INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

RTI INFRASTRUCTURE, INC.
GROVER BEACH SUBSEA FIBER OPTIC CABLES PROJECT

April 2020

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: 35º 07.21’ N
Longitude: 120º 38.09’ W
NAD83 Datum

Cover Photo: Looking at the cable landing site and staging area from Le Sage Drive (Photo courtesy of Devin Jokerst, ICF)

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In bound copies, appendices are provided on CD.

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LIST OF ABBREVIATIONS AND ACRONYMS

	°F	Fahrenheit
	µPa	microPascal
A	APE	area of potential effects
	APM	Applicant proposed measure
	APN	Assessor's parcel number
	Applicant	RTI Infrastructure, Inc.
	ASBS	Area of Special Biological Significance
B	BACT	best available control technology
	BAU	business as usual
	BMPs	best management practices
	BOEM	Bureau of Ocean Energy Management
	BSA	terrestrial biological study area
C	CAA	Clean Air Act (federal)
	CAAQS	California ambient air quality standards
	CAL FIRE	California Department of Forestry and Fire Protection
	Caltrans	California Department of Transportation
	CAP	Climate Action Plan
	CARB	California Air Resources Board
	CCC	California Coastal Commission
	CCIC	Central Coast Information Center
	CCR	California Code of Regulations
	CDFG	California Department of Fish and Game
	CDFW	California Department of Fish and Wildlife
	CEQA	California Environmental Quality Act
	CESA	California Endangered Species Act
	CFR	Code of Federal Regulations
	CH_4	methane
	CHIRP	compressed high-intensity radiated pulse
	CHRIS	California Historical Resources Information System
	CLS	cable landing station
	CNDDB	California Natural Diversity Database
	CO	carbon monoxide
	CO_2	carbon dioxide
	CO_2e	CO_2 equivalent
	CRHR	California Register of Historical Resources
	CRPR	California Rare Plant Rank
	CSLC	California State Lands Commission
	CWA	Clean Water Act

D	dB	Decibel
	DEPM	Division of Environmental Planning and Management
	DPM	diesel particulate matter
E	EFH	essential fish habitat
	EIR	Environmental Impact Report
	EPA	U.S. Environmental Protection Agency
	ESHA	Environmentally Sensitive Habitat Area
F	FEMA	Federal Emergency Management Agency
	FESA	federal Endangered Species Act
	FR	Federal Register
G	GHG	greenhouse gas
	GPS	geographic positioning system
	GWP	global warming potential
H	HDD	horizontal directional drilling
I	IS	Initial Study
K	kW	Kilowatt
L	LCP	Local Coastal Program
	LMD	Land Management Division
	LMH	landing manhole
	LOS	level of service
	LSAA	Lake or Streambed Alteration Agreement
M	MM	Mitigation Measure
	MMO	mixed metal oxide
	MMP	Mitigation Monitoring Program
	MMPA	Marine Mammal Protection Act
	MND	Mitigated Negative Declaration
	MRMD	Mineral Resources Management Division
	MSA	marine biological study area
	MWMCP	Marine Wildlife Monitoring and Contingency Plan
N	N_2O	nitrous oxide
	NAAQS	national ambient air quality standards
	NAHC	Native American Heritage Commission
	Nm	nautical mile(s)
	NO	nitric oxide
	NO_2	nitrogen dioxide
	NOAA	National Oceanic and Atmospheric Administration
	NO_X	nitrogen oxides

	NPDES	National Pollutant Discharge Elimination System
	NRHP	National Register of Historic Places
O	OGB	ocean ground bed
	OHP	California Office of Historic Preservation
	OHWM	ordinary high-water mark
P	PCR	Pacific Coast Railway
	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	ROG	reactive organic gases
	ROV	remotely operated vehicle
	RTI	RTI Infrastructure, Inc.
S	SCCAB	South Central Coast Air Basin
	SEL	sound exposure level
	SLOAPCD	San Luis Obispo Air Pollution Control District
	SO_2	sulfur dioxide
	SPC	Southern Pacific Company
	SVRA	State Vehicular Recreation Area
	SWRCB	State Water Resources Control Board
T	TAC	toxic air contaminant
U	UPRR	Union Pacific Railroad
	USACE	U.S. Army Corps of Engineers
	USCG	U.S. Coast Guard
	USFWS	U.S. Fish and Wildlife Service
	USGS	U.S. Geological Survey
V	VMT	vehicle miles traveled

The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) and has prepared this Initial Study (IS)/Mitigated Negative Declaration (MND) that analyzes and discloses the environmental effects associated with the proposed RTI Infrastructure, Inc. Grover Beach Subsea Fiber Optic Cables Project (Project). The Project would authorize RTI Infrastructure, Inc. (Applicant or RTI) to build telecommunication infrastructure on land (terrestrial) and in ocean (marine) areas within and offshore of Grover Beach in San Luis Obispo County. The infrastructure includes transpacific fiber optic cables that would carry telecommunication data to connect the United States with Singapore, Guam, Hong Kong, and Australia (Figure ES-1).

