The following BMPs shall be written into the construction specifications and implemented during Project construction.</p> <ul style="list-style-type: none"> • Retain all excavated soil material on-site or dispose of excess soil in a permitted off-site location to prevent the spread of invasive plants to uninfested areas adjacent to the Project footprint. • Use a weed-free source for Project materials (e.g., straw wattles for erosion control that are weed-free or contain less than 1 percent weed seed). • Prevent invasive plant contamination of Project materials during transport and when stockpiling (e.g., by covering soil stockpiles with a heavy-duty, contractor-grade tarpaulin). • Use sterile grass seed and native plant stock during revegetation. • Revegetate or mulch disturbed soils within 30 days of completing ground-disturbing activities to reduce the likelihood of invasive plant establishment. | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|--|--------------------------|--|---|--------------------|--|
| | Detailed information about implementing these BMPs can be found in <i>Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors</i> (Cal-IPC 2012). | | | | | |
| Entrapment of Wildlife | MM BIO-8: Install Escape Ramps in Open Trenches. To prevent accidental entrapment of wildlife species during construction, all excavated holes and trenches shall have a soil ramp installed, allowing wildlife an opportunity to exit. If a soil ramp cannot be installed, then the hole or excavation shall be covered with plywood or a similar material while unattended. Prior to construction activities each day, a biological monitor or the Project foreman shall inspect excavations to confirm the absence of or remove special-status species under the monitor's collection permit issued by CDFW. | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Point Area mountain beaver) | Applicant and CSLC | Throughout construction |
| Impacts on Point Arena Mountain Beaver if Present in Construction Areas | MM BIO-9: Conduct Surveys for Point Arena Mountain Beaver. A qualified biologist approved by the CSLC shall conduct pre-construction surveys for Point Arena mountain beaver consistent with the <i>Draft Guidelines for Project-Related Habitat Assessments and Presence-Absence Surveys for the Point Arena Mountain Beaver</i> (USFWS 2017), or using a modified or alternative survey methodology | Terrestrial Project area | Qualified biologist to provide documentation | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Point Area mountain beaver) | Applicant and CSLC | Prior to construction (No more than 8 weeks prior) |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|--|--------------------------|-----------------------------|---|--------------------|---|
| | approved by USFWS. The surveys generally require visual inspection for the presence of mountain beaver burrow openings or other signs of activity. Surveys shall be conducted no more than 8 weeks prior to proposed work activities. | | | | | |
| Impacts on Point Arena Mountain Beaver during Sensitive Periods | MM BIO-10: Limit Construction Period to Minimize Impacts on Point Arena Mountain Beaver. To the extent practicable, construction activities shall not be conducted in occupied Point Arena mountain beaver habitat during the breeding season (December 1 to June 30). Furthermore, nighttime work requiring illumination shall not be undertaken at any time; construction shall occur only during daylight hours. | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Point Area mountain beaver) | Applicant and CSLC | No Project construction between December 1 and June 30 or at night. |
| Impacts on Point Arena Mountain Beaver Populations and Burrows | MM BIO-11: Avoid Point Arena Mountain Beaver Populations and Burrows. The Applicant shall use the results of the Point Arena mountain beaver surveys conducted under MM BIO-9 to carefully site work areas at the CLP. Avoidance of populations and suitable burrows shall be the priority. The Applicant shall also use the results of the surveys to determine where trenching and boring should occur along the terrestrial underground conduit system routes. Boring shall be used to avoid areas with suitable burrows or adjacent populations. | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Point Area mountain beaver) | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|--|---|----------------------|-----------------------|
| | Bore pits shall be sited in areas with zero or the fewest suitable burrows. Manholes shall also be constructed in areas with the fewest suitable burrows. Construction activities shall be stopped immediately and the USFWS notified if Point Arena mountain beavers are injured or killed during construction. | | | | | |
| Impacts on Behren's Silverspot Butterfly Habitat | MM BIO-12: Survey for and Avoid Behren's Silverspot Butterfly and Lotis Blue Butterfly Habitat. Prior to construction, a qualified biologist or botanist, approved by CSLC staff in consultation with USFWS or CDFW, shall conduct a survey of the areas of the BSA that will be permanently or temporarily disturbed for Behren's silverspot butterfly and lotis blue butterfly larval host plants (western dog violet plants and other species of violet; <i>Hosackia gracilis</i> , <i>Lotus</i> spp., <i>Lupinus</i> spp., <i>Astragalus</i> spp., and <i>Lathyrus</i> spp.). The survey will be conducted during the appropriate blooming period (spring/summer). The numbers and locations of individual larval host plants identified in the BSA shall be mapped and, to the extent feasible, the Applicant shall site Project activities and facilities to avoid the removal of larval host plants. | Terrestrial Project area | Qualified biologist to provide documentation | Implementing MM will reduce the potential for impacts on vegetation and special-status species (Behren's silverspot butterfly and lotis blue butterfly) | Applicant and CSLC | Prior to construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--------------------------|---|-----------------------------|---|--|---|--|
| Impacts on Nesting Birds | <p>MM BIO-13: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures. In the event that construction would occur during the nesting season, the following conditions designed to protect both special-status and non-special-status birds shall be implemented.</p> <p>No more than 1 week prior to the start of Project construction, a qualified biologist approved by USFWS or CDFW shall conduct a survey of the Project area to determine the presence of nesting activity (the typical nesting season is from February 1 to September 1). If active nests are found, an appropriate avoidance buffer shall be established by the biologist. If federal and state special-status species are observed nesting, coordination may be warranted with USFWS or CDFW to determine the appropriate avoidance buffer distances. No disturbances shall occur within the protective buffer(s) until all young birds have fledged, as confirmed by the biologist.</p> <p>In accordance with MM BIO-2, a qualified biological monitor shall be retained by the Applicant and shall be on-site at all times during Project operations. If at any time during</p> | Terrestrial Project area | Onsite monitor to verify; coordination with USFWS/ CDFW | Implementing MM will reduce the potential for impacts on nesting birds | Applicant; CSLC; USFWS and CDFW, if necessary | Prior to construction (no more than 1 week before) and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|---|--------------------------|------------------------------------|---|----------------------|-----------------------|
| | Project operations special-status species (including but not limited to western snowy plovers) are observed within the Project area, all work shall be stopped or redirected to an area within the Project site that would not affect special-status birds. | | | | | |
| Impacts on Unsurveyed Special-Status Plant Species and Habitat | MM BIO-14: Conduct Appropriately Timed Floristic Surveys of Remaining Areas. The remaining portions of the BSA that were not surveyed at the appropriate time to account for early- and mid-blooming plant species will be surveyed. The final 2018 botanical survey covered the entire BSA and coincided with the identifiable period of late-blooming species. A qualified biologist, approved by CSLC staff in consultation with CDFW or USFWS, shall conduct early- and mid-season botanical surveys of the natural and naturalized communities in the BSA—excluding developed areas and disturbed vegetation on the property containing the Private CLS—in spring and summer 2019. Botanical surveys shall follow methods described in <i>Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities</i> (CDFW 2018e). | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on special-status plants. | Applicant and CSLC | Prior to construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|---|---------------------|---|--|--------------------|---|
| | Should special-status plants be documented in the BSA, directional boring would avoid impacts on the special-status species and the occupied habitat. | | | | | |
| Unburied Sections of Marine Cable | MM BIO-15: Inspection and Burial of Cable. The marine fiber-optic cable shall be buried to the extent feasible in accordance with the following. <ul style="list-style-type: none"> Bury the cable to the extent practicable in areas with soft bottom substrate and water depths of 5,904 feet or less. The burial report submitted by the Applicant after each phase shall include a detailed description of all buried and unburied sections and justification for any unburied sections. | Marine Project area | Reporting forms (burial report) submitted to CSLC | Implementing MM will reduce the potential for entanglement of marine species with cable and fishing gear | Applicant and CSLC | Throughout marine Project activities while installing cable |
| Entanglement of Marine Species and Fishing Gear | MM BIO-16: Cable Entanglements and Gear Retrieval. In the event that fishers snag a cable and lose or cut gear, the Applicant shall use all feasible measures to retrieve the fishing gear or inanimate object. Retrieval shall occur no later than 6 weeks after discovering or receiving notice of the incident. If full removal of gear is not feasible, the Applicant shall remove as much gear as practicable to minimize harm to wildlife (e.g. fishes, birds, and marine mammals). Within 2 weeks | Marine Project area | Reporting forms (burial report) submitted to CSLC | Implementing MM will reduce the potential for loss of revenue for fishers | Applicant and CSLC | Throughout marine Project activities |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|--|---------------------|--|--|----------------------|--|
| | of completing the recovery operation, the Applicant shall submit to the CSLC a report describing (a) the nature and location of the entanglement (with a map); and (b) the method used for removing the entangled gear or object, or the method used for minimizing harm to wildlife if gear retrieval proves infeasible. | | | | | |
| Impacts on Wildlife from Marine Vessels | MM BIO-17: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan. The Applicant shall prepare and implement a Marine Wildlife Monitoring and Contingency Plan (MWMCP) that shall apply to cable installation and repair activities and consist of the following elements, procedures, and response actions. <ul style="list-style-type: none"> Awareness training for Project vessel crew that includes identification of common marine wildlife and avoidance procedures included in the MWMCP for Project activities. Provision of two qualified shipboard marine mammal observers on board all cable installation vessels to conduct observations during all active cable installation activities. The MWMCP shall establish the qualifications of and required equipment for the observers. | Marine Project area | Retain copy of MWMCP and marine wildlife monitor notes | Implementing MM will reduce vessel movement and noise-related impacts on marine wildlife | Applicant and CSLC | Sixty days prior to and throughout marine Project activities |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|---|--------------------------|------------------------------------|--|----------------------|---------------------------------|
| | <ul style="list-style-type: none"> In consultation with NMFS, establish a safety work zone around all Project work vessels that defines the distance from each work vessel that marine mammals and sea turtles may approach before all operations must cease until the marine mammal or sea turtle has moved beyond. Project-specific control measures for Project vessels (including support boats) and actions to be undertaken when marine wildlife is present, such as reduced vessel speeds or suspended operations. Reporting requirements and procedures for wildlife sightings and contact and requirements for post-installation reporting. The MWMCP shall identify the resource agencies that are to be contacted in case of marine wildlife incidents and that will receive reports at the conclusion of Project installation. The MWMCP shall be submitted to the CSLC and CCC for review at least 60 days prior to the start of marine installation activities. | | | | | |
| Impacts on Environmentally Sensitive Habitat Areas | MM BIO-18: Boring beneath Environmentally Sensitive Habitat Areas. Per methods outlined in MM BIO-5 , all ESHAs will be bored beneath and avoided. | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on ESHAs | Applicant and CSLC | During terrestrial construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|--|--|--------------------|---|
| Impacts on Wet Meadow Habitat | MM BIO-19: Locate Work and Staging Areas for the Cable Landing Site and Associated Facilities outside Wet Meadow Habitat. The Applicant shall situate work and staging areas for the cable landing site and associated facilities an appropriate distance from the wet meadow habitat to avoid direct and indirect impacts. | Terrestrial Project area | Onsite monitor to verify | Implementing MM will reduce the potential for impacts on wet meadow habitat | Applicant and CSLC | Prior to construction |
| Impacts on Hard Substrate Habitat (Sensitive Species) | MM BIO-20: Minimize Crossing of Hard Bottom Substrate. Prior to start of construction, a survey shall be conducted to identify any hard bottom habitat, eelgrass, kelp, existing utilities including but not limited to pipelines, power cables, etc., and the survey map shall be submitted to CSLC staff for review. The proposed cable routes and anchoring locations shall be set to avoid hard bottom habitat, eelgrass, kelp, existing utilities including but not limited to pipelines, power cables, etc., as identified in the survey. | Marine Project area | Reporting forms (burial report) submitted to CSLC | Implementing MM will ensure that avoidance of sensitive species and hard bottom habitat areas is achieved and will determine presence or absence of <i>Caulerpa taxifolia</i> and seagrasses | Applicant and CSLC | Prior to and throughout marine cable installation |
| Damage to Hard Substrate during Cable Installation | MM BIO-21: Contribute Compensation to Hard Substrate Mitigation Fund. The following mitigation is proposed for damage to slow-growing, hard-substrate organisms. <ul style="list-style-type: none"> CCC compensation fees (based on past projects) will be required to fund the U.C. Davis Wildlife Health Center's California Lost | Marine Project area | Applicant will provide retirement verification to the CSLC | Compensation fees will help reduce impacts on hard substrate | Applicant | Immediately after Project construction and after determination based on final burial report |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|--|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>Fishing Gear Recovery Project or other conservation programs or impacts to high-relief, hard substrate affected by the Project. The amount of the hard bottom mitigation fee shall be calculated by applying a 3:1 mitigation ratio to the total square footage of impacted hard bottom and multiplying that square footage by a compensation rate of \$14.30 per square foot.</p> <ul style="list-style-type: none"> A final determination of the amount of high-relief, hard substrate affected (used to calculate the total compensation fee) will be based on a review of the final burial report from the cable installation. The total assessment and methods used to calculate this figure will be provided to the CSLC and the CCC for review and approval. Both CSLC and CCC also will be provided documentation of the total amount of mitigation paid, and the activities for which the funds will be used. | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|---|---|---|---|-----------------------|---|