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

PROPOSED PROJECT

The Applicant proposes to install and operate up to four fiber optic cables using the following (Figure ES-2):

- **Marine Cables:** The Applicant would drop the transpacific cables on the ocean floor in water deeper than 5,904 feet and bury them when water is less than 5,904 feet deep.
- **Cable Landing Site:** This landing site would be in the Grover Beach parking lot. The Applicant would use this site to install landing pipes (each 5 or 6 inches in diameter) by using large horizontal directional drilling (HDD) equipment. The landing pipes would go at least 35 feet under Grover Beach and exit about 3,600 feet (0.6 mile) offshore and under 33 feet of water.
- **Underground Conduit System:** The Applicant would use small HDD equipment to install a 1.5-mile-long underground conduit system under the Grover Beach streets. The underground conduit system would end at an existing cable landing station in Grover Beach (Figure ES-2). This station would hold equipment for all four cables.

This Project would be built in four phases. Phase 1 (year 2020) would be the initial phase that would build the infrastructure to receive up to four fiber optic cables and bring the very first fiber optic cable from Singapore to Grover Beach. Phase 2 (year 2021) would connect California to Guam. Phase 3 (year 2023) and Phase 4 (year 2025) would connect

California to either Asia or Australia; it has not yet been determined which connection would be installed first.

ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

The environmental issues checked below in Table ES-1 have the potential to be 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 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

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Cultural Resources – Tribal
☐ Energy	☐ Geology, Soils, and Paleontological Resources	☒ Greenhouse Gas Emissions
☒ Hazards and Hazardous Materials	☒ Hydrology and Water Quality	☐ Land Use and Planning
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☒ Recreation	☒ Transportation
☐ Utilities and Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

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

Air Quality
MM AQ-1: Standard Control Measures for Construction Equipment
MM AQ-2: Best Available Control Technology
MM AQ-3: Fugitive Dust Mitigation
Biological Resources
MM BIO-1: Provide Environmental Awareness Training
MM BIO-2: Conduct Biological Surveying and Monitoring
MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources
MM BIO-4: Install Metal Covers or Some Kind of Escape Ramps in Open Trenches
MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
MM BIO-7: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures
MM BIO-8: Inspection and Burial of Cable

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

MM BIO-9: Cable Entanglements and Gear Retrieval
MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan
MM BIO-11: Minimize Crossing of Hard Bottom Substrate
MM BIO-12: Contribute Compensation to Hard Substrate Mitigation Fund
MM BIO-13: Control of Marine Invasive Species
MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans
APM-1: Fishing Agreement
Cultural Resources
MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
MM CUL-2/TCR-2: Cultural Resources Monitoring
MM CUL-3: Conduct a Pre-Construction Offshore Archaeological Resources Survey
MM CUL-4: Conduct a Pre-Construction Offshore Historic Shipwreck Survey
MM CUL-5: Prepare and Implement an Avoidance Plan for Marine Archaeological Resources
MM CUL-6/TCR-3: Unanticipated Discovery of Human Remains
Cultural Resources – Tribal
MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
MM CUL-2/TCR-2: Cultural Resources Monitoring
MM CUL-6/TCR-3: Unanticipated Discovery of Human Remains
Greenhouse Gas Emissions
MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions
Hazards and Hazardous Materials
MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans
MM BIO-1: Provide Environmental Awareness Training
MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources
MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
Hydrology and Water Quality
MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans
Noise
MM NOI-1: Construction Noise Control Plan
MM NOI-2: Construction Vibration Notification and Disturbance Coordinator
MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan
Recreation
MM REC-1: Advanced Local Notice to Mariners
Transportation
MM REC-1: Advanced Local Notice to Mariners
APM-2: Marine Anchor Plan
Commercial Fisheries
APM-1: Fishing Agreement
APM-2: Marine Anchor Plan