| Spread of Nonnative Aquatic Species | MM BIO-22: Control of Marine Invasive Species. Applicant shall ensure that the underwater surfaces of all project vessels are clear of biofouling organisms prior to arrival in state waters. The determination of underwater surface cleanliness shall be made in consultation with CSLC staff. Additionally, and regardless of vessel size, ballast water for all Project vessels must be managed consistent with the CSLC's ballast management regulations, and Biofouling Removal and Hull Husbandry Reporting Forms shall be submitted to CSLC staff as required by regulation. No exchange of ballast water for project vessels shall occur in waters shallower than the 5,904 feet isobath. | Hull cleaning/ biofouling removal to be conducted at vessel origination site At Project kick-off meeting site | Reporting forms submitted to CSLC Project kick-off meeting sign- in sheet | Implementing MM will reduce the introduction of nonnative aquatic species and ensure that vessel operators are aware of nonnative aquatic species regulations | Applicant and CSLC | Biofouling removal prior to Project vessels transitioning to Project site Submit Biofouling Removal and Hull Husbandry Reporting Forms prior to Project operations During Project kick-off meeting |
| Cultural Resources | | | | | | |
| Disturbance of Terrestrial Archaeological Resources | MM CUL-1: Discovery of Previously Unknown Cultural Resources. The Applicant shall retain a qualified archaeologist to train construction staff to be able to identify potential cultural resources. In the event that potential resources are uncovered during Project implementation, all ground-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until an archaeologist has evaluated the | Terrestrial Project area | Qualified archaeologist, treatment plan if needed | Implementing MM will reduce potential impacts on archaeological resources | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|---|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>nature and significance of the discovery. In the event that a potentially significant resource is discovered, the Applicant, the CSLC, and any local, state, or federal agency with approval or permitting authority over the Project that has requested or required such notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures shall be taken to secure the area from site disturbance and potential vandalism. Impacts on previously unknown significant archaeological resources shall be avoided through preservation in place if feasible. A treatment plan developed by the archaeologist shall be submitted to CSLC staff for review and approval. If the archaeologist determines that damaging effects on the resource would be avoided or minimized, work in the area may resume.</p> <p>Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the CSLC.</p> | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|---|---------------------|---|--|----------------------|--------------------------------------|
| Disturbance of Marine Archaeological Resources | MM CUL-2: Conduct a Pre-Construction Offshore Archaeological Resources Survey. Using the results of an acoustic survey (e.g., a Compressed High-Intensity Radiated Pulse [CHIRP] System survey) for evidence of erosion/incision of natural channels, the nature of internal channel-fill reflectors, and the overall geometry of the seabed, paleochannels and surrounding areas shall be analyzed for their potential to contain intact remains of the past landscape that could contain prehistoric archaeological deposits (e.g., Schmidt et al. 2014). The analysis shall include core sampling in various areas, such as paleochannels, to verify the seismic data analysis. Based on the CHIRP and coring data, a Marine Archaeological Resources Assessment Report shall be produced by a qualified maritime archaeologist and reviewed by the CSLC or the State Historic Preservation Officer to document effects on potentially historic properties. All acoustic surveys will be conducted by operators permitted by CSLC through its Low-Energy Offshore Geophysical Permit Program (https://www.slc.ca.gov/ogpp/). | Marine Project area | Qualified archaeologist, Marine Archaeological Resources Assessment Report, if needed | Implementing MM will reduce potential impacts on marine archaeological resources | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|---|---------------------|------------------------------------|--|----------------------|--------------------------------------|
| Disturbance of Archaeological Resources (Offshore Historic Shipwrecks) | <p>MM CUL-3: Conduct a Pre-Construction Offshore Historic Shipwreck Survey. A qualified maritime archaeologist, in consultation with CSLC staff, shall conduct an archaeological survey of the proposed cable routes. The archaeological survey and analysis shall be conducted following current CSLC, BOEM, and USACE (San Francisco and Sacramento Districts) standard specifications for underwater/marine remote sensing archaeological surveys (Guidelines for Providing Geological and Geophysical, Hazards, and Archaeological Information Pursuant to 30 CFR Part 585).</p> <p>The archaeological analysis shall identify and analyze all magnetic and side-scan sonar anomalies that occur in each cable corridor, defined by a lateral distance of 0.31 mile on either side of the proposed cable route. This analysis shall not be limited to side scan and magnetometer data and may include shallow acoustic (subbottom) data as well as AUV and multi-beam data that may have a bearing on identification of anomalies representative of potential historic properties. All magnetic, side-scan sonar, and acoustic surveys will be conducted by operators permitted by CSLC through its Low-Energy</p> | Marine Project area | Qualified maritime archaeologist | Implementing MM will reduce potential impacts on marine archaeological resources | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|---|--|--------------------|--------------------------------------|
| | Offshore Geophysical Permit Program (https://www.slc.ca.gov/ogpp/). | | | | | |
| Disturbance of Marine Archaeological Resources | MM CUL-4: Prepare and Implement an Avoidance Plan. All cultural resources identified in the Marine Archaeological Resources Assessment Report and the Offshore Historic Shipwreck Survey Report shall be avoided by developing and implementing an avoidance plan. If any cultural resources are discovered as a result of the marine remote sensing archaeological survey, the proposed cable route or installation procedures shall be modified to avoid the potentially historic property. The Applicant shall route the cable no closer than 164 feet from the center point of any given find. In the event a resource is discovered during construction that did not show up on the remote sensing survey and was not part of the avoidance plan, construction in that area will stop, CSLC will be notified, and the cable will be rerouted to avoid the discovery. | Marine Project area | Qualified maritime archaeologist | Implementing MM will reduce potential impacts on marine archaeological resources | Applicant and CSLC | Prior to and throughout construction |
| Disturbance of Human Remains | MM CUL-5: Unanticipated Discovery of Human Remains. If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 | Terrestrial Project area | Qualified archaeologist; County Coroner | Implementing MM will reduce potential impacts on human remains | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|------------------------------------|---|----------------------|--------------------------------------|
| | shall be followed. Work shall stop within 100 feet of the discovery and an archaeologist must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. In addition, CSLC staff shall be notified within 24 hours. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage CSLC within 24 hours of this determination and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented. | | | | | |
| Cultural Resources — Tribal | | | | | | |
| Discovery of Tribal Cultural Resources | MM TCR-1: Discovery of Previously Unknown Tribal Cultural Resources. Prior to Project related ground-disturbing activities, the Applicant shall prepare a Tribal Cultural Resources Monitoring Plan subject to CSLC approval. The Plan shall be prepared in coordination with the CSLC and a California Native American Tribe that is culturally affiliated with the Project site. The Plan shall include, but not be limited to, the following measures. <ul style="list-style-type: none"> The Applicant shall retain a monitor from a California Native American Tribe that is culturally | Terrestrial Project area | Native American monitor, if needed | Implementing MM will reduce potential impacts on tribal resources | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|---|----------|------------------------------------|---------------------------|----------------------|--------|
| | <p>affiliated with the Project site during all ground-disturbing activities.</p> <ul style="list-style-type: none"> • The Applicant shall provide a minimum 5-day notice to the tribal monitor prior to all scheduled ground-disturbing activities. • The Applicant shall provide the tribal monitor safe and reasonable access to the Project site. • Procedures for tribal monitoring including availability of resources and information to monitor excavation activities. • Guidance on identification of potential tribal resources that may be encountered • The tribal monitor will provide orient construction personnel with an orientation on the requirements of the Plan, including the probability of exposing tribal resources, guidance on recognizing such resources, and direction on procedures if a find is encountered. • Preparation of a Treatment Plan (see MM TCR-2) if tribal resources are discovered during excavation activities. The Applicant will train construction staff to be able to identify potential Tribal cultural resources | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|---|----------|------------------------------------|---------------------------|----------------------|--------|
| | and identify a tribal point of contact prior to construction. In the event that potential resources are uncovered during Project implementation, all ground-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until the tribal point of contact or his designee has evaluated the nature and significance of the discovery. Should Tribal cultural deposits be uncovered during Project implementation, CSLC staff and the tribal point of contact shall be contacted within 24 hours. A Treatment Plan developed in consultation with the tribal contact or his designee shall be submitted to CSLC staff for review and approval. The location of any such finds must be kept confidential. Measures should be taken to secure the area from minimize site disturbance and potential vandalism. Additional measures to meet these requirements include assessment of the nature and extent of the deposit, subsequent recordation, and notification of relevant parties based on the results of the assessment. Impacts on previously unknown significant Tribal cultural resources shall be | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|------------------------------------|---|----------------------|-------------------------|
| | avoided through preservation in place if feasible. | | | | | |
| Treatment of Uncovered Tribal Cultural Resources | <p>MM TCR-2: Tribal Cultural Resources Treatment Plan.</p> <p>Should intact tribal cultural deposits be uncovered during Project implementation, CSLC staff and the tribal monitor shall be contacted immediately within 24 hours. A Treatment Plan developed in consultation with the tribal monitor shall be submitted to CSLC staff for review and approval. CSLC staff, in consultation with the tribal monitor, shall have the authority to temporarily halt all work within 100 feet (metric) of the find. The location of any such finds must be kept confidential, and measures shall be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Additional measures to meet these requirements include assessment of the nature and extent of the deposit, and subsequent recordation and notification of relevant parties based on the results of the assessment. Impacts on previously unknown significant Tribal cultural resources shall be avoided through preservation in place, if feasible, or through a mitigation and data recovery plan established between the CSLC, designated Tribes, and</p> | Terrestrial Project area | Develop a treatment plan | Implementing MM will reduce potential impacts on tribal resources | Applicant and CSLC | Throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------------------|--|--|----------------------|-------------------------------|
| | qualified archaeologists to offset the effects of the impact. | | | | | |
| Geology, Soils, and Paleontological Resources | | | | | | |
| Erosion and/or Loss of Topsoil | Implement MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (see below) | | | | | |
| Greenhouse Gas Emissions | | | | | | |
| GHG Emissions during Construction | MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions. The Applicant shall purchase carbon offsets equivalent to the Project's projected GHG emissions (2,691 metric tons CO ₂ e) to achieve a net zero increase in GHG emissions during the construction phase for emissions within 24 nm off the California coast. A carbon offset is a credit derived from the reduction of GHG emissions through a separate reduction project, often in a different location from the emission source. To be acceptable for emissions reduction credit, the carbon offset must be permanent, quantifiable, verifiable, and enforceable. Several existing voluntary offset exchanges have been validated by the California Air Resources Board, including the California Action Reserve Voluntary Offset Registry, American Carbon Registry, and Verified Carbon Standard. The Applicant shall purchase all offsets prior to ground breaking and provide copies of the offset retirement verification to the CSLC. | Up to 24 nm off the California coast | Applicant will provide retirement verification to the CSLC | Purchase of carbon offsets will reduce GHG emissions impacts | Applicant | Prior to Project construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|--|--|-------------------------------------|------------------------------------|---|----------------------|--------------------------------------|
| Hazards and Hazardous Materials | | | | | | |
| Accidental Release of Hazardous Materials | MM HAZ-1: Hazardous Materials Management and Contingency Plan. The Applicant shall develop and implement Hazardous Materials Management and Contingency Plan (Plan) measures for onshore and offshore operations. Measures shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, daily equipment inspection schedule, a spill response plan, spill response supplies to be maintained on-site and on marine vessels, and a complete list of the agencies to be notified (with their telephone number), including but not limited to California State Lands Commission's 24-hour emergency notification number (562) 590-5201, California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550, etc. For any offshore activities involving work vessels, the primary work vessel will be required to carry on board a minimum 400 feet of sorbent boom, 5 bales of sorbent pads at least 18-inch by 18-inch square and small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface. The Plan shall provide for the immediate call out of | Terrestrial and marine Project area | Submit Plan to CSLC | Implementing MM will reduce potential for release of hazardous materials into the environment | Applicant | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|--------------------------|--|---|--|--------------------------------------|