Figure ES-1. Proposed Project Phases

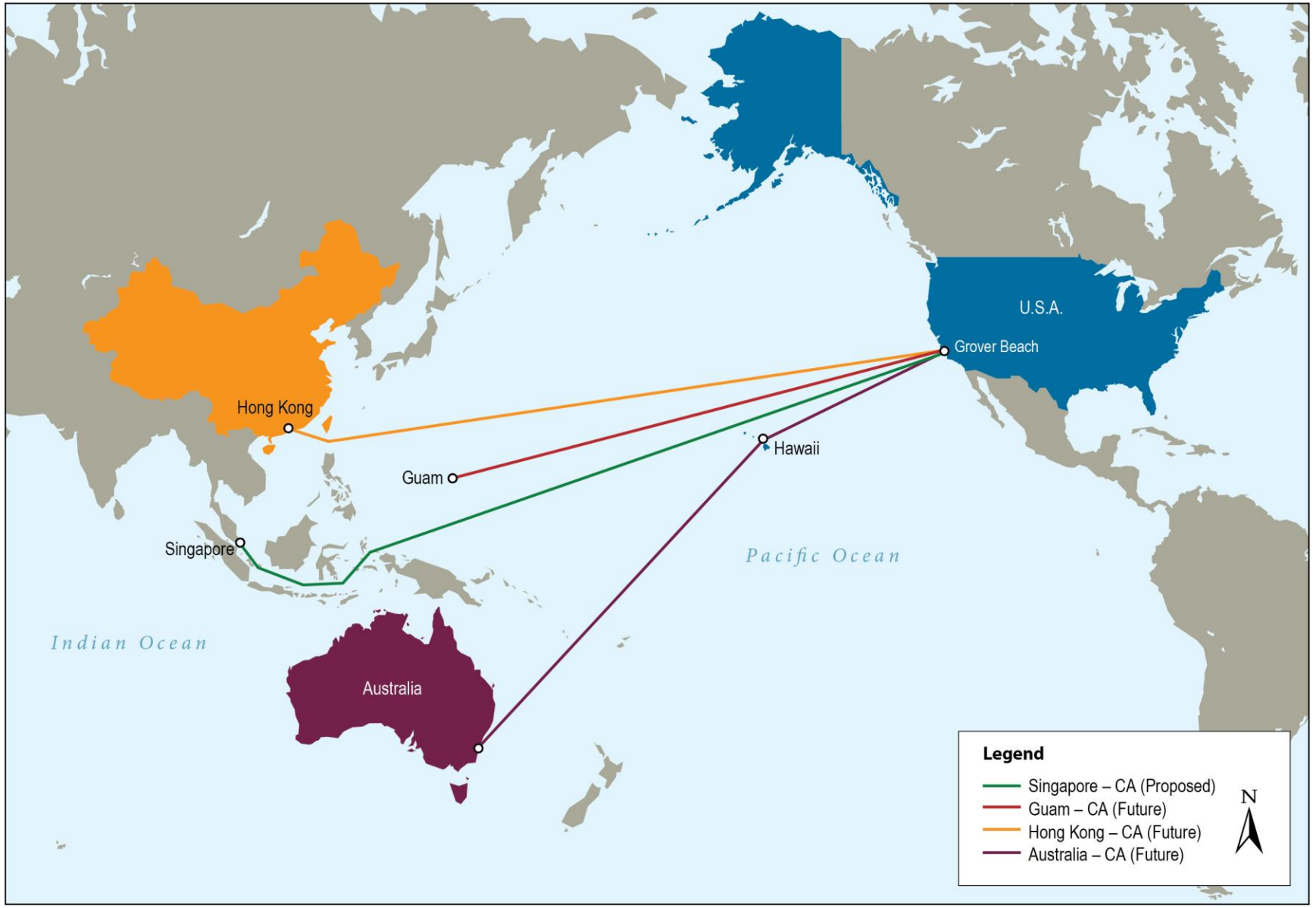


Figure ES-2. Project Location

1.0 PROJECT AND AGENCY INFORMATION

1.1 PROJECT TITLE

RTI Infrastructure, Inc. Grover Beach Subsea Fiber Optic Cables Project (Project).

1.2 LEAD AGENCY AND PROJECT SPONSOR

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

1.3 PROJECT LOCATION

The Project would be located on the following land (terrestrial) and ocean (marine) areas within and offshore of the incorporated community of Grover Beach, San Luis Obispo County (Figure 1-1):

- **Terrestrial Components.** The terrestrial Project components would start from the cable landing site in the Grover Beach parking lot with Assessor's Parcel Number 060-381-010 (Figure 1-1). Then, the cables would travel through the 1.5-mile underground conduit system to the east of the cable landing site and end in an existing cable landing station (CLS). The terrestrial components (including support facilities) would be built during Phase 1 in 2020. Once the support facilities are built, the future cables would be installed in different phases (Figure 1-2).
- **Marine Components.** The marine Project components would be the four landing pipes installed by horizontal directional drilling (HDD) installation methods. These landing pipes would start from the cable landing site (Grover Beach parking lot), extend under the Grover Beach, and exit offshore approximately 0.6 mile (Figure 1-1). The cables would be buried in water shallower than 5,904 feet and place directly on the ocean floor in water deeper than 5,904 feet extending west from the Outer Continental Shelf (OCS).[1]

[1] The OCS 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 OCS at this location is approximately 5,904 feet deep.