| | additional spill containment and cleanup resources in the event of an incident that exceeds the rapid clean up capability of the on-site work force. | | | | | |
| Accidental Release of Hazardous Materials (Soil Contamination) | MM HAZ-2: Contaminated Materials Management Plan. Prior to Project construction, a plan shall be prepared that identifies the actions and notifications to occur if evidence of soil contamination is encountered during onshore excavation. The Applicant shall notify the County of Mendocino Health and Human Services Agency Environmental Health Department within 24 hours of discovery of contaminated materials encountered during the course of Project construction or decommissioning activities. Work in the area suspected of contamination shall stop until the notified agencies, together with the Applicant, have determined next steps. | Terrestrial Project area | Submittal of the Contaminated Materials Management Plan to County of Mendocino Health and Human Services Agency Environmental Health Department, if needed | Implementing MM will reduce potential impacts on human health from exposure to contaminated soils | Applicant; Mendocino Health and Human Services Agency Environmental Health | Prior to and throughout construction |
| | Implement MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities (see above) Implement MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan (see above) Implement MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan (see below) | | | | | |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|-----------------------------|------------------------------------|---|----------------------|--------------------------------------|
| Hydrology and Water Quality | | | | | | |
| Violation of Water Quality Standards | <p>MM HYDRO-1: Prepare and Implement a Stormwater Pollution Prevention Plan.</p> <p>A SWPPP consistent with the Statewide National Pollution Discharge Elimination System Construction General Permit (Order No. 2012-0006-DWQ) shall be developed and implemented. The SWPPP shall detail the construction-phase erosion and sediment control BMPs and the housekeeping measures for control of contaminants other than sediment. Erosion control BMPs shall include source control measures, such as wetting of dry and dusty surfaces to prevent fugitive dust emissions, preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw mulch, and hydroseeding), for inactive areas and finished slopes to prevent sediments from being dislodged by wind, rain, or flowing water. Sediment control BMPs shall include measures such as installation of fiber rolls and sediment basins to capture and remove particles that have already been dislodged.</p> | Terrestrial Project area | Onsite monitor to verify | Implementing the MM will reduce the potential for impacts on water quality from release of contaminants and sediment into water-bodies and ensure prompt response in the event of a spill | Applicant and CSLC | Prior to and throughout construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---------------------------|---|-----------------------------|------------------------------------|--|---|---------------------------------------|
| | <p>The SWPPP shall establish good housekeeping measures such as construction vehicle storage and maintenance, handling procedures for hazardous materials, and waste management BMPs, which shall include procedural and structural measures to prevent the release of wastes and materials used at the site. The SWPPP also shall detail spill prevention and control measures to identify the proper storage and handling techniques of fuels and lubricants, and the procedures to follow in the event of a spill.</p> <p>Implement MM HAZ-1: Hazardous Materials Management and Contingency Plan (see above) Implement MM HAZ-2: Contaminated Materials Management Plan (see above) Implement MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling and Directional Boring Activities (see above) Implement MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan (see above) Implement MM BIO-7: Prepare and Implement a Site Restoration Plan (see above)</p> | | | | | |
| Noise | | | | | | |
| Construction Noise | <p>MM N-1 Restrict Terrestrial Construction Work on Sundays. On Sundays, the Applicant shall not conduct any activities that exceed ambient noise levels work within 300 feet of sensitive receptors.</p> | Terrestrial Project area | Contract specifications | Implementing MM will reduce construction noise impacts on sensitive receptors | Applicant; Applicant's contractor | Throughout Project construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|-----------------------|---|---------------------|------------------------------------|---|-----------------------------------|---------------------------------|
| Recreation | | | | | | |
| Offshore recreation | Implement MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners (see below) | | | | | |
| Transportation | | | | | | |
| Onshore traffic | Implement MM N-1 Restrict Terrestrial Construction Work on Sundays (see above) | | | | | |
| Marine vessel traffic | MM T-1: Publication of U.S. Coast Guard Local Notice to Mariners. The Applicant shall ensure that its contractor submits to the USCG District 11 (https://www.navcen.uscg.gov/?pageName=lnmDistrict&region=11), 14 days prior to operation, a request to publish a Local Notice to Mariners that includes the following information: <ul style="list-style-type: none">• Type of operation (i.e., dredging, diving operations, and construction).• Location of operation, including latitude and longitude and geographical position, if applicable.• Duration of operation, including start and completion dates (if these dates change, the USCG needs to be notified).• Vessels involved in the operation.• VHF-FM radio frequencies monitored by vessels on the scene.• Point of contact and 24-hour phone number.• Chart number for the area of operation. | Marine Project area | Contract specifications | Implementing MM will reduce construction noise impacts on sensitive receptors | Applicant; Applicant's contractor | Throughout Project construction |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|---|--|---------------------|---|---|-----------------------------------|---|
| Commercial Fishing | | | | | | |
| Disruption of Commercial Fishing | <p>APM-1: Fishing Agreement. The Applicant will enact a fishing agreement that will serve to minimize potential impacts on the viability of the commercial fishing industry. This agreement would, in part, establish the following:</p> <ul style="list-style-type: none"> • A cable/fishing liaison committee that would manage the interactions between the fishers and the cable companies. • Policies for how the fishers will work around the cables and what to do if they think their fishing gear is hung up on a cable or similar issue. • Methods of gear replacement and costs claims in the unlikely event that fishing gear is entangled in cable owned by the Applicant. • Design and installation procedures to minimize impacts on fishing activities, such as: <ul style="list-style-type: none"> - Burying cable where possible - Allowing fishing representatives to review marine survey data and participate in cable alignment selection - Communication and notification procedures - Contributions to fishing improvement funds | Marine Project area | Provide Agreement to the CSLC prior to construction | Implementing this APM will reduce the potential for gear entanglement, cable unburial, and uncompensated loss of gear | Applicant; Applicant's contractor | Throughout Project construction and operation |

Table 4-1. Mitigation Monitoring Program

| Potential Impact | Mitigation Measure (MM) | Location | Monitoring/ Reporting Action | Effectiveness Criteria | Responsible Party | Timing |
|------------------|--|-----------------------------|--|---|-----------------------------------|---------------------------------|
| Marine Anchoring | APM-2: Marine Anchor Plan. At least 30 days prior to start of construction, a vessel anchoring plan shall be submitted to CSLC staff for review. The plan is to provide a map (as identified in MM BIO-20) of the proposed anchor spread and anchor locations or offshore temporary mooring location for each work vessel, and a narrative description of the anchor setting and retrieval procedures to be employed that will result in minimal impacts on the ocean bottom. Please note that anchor dragging along sea bottom is not allowed. | Marine anchoring areas only | Provide Plan to the CSLC prior to construction | Implementing this APM will ensure safety for anchoring operations | Applicant; Applicant's contractor | Throughout Project construction |

Terms:

- APM = Applicant Proposed Measure
- Applicant = RTI Infrastructure, Inc.
- AUV = autonomous underwater vehicle
- BMP = best management practice
- BOEM = Bureau of Ocean Energy Management
- BSA = biological study area
- CCC = California Coastal Commission
- CDFW = California Department of Fish and Wildlife
- CFR = Code of Federal Regulations
- CLP = cable landing parcel
- CO_{2e} = CO₂ equivalent
- CSLC = California State Lands Commission
- ESHA = environmentally sensitive habitat area
- GHG = greenhouse gas
- HDD = horizontal directional drilling
- nm = nautical miles
- NMFS = National Marine Fisheries Service
- USACE = U.S. Army Corps of Engineers
- USCG = U.S. Coast Guard
- USFWS = U.S. Fish and Wildlife Service

5.0 OTHER COMMISSION CONSIDERATIONS

In addition to the environmental review required pursuant to the California Environmental Quality Act (CEQA), a public agency may consider other information and policies in its decision-making process. This section presents information relevant to the California State Lands Commission's (Commission's) consideration of the Project. The considerations addressed below are:

- Climate change and sea-level rise
- Commercial and recreational fishing
- Environmental justice
- State tide lands and submerged land possessing significant environmental values

Other considerations may be addressed in the staff report presented at the time of the Commission's consideration of the Project.

5.1 CLIMATE CHANGE AND SEA-LEVEL RISE

Sea-level rise as a function of global climate change is not expected to have any effect on the Project because none of the permanent infrastructure is proposed in areas subject to flooding or increased erosion with anticipated sea-level rise. The marine component of the Project would be buried approximately 3.3 feet beneath the seafloor in State waters starting 3,280 feet offshore, where they are not subject to additional flooding or associated erosion due to sea-level rise. The CLS would be on a coastal terrace well above an elevation of potential sea-level rise and inland from the edge of the coastal bluff, which could become more susceptible to increased erosion over time. The cable between the CLS and the offshore bore pipe daylight point would be drilled deep (approximately 35 to 50 feet below the beach and thus would not be subject to increased erosion over time. The terrestrial cable would not be in areas subject to increased inland flooding as it would be installed under coastal streams or would be installed well above them on existing bridges that are at elevations above potential sea-level rise.

However, because climate change and sea-level rise accelerate and exacerbate natural coastal processes, such as the intensity and frequency of storms, erosion and sediment transport, currents, wave action, and ocean chemistry, a brief discussion of climate change and sea-level rise is useful to understanding the Project objectives.

Sea-level rise is driven by the melting of polar ice caps and land ice, as well as thermal expansion of sea water. Accelerating rates of sea-level rise are attributed to increasing global temperatures associated with climate change. Estimates of projected sea-level rise vary regionally and are a function of different greenhouse gas emissions scenarios, rates of ice melt, and local vertical land movement. The California Ocean Protection Council updated the State of California Sea-Level Rise Guidance in 2018 to provide a synthesis of the best available science on sea-level rise projections and rates. CSLC staff evaluated

the “high emissions,” “medium-high risk aversion” scenario to apply a conservative approach based on both current emission trajectories and the lease location. The Arena Cove tide gauge was used for the projected sea-level rise scenario and the Project area could see 0.7-foot sea-level rise by 2030, 1.8 feet by 2050, and 6.7 feet by 2100 (Ocean Protection Council 2018). The range in potential sea-level rise indicates the complexity and uncertainty of projecting these future changes—which depend on the rate and extent of ice melt—particularly in the second half of the century.

Along with higher sea levels, winter storms of greater intensity and frequency resulting from climate change will further affect coastal areas. The combination of these conditions will likely result in increased wave run up, storm surge, and flooding in coastal and near-coastal areas. In rivers and tidally influenced waterways, more frequent and powerful storms can result in increased flooding conditions and damage from storm-generated debris. Climate change and sea-level rise also will affect coastal and riverine areas by changing erosion and sedimentation rates. Beaches, coastal landscapes, and near-coastal riverine areas exposed to increased wave force, run up, and total water levels could potentially erode more quickly than before. However, rivers and creeks also are predicted to experience flashier sedimentation pulse events from strong winter storms, punctuated by periods of drought. Therefore, depending on precipitation patterns, sediment deposition and accretion may accelerate along some shorelines and coasts.

Weather systems and extreme storms also can cause uncover dangerous coastal hazards on shorelines. The Commission, when funding is available, implements a program to remove coastal hazards along the California coast (California State Lands Commission 2017). Examples of hazards are remnants of coastal structures, piers, oil wells and pilings, and deteriorated electric cables and old pipelines. Many coastal hazards are located on Public Trust lands set aside for commerce, navigation, fishing, and recreation; these hazards can impede coastal uses as well as threaten public health and safety. Governor Brown’s Executive Order B-30-15 instructed all state agencies to take climate change into account in their planning and investment decisions, and to give priority to actions that build climate preparedness. The preceding discussion of climate change and sea-level rise is intended to provide the local/regional overview and context that the Commission staff considered pursuant to this Executive Order; additionally, it will facilitate the Commission’s consideration of the Project.

5.2 COMMERCIAL AND RECREATIONAL FISHING

The coastal waters of north central California are used extensively for both commercial and recreational fishing. Commercial fish caught by trolling, trawling, diving, and trapping in north central California are mostly landed at Fort Bragg. Of the more than 100 fish species landed between 2013 and 2017, 20 species or groups of species have accounted for 99 percent of the landings based on tonnage (AMS 2018a: Table 6 [Appendix C5]). The most dominant taxa landed by commercial fishers are red sea urchins

(*Mesocentrotus franciscanus*), Dover sole (*Microstomus pacificus*), sablefish (*Anoplopoma fimbria*), Dungeness crab (*Metacarcinus magister*), Chinook salmon (*Oncorhynchus tshawytscha*), longspine thornyhead (*Sebastolobus altivelis*), shortspine thornyhead (*Sebastolobus alascanus*), Petrale sole (*Eopsetta jordani*), assorted rockfish (*Sebastes* spp.), longnose skate (*Rajidae rhina*), hagfish (Class Myxini), market squid (*Doryteuthis opalescens*), and lingcod (*Ophiodon elongates*). The locations, depths, and time of year fished by each gear type vary due to limitations in the gear, distribution of target species, and regulations (open seasons and quotas).