Figure 1-1. Project Location

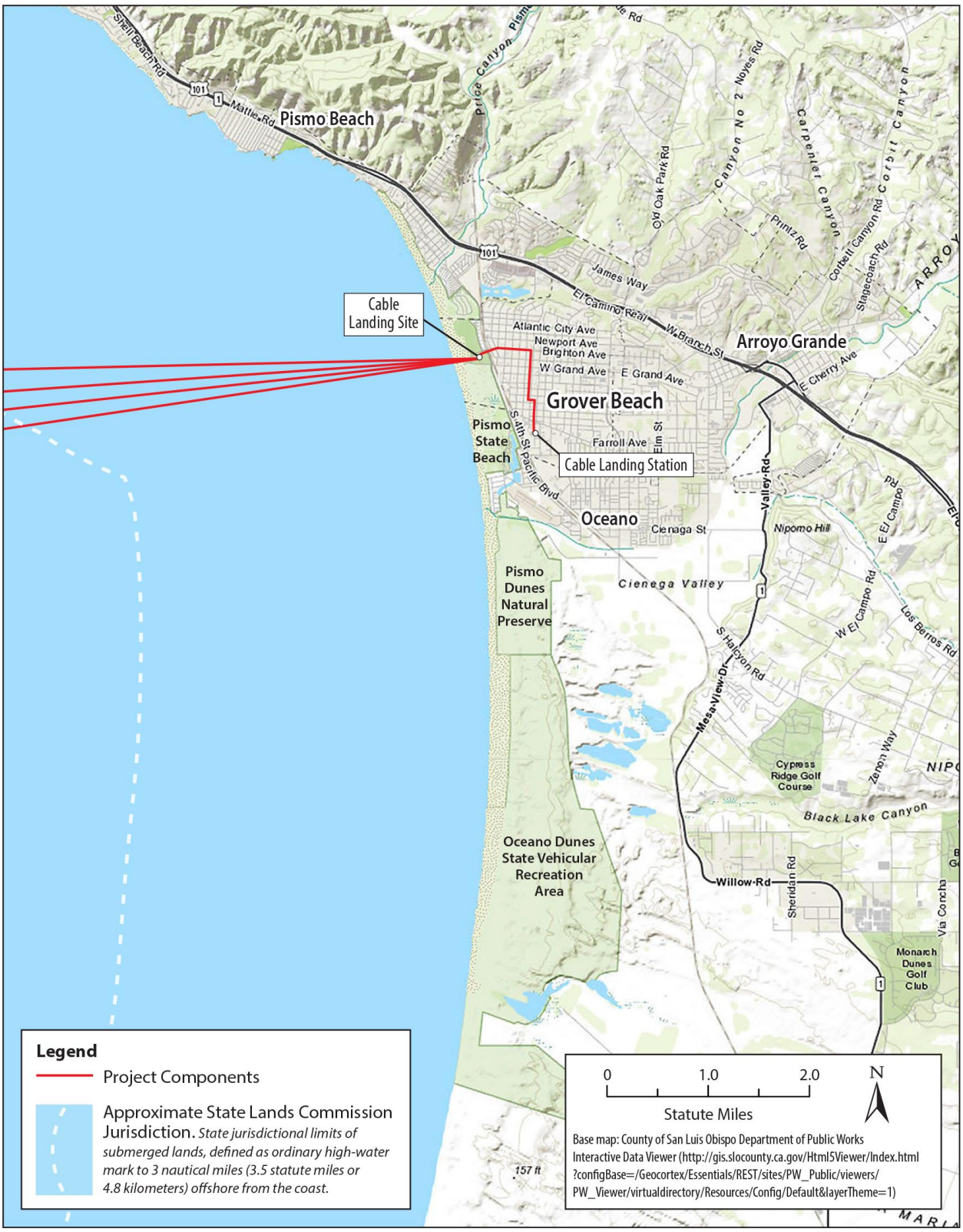
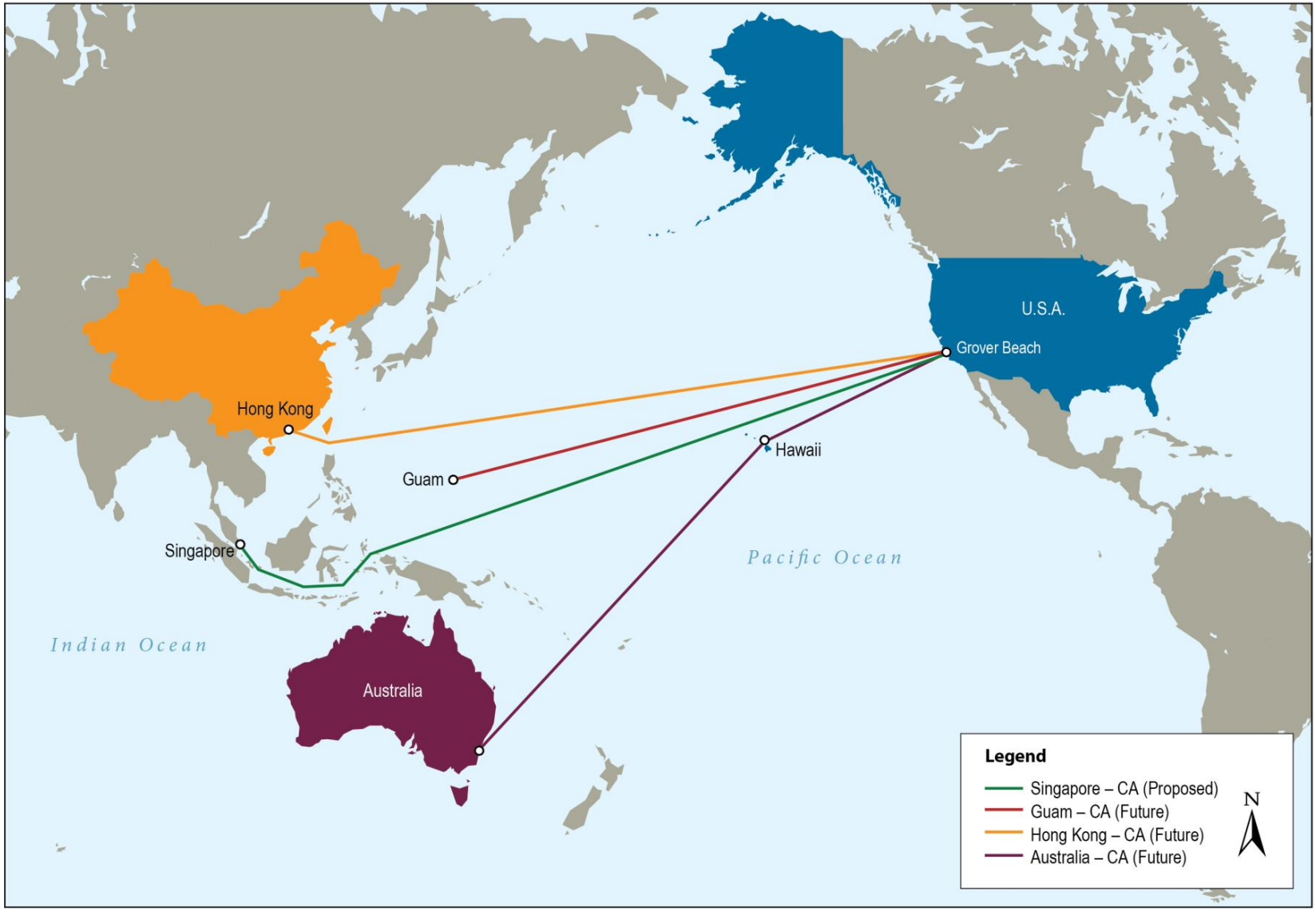