Recreational fishing, conducted from docks, private boats, commercial party boats, rocky shores, and sandy beaches, landed approximately 134 fish taxa between 2013 and 2017 (AMS 2018a: Table 7). However, 30 of these taxa accounted for more than 90 percent of the landings in tonnage or in individual numbers of fish landed. The dominant fish taxa caught by recreational fishers include lingcod, assorted rays (*Rajidae* spp.), assorted rockfish, Barred surfperch (*Amphistichus argenteus*), Dungeness crab, striped bass (*Morone saxatilis*), California halibut (*Paralichthys californicus*), jacksmelt (*Atherinopsis californiensis*), cabezon (*Scorpaenichthys marmoratus*), Pacific mackerel (*Trachurus symmetricus*), Pacific sanddab (*Citharichthys sordidus*), rock crabs (*Cancer productus*), red abalone (*Haliotis rufescens*), night smelt (*Spirinchus starksi*), American shad (*Alosa sapidissima*), and striped kelpfish (*Gibbonsia metzi*) (AMS 2018a: Table 7 [Appendix C5]).

5.2.1 Construction

Installation and maintenance of the marine segments of the Project have the potential to cause short-term restrictions to commercial and recreational fishing activities in a very limited area of the Project (at the end of the bore pipes) for several days and along the cable route at any one location for a matter of a few hours. Although offshore support and cable-laying vessels would be present within the Project area for a short period of time, some potential remains for temporary displacement of commercial or recreational fishers from a very limited area for fishing during Project construction. However, due to the availability of comparable and immediately adjacent coastal locations for fishing, and the very limited time during which Project work vessels would be present in any one specific location, the Project is not anticipated to result in any substantive reductions in fish landings.

In addition, RTI is actively involved with regional commercial fishing associations to enhance communication concerning Project construction, maintenance schedules, and work locations in order to avoid conflicts. RTI intends to update the existing Fishing Agreement (**APM-1**) for the installed AT&T cables, which has managed construction and operational matters between the prior cables and local fishers to avoid adverse effects on commercial fishing. Therefore, the Project is not anticipated to substantially affect commercial or recreational fishing during Project construction.

5.2.2 Operations

After Project completion, trawlers would be able to fish over the buried cable. To the extent that commercial and recreational fishing continue to occur over the cable where buried, it is not anticipated that the new cable would affect fishing in those areas. Due to the depths of installation, gear entanglement with buried cables is uncommon and not anticipated. Nevertheless, a loss of gear and fishing time, including any fish catch that might be contained in the lost gear, could affect the profitability of individual fishers, with the potential for longer-term repercussions. To minimize this potential affect, RTI would enact a Fishing Agreement per **APM-1** that will serve to minimize any potential impacts on the viability of the commercial fishing industry. This agreement would, in part, establish the following.

- A cable/fishing liaison committee that would manage the interactions between the fishers and the cable companies.
- Policies for how the fishers will work around the cables and what to do if they think their fishing gear is hung up on a cable or similar issue.
- Methods of gear replacement and costs claims in the unlikely event that fishing gear is entangled in cable owned by RTI.
- Design and installation procedures to minimize impacts on fishing activities, such as:
 - Burying cable where possible.
 - Allowing fishing representatives to review marine survey data and participate in cable alignment selection.
- Communication and notification procedures.
- Contributions to fishing improvement funds.

The Fishing Agreement (**APM-1**), as described above is included in the Mitigation Monitoring Table (Table 4-1).

Also, as discussed above, the method of cable installation and cable routes are designed to result in limited effects on soft and hard substrate habitats and associated marine communities, including fish. Substantial impacts are not anticipated on commercial and recreational fishing during Project operation.

5.3 ENVIRONMENTAL JUSTICE

In keeping with its commitment to environmental sustainability and access to all, California was one of the first states to codify the concept of environmental justice in statute. Beyond the fair treatment principles described in statute, the Commission staff and other environmental justice leaders would like to include individuals who are disproportionately affected by a proposed project's effects in the decision-making

1 process. The goal is that, through equal access to the decision-making process, everyone
2 has equal protection from environmental and health hazards and can live, learn, play, and
3 work in a healthy environment.

4 In 2016, legislation was enacted to require local governments with disadvantaged
5 communities, as defined in statute, to incorporate environmental justice into their general
6 plans when two or more general plan elements (sections) are updated. The Governor's
7 Office of Planning and Research (the lead state agency on planning issues) is working
8 with state agencies, local governments, and many partners to update the General Plan
9 Guidelines in 2019 to include guidance for communities on environmental justice (Office
10 of Planning and Research 2016).

11 Environmental justice is defined by California law as "the fair treatment of people of all
12 races, cultures, and incomes with respect to the development, adoption, implementation,
13 and enforcement of environmental laws, regulations, and policies" (Gov. Code,
14 § 65040.12, subd. (c)). This definition is consistent with the Public Trust Doctrine principle
15 that the management of trust lands is for the benefit of all people. The Commission
16 adopted an Environmental Justice Policy in December 2018 ([Item 75, December 2018](#))
17 to ensure that environmental justice is an essential consideration in the Commission's
18 processes, decisions, and programs.²⁶ Through its policy, the Commission reaffirms its
19 commitment to an informed and open process in which all people are treated equitably
20 and with dignity, and in which its decisions are tempered by environmental justice
21 considerations. Among other goals, the policy commits the Commission to, "Strive to
22 minimize additional burdens on and increase benefits to marginalized and disadvantaged
23 communities resulting from a proposed project or lease."²⁷

24 The U.S. Council on Environmental Quality's (CEQ's) Environmental Justice Guidance
25 under the National Environmental Protection Act (CEQ Guidance) defines "minorities" as
26 individuals who are members of the following population groups (CEQ 1997): American
27 Indian or Alaskan Native, Asian or Pacific Islander, Black not of Hispanic origin, and
28 Hispanic.

29 A total minority population is calculated by subtracting the population that is not
30 considered a minority under the CEQ Guidance definition from the total population.
31 According to the CEQ Guidance, minority populations should be identified in this analysis
32 where:

- 33 • A minority population exceeds 50 percent of the population of the affected area; or
- 34 • The minority population percentage of the affected area is meaningfully greater
35 than the minority population percentage in the general population or other

²⁶ See <https://www.slc.ca.gov/envirojustice/>.

²⁷ Id.

appropriate unit of geographic analysis (for example, a governing body's jurisdiction, neighborhood census tract, or other similar unit).

The CEQ Guidance explains that a minority population would also exist if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons (total minority population), meets one of the above-stated thresholds (CEQ 1997).

In addition, the CEQ Guidance defines *low-income populations* as populations with mean annual incomes below the annual statistical poverty level (CEQ 1997). The CEQ Guidance does not provide a discrete threshold for determining when a low-income population should be identified for environmental justice; however, for this analysis, an environmental justice population is identified if the low-income percentage with the local study area is equal to or greater than that of Mendocino County.