Figure 1-2. Proposed Project Phases



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 (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 location and background, 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 including its layout, equipment, facilities, operations, and schedule.
- **Section 3** presents the IS, including 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 CSLC considerations relevant to the Project, such as climate change, sea-level rise, commercial and recreational fishing, environmental justice, and significant lands inventory 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 Methods and Results
    - Appendix C: Terrestrial and Marine Biological Resource Information
    - Appendix D: Marine Cultural Resources Report

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

1.5 PROJECT BACKGROUND AND OBJECTIVES

1.5.1 Project Need

As the world relies on faster digital media and telecommunication systems (e.g., cell phones, Internet, voice, social media, streaming videos, telework, online learning, telemedicine, banking transactions, and shopping online), the data transferring systems, such as fiber optic cables, also need to be upgraded to keep up with the technical advancements to be able to transmit uninterrupted telecommunication data. Virtually all communications and data transmissions are converted to digital data and transmitted across fiber optic cables. The proposed Project would transmit telecommunication data at a faster speed to connect the United States with Asia and Australia (Figure 1-2).

1.5.2 Existing Technology and Infrastructure

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

1.5.3 Proposed Technology and Infrastructure

As the world relies on faster and more bandwidth-intensive data transmission and 4G and 5G[4] networks, the proposed Project is needed to keep up with the technical advancements to transmit uninterrupted data. Even though radio and satellite can transmit data long distances, only subsea fiber optic cables can supply the volume, speed, reliability, and cost efficiency to meet current and future data demands.

1.5.4 Project Objectives

The proposed Project would help achieve the following objectives:

- Respond to the increasing need for connecting the United States with Singapore, Guam, Hong Kong, and Australia by installing modern fiber optic cables with higher data transmission capacity and direct connections between termini

[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); Huawei; 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.

- Increase telecommunication data transmission speeds
- Avoid identified seismically unstable zones
- 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 CSLC's staff report. In accordance with State CEQA Guidelines section 15074, subdivision (b), the CSLC 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 meeting.

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 (OHWM), which is generally reflected by the mean high-tide line, except for areas of fill or artificial accretion. CSLC's authority is set forth in Division 6 of the Public Resources Code and the agency is regulated by the California Code of Regulations, title 2, sections 1900–3016. CSLC has authority to issue leases or permits for the use of sovereign lands held in the Public Trust, including all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, and retains 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 CSLC to identify the significant environmental impacts of its actions and to avoid or mitigate those impacts, if feasible.

The Applicant applied for a new General Lease – Right-of-Way Use lease to use the area under CSLC's jurisdiction from the OHWM to 3 nm (3.5 statute miles) offshore from the coast (Figure 1-1).

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 (Table 1-1). The Applicant has started coordination with some of the relevant regulatory permitting agencies (Appendix B). As part of the Project, all permits required for the Project would be obtained before starting construction.

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

Permitting Agency		Anticipated Approvals/Regulatory Requirements
Local	California State Lands Commission (CSLC)	Submerged Lands Lease and CEQA Lead Agency
	California Coastal Commission (CCC)	Coastal Zone Management Act Consistency Certification for the U.S. Army Corps of Engineers Section 404 Authorization and Coastal Development Permit
	California Department of Fish and Wildlife (CDFW)	Section 1602 Lake or Streambed Alteration Agreement
	California Department of Parks and Recreation – Pismo State Beach	Easement and Special Use Permit
	California Department of Transportation (Caltrans)	Encroachment Permit
	City of Grover Beach (City)	Coastal Development Permit, Conditional Use Permit, and Encroachment Permit
State	Native American Heritage Commission (NAHC)	Tribal Consultation
	Central Coast Regional Water Quality Control Board (Central Coast RWQCB)	Clean Water Act (CWA) Section 401 Water Quality Certification
	San Luis Obispo County Air Quality Management District	Authority to Construct and Permit to Operate
	State Historic Preservation Office	Section 106 Compliance
Federal	U.S. Army Corps of Engineers (USACE)	CWA Section 404 and Section 10 Permit (under Nationwide Permit No. 12)
	U.S. Fish and Wildlife Service (USFW)	Federal Endangered Species Act (FESA) Section 7 consultation (if required)
	National Marine Fisheries Service (NMFS)	FESA Section 7 consultation (if required) and consultation on marine mammal/sea turtle protection
	U.S. Coast Guard (USCG)	Notice to Mariners

2.1 PROJECT WORK AREAS

The RTI Infrastructure, Inc. (Applicant) is proposing the RTI Infrastructure, Inc. Grover Beach Subsea Cables Project (Project). The Project would install up to four fiber optic cables carrying telecommunication data to connect the United States with Singapore, Guam, Hong Kong, and Australia (Figure 1-2). The Project-related work would be in both terrestrial (land) and marine (ocean) areas on and offshore of Grover Beach in the city of Grover Beach (City) in San Luis Obispo County.

2.1.1 Summary of Terrestrial Project Components

The following terrestrial Project components (further discussed in Section 2.3, *Detailed Terrestrial Project Components*) would be needed to install up to four fiber optic cables (coming from Asia or Australia) and their related structures on land above the ordinary high-water mark (OHWM) (outside of the California State Lands Commission's [CSLC] jurisdiction) as seen in Figure 2-1.

- **Cable Landing Site.** The four fiber optic cables would land in the Grover Beach parking lot (adjacent to and east of Fin's Seafood Restaurant & Bar) under the California Department of State Parks and Recreation's jurisdiction (Assessor's parcel number 060-381-010). An approximately 100-foot by 150-foot area in this parking lot would be used for the following key Project components (Figure 2-3):
    - Staging Area. This area would be used to park vehicles and store construction-related equipment for both terrestrial and marine work.
    - Landing Pipes. Up to four independent landing pipes[5] (approximately 5 to 6 inches in diameter) would be using the HDD construction method.
    - Landing Manhole (LMH). The landing pipes would be installed from the LMH and exist offshore in the Pacific Ocean. Once the landing pipes are installed, the fiber optic cables would be pulled from the Pacific Ocean through the landing pipes and into the LMH. The terrestrial and marine fiber optic cables would be combined (spliced) in the LMH since the LMH also would provide access to the landing pipes for maintenance-related activities.
    - Ocean Ground Bed (OGB). An OGB would be installed onshore or offshore for each subsea fiber optic cable to ground the cable (Figure 2-4). The OGBs would be needed for cathodic protection to control corrosion and to provide a ground for the electricity travelling through it that would power the marine cable amplifiers.

[5] Each landing pipe would be approximately 4,600 feet long, and approximately 3,600 feet of this would be offshore (Figure 2-2). The total length for all four landing pipes would be about 18,400 feet.

- **Underground Conduit System.** A 1.5-mile-long underground conduit system (approximately 7,980 feet) would connect the LMH with the existing cable landing station (CLS) (Figure 2-1). This underground conduit system would be a conduit bundle (approximately 8 to 10 inches in diameter) buried at least 3 feet deep with periodic manholes[6] on one side of the surface streets, using smaller HDD machines when working below the following:
    - Grover Beach parking lot (east of Fin's Seafood Restaurant & Bar)
    - Meadow Creek
    - Highway 1 (Cabrillo Highway)
    - Union Pacific Railroad (UPRR)
    - One side of the City surface streets
- **Cable Landing Station (CLS).** The existing CLS building on Barca Street would get additional equipment added to it (all done on the inside of the existing CLS) to allow the four new fiber cables to be hooked up to the existing telecommunications and power equipment (Figure 2-5). From the CLS, the telecommunications traffic would be connected into the broader telecommunications network, with onward connectivity to major metropolitan areas such as Los Angeles and the Bay Area.
- **Additional Staging Area in Grover Beach.** An additional staging area would be located in the city of Grover Beach on a developed site (location not yet determined) to hold most of the Project-related equipment before being brought to the staging area on the cable landing site (explained above).

[6] These manholes would be spaced at intervals of approximately 850 feet all along the underground conduit system to allow access for maintenance.