Table 5-1 presents income, employment, and race data of the regional and local study area in the Project vicinity, based on the most recently available information from U.S. Census 2012–2017 American Community Survey data.²⁸ The local study area is “Manchester CDP, California,” meaning that Manchester, CA is a CDP (census-designated place), or unincorporated town.

Table 5-1. Environmental Justice Statistics

| Subject | California | Mendocino County | Manchester |
|--|------------|------------------|------------|
| Income and Population | | | |
| Total population | 38,982,847 | 87,497 | 168 |
| Median household income | \$67,179 | \$46,528 | \$44,231 |
| Percent below the poverty level ¹ | 15.1 | 19.1 | 4.2 |
| Employment by Industry (by percentage) | | | |
| Agriculture, forestry, fishing and hunting, mining | 2.3 | 6.4 | 9.3 |
| Construction | 6.1 | 8.0 | 12.0 |
| Manufacturing | 9.5 | 6.6 | 5.3 |
| Wholesale trade | 3.0 | 2.4 | 0 |
| Retail trade | 10.8 | 12.9 | 0 |
| Transportation and warehousing, and utilities | 5.0 | 2.7 | 5.3 |
| Information | 2.9 | 1.8 | 0 |

²⁸ U.S. Census 2012–2017 American Community Survey estimates come from a sample population but are more current statistics than the most recent full census of 2010. Because they are based on a sample of population, a certain level of variability is associated with the estimates. Supporting documentation on American Community Survey data accuracy and statistical testing can be found on the American Community Survey website in the Data and Documentation section available here: www.census.gov/acs/www/data_documentation/documentation_main/.

Table 5-1. Environmental Justice Statistics

| Subject | | California | Mendocino County | Manchester |
|--|-----------------|-------------------|-------------------------|-------------------|
| Finance and insurance, and real estate and rental and leasing | | 6.2 | 3.9 | 17.3 |
| Professional, scientific, and management, and administrative and waste management services | | 13.2 | 8.0 | 0 |
| Educational services and health care and social assistance | | 20.9 | 23.1 | 24 |
| Arts, entertainment, and recreation, and accommodation and food services | | 10.4 | 11.9 | 14.7 |
| Other services, except public administration | | 5.3 | 5.6 | 12 |
| Public administration | | 4.4 | 6.6 | 0 |
| Race (by percentage) | | | | |
| Not Hispanic or Latino | White | 37.9 | 65.9 | 77.4 |
| | Black | 5.5 | 0.6 | 0 |
| | American Indian | 0.4 | 3.3 | 0 |
| | Asian | 13.9 | 1.7 | 0 |
| | Other | 3.1 | 4.0 | 0 |
| Hispanic or Latino | | 38.8 | 24.5 | 22.6 |

Note:

¹ Poverty threshold as defined in the ACS is not a singular threshold but varies by family size. Census data provides the total number of persons for whom the poverty status is determined and the number of people below the threshold. The percentage is derived from this data.

Source: U.S. Census Bureau 2018.

From a regional standpoint, the Project study area contains below-average income levels compared to Mendocino County and California as a whole (Table 5-1). The median household income in Manchester is lower than that of Mendocino County and the State, but the percentage of residents living below the poverty level in Manchester is lower than that of Mendocino County and the State.

By income, 4.2 percent of the 168 residents in Manchester (about 7 people out of 168) are living below the poverty levels. Only 19.1 percent of the people living in Mendocino County are living below the poverty level. Only 15.1 percent of people living in California are living below the poverty level (Table 5-1). Therefore, the population of Manchester does not appear to be disproportionately burdened by poverty.

According to the U.S. Census data, the 168 residents of Manchester identify as either “Hispanic or Latino” or as “White”. People who identified as “Hispanic or Latino” make up about 22.6 percent of the population (about 38 people out of 168). About 24.5 percent of the County’s population make up and about 38.8 percent of California’s population make up are Hispanic or Latino (Table 5-1). People who identified as “white only” make up

77.4 percent of Manchester's population (about 130 people out of 168). Therefore, the minority population in Manchester does not meet the CEQ Guidance for required analysis.

Turning to the other criteria under the CEQ Guidance of comparing the percentage of minority populations to the larger regional scheme is difficult here because Manchester only has a population of 168. For California as a whole, 62.1 percent (100 percent minus 37.9 percent whites = 62.1 percent) of residents are minorities as defined by the CEQ's Guidance (CEQ 1997). For Mendocino County 34.1 percent of residents are minorities as defined by the CEQ's Guidance (100 percent minus 65.9 percent whites = 34.1 percent). Manchester has approximately 22.6 percent minority residents, which is less than both California's and Mendocino County's percentage minority residents. Because the study area does not have a greater percentage of minority residents than the surrounding County and State, the minority population in Manchester does not meet the CEQ Guidance for required analysis.

Because the percentage of individuals designated as living below the poverty line in the affected community is not disproportionately higher than in the surrounding area and the minority population in the affected community does not reach the threshold, it does not appear that an environmental justice community would be disproportionately impacted by a Project at this location. Further, because the construction-related work is temporary and for short periods of time, any potential impacts from the Project on nearby residential communities would be temporary and minor, regardless of their socioeconomic makeup.

5.4 SIGNIFICANT LANDS INVENTORY

The Project involves lands south of the proposed offshore Project component identified as possessing significant environmental values: Arena Rock (near Point Arena) within the Commission's Significant Lands Inventory, pursuant to Public Resources Code section 6370 et seq. The Project area is in the Significant Lands Inventory as parcel number 23-062-500, which includes the tide lands and submerged land in the Pacific Ocean immediately adjacent to Arena Rock near Point Arena lying 1,000 feet waterward of the ordinary high-water mark. The subject lands are classified in use category Class B, which authorizes limited use. Environmental values identified for these lands are mostly biological, including rockfishes not normally seen in shallow water (60 to 100 feet) like the turnkey-red rockfishes and China rockfish.

Based on Commission staff's review of the Significant Lands Inventory and the CEQA analysis provided in this MND, the Project, as proposed, would not significantly affect those lands and is consistent with the use classification.

6.0 MND PREPARATION SOURCES AND REFERENCES

This Mitigated Negative Declaration (MND) was prepared by the staff of the California State Lands Commission's Division of Environmental Planning and Management (DEPM), Land Management Division (LMD), and Mineral Resources Management Division (MRMD) with the assistance of ICF. The analysis in the MND is based on information identified, acquired, reviewed, and synthesized based on DEPM guidance and recommendations.

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