Figure 2-1. Terrestrial Project Components

2.1.2 Summary of Marine Project Components

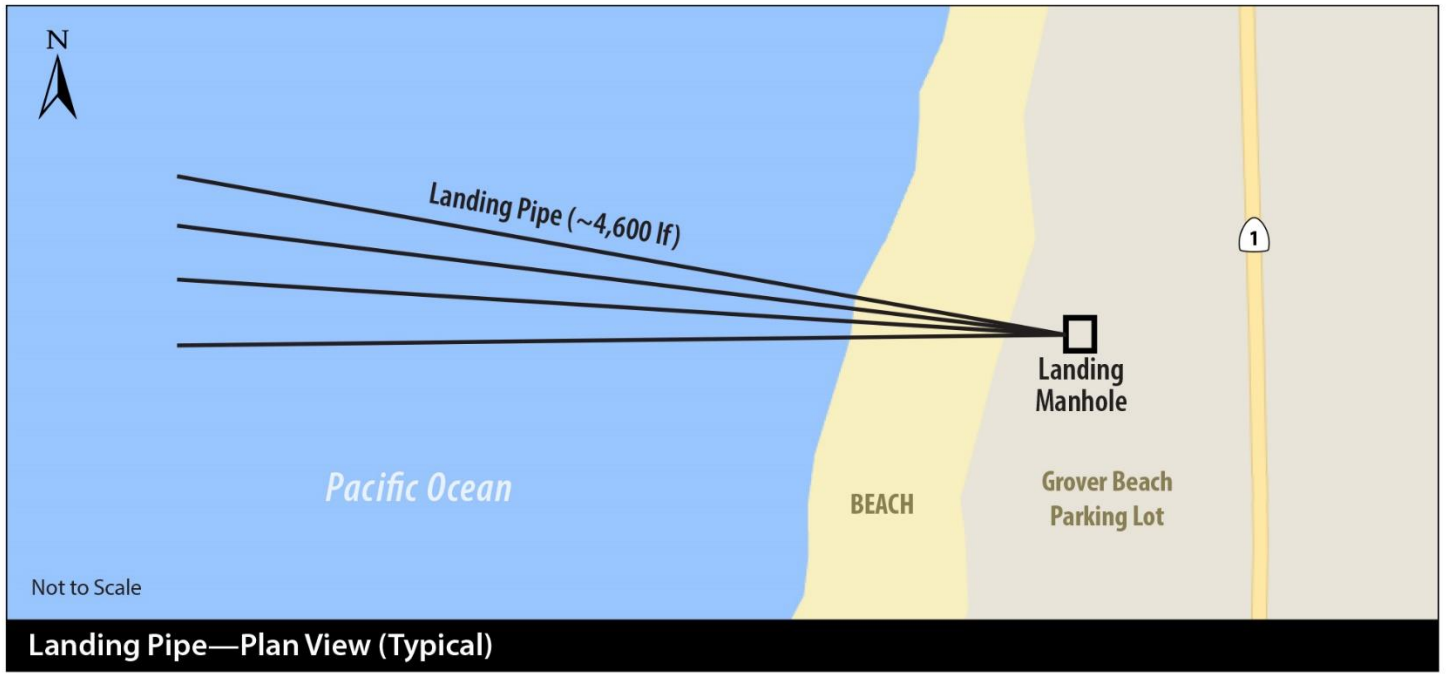
The following marine Project components (further discussed in Section 2.4 *Detailed Marine Project Components*) would be needed to install up to four fiber optic cables (coming from Asia or Australia) and their related structures starting from the LMH onshore to exit offshore at about 3,600 feet (0.6 mile) and under 33 feet of water in the Pacific Ocean (under CSLC's jurisdiction) as seen in Figure 2-2:

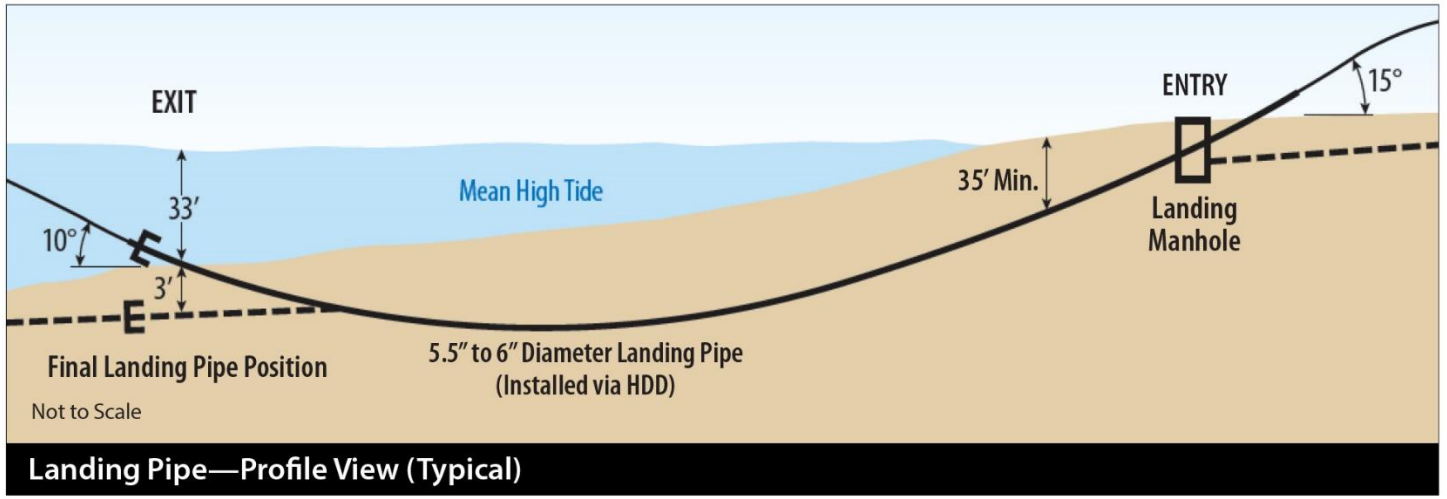
- **Landing Pipes.** Up to four landing pipes (approximately 5 to 6 inches in diameter) would be installed using the HDD construction methods (Figure 2-2). Each landing pipe would be approximately 4,600 feet starting from the LMH and ending offshore. The landing pipes would go at least 35 feet under Grover Beach and exit about 3,600 feet (0.5 nm) offshore and under 33 feet of water. The fiber optic cables would be pulled through these landing pipes and brought into the LMH to connect with the cables coming from the CLS.
- **Fiber Optic Cables.** The fiber optic cables would lay directly on the ocean floor beyond the Outer Continental Shelf approximately 68.4 miles (ocean water is deeper than 5,904 feet[7]), buried under the ocean floor in less than 5,904 feet deep water by plowing or by post-lay burial method depending on ocean floor characteristics, in the landing pipes, or in the underground conduit system.

  The cable lay ship (with the help of a dive support vessel and divers) would bring the fiber optic cable to the end of the landing pipe at about 3,600 feet offshore (33 feet deep below the ocean water). The fiber optic cable then would be pulled through its own individual landing pipe (constructed in Phase 1) to the LMH.
- **Ocean Ground Bed (OGB).** An OGB would be installed onshore or offshore for each subsea fiber optic cable to ground the cable (Figures 2-4). The OGBs would be crucial for cathodic protection to control corrosion and to provide a ground for the electricity that would be traveling through this to power the marine cable amplifiers.

[7] U.S. federal jurisdiction extends to the edge of the OCS under the Outer Continental Shelf Lands Act.

Figure 2-2. Marine Project Components





2.2 PROJECT WORK PHASES AND WORK SCHEDULE

2.2.1 Work Phases

Up to four fiber optic cables would be installed to connect the United States to Asia and Australia (Figure 1-2). Regardless of where these fiber optic cables originate, they would have similar environmental impacts, as summarized below.

- **Phase 1: Singapore to California (SP-CA) Expected in 2020.** This initial phase would build the infrastructure to receive up to four fiber optic cables and bring the very first fiber optic cable from Singapore to Grover Beach through the following key Project components:
    - Set up the cable landing site (including staging area and LMH)
    - Install four landing pipes (one for each expected fiber optic cable)
    - Add necessary equipment (all done inside the existing CLS) to receive this fiber optic cable
    - Install an underground conduit system from the LMH to the CLS to support the first and future cables
    - Pull the marine fiber optic cable through its own dedicated landing pipe and end in the LMH to be spliced with the terrestrial fiber optic cable coming from the CLS to the LMH
    - Install one OGB (onshore or offshore) for this fiber optic cable
- **Phase 2: Guam to California (G-CA) Expected in 2021.** This would connect California to Guam through the following key Project components:
    - Pull the marine fiber optic cable through its own dedicated landing pipe and end in the LMH to be spliced with the terrestrial fiber optic cable coming from the CLS to the LMH
    - Add necessary equipment (all done inside the existing CLS) to receive this fiber optic cable
    - Install one OGB (onshore or offshore) for this fiber optic cable
- **Phase 3: Asia or Australia to California Expected in 2023.** This would connect California to either Asia or Australia (not yet determined which would be installed first) through the following key Project components:
    - Pull the marine fiber optic cable through its own dedicated landing pipe and end in the LMH to be spliced with the terrestrial fiber optic cable coming from the CLS to the LMH

- Add necessary equipment (all done inside the existing CLS) to receive this fiber optic cable
- Install one OGB (onshore or offshore) for this fiber optic cable

- **Phase 4: Asia or Australia to California Expected in 2025.** This would connect California to either Asia or Australia (not yet determined which would be installed first) through the following key Project components:
  - Pull the marine fiber optic cable through its own dedicated landing pipe and end in the LMH to be spliced with the terrestrial fiber optic cable coming from the CLS to the LMH
  - Add necessary equipment (all done inside the existing CLS) to receive this fiber optic cable
  - Install one OGB (onshore or offshore) for this fiber optic cable

2.2.2 Work Schedule

Table 2-1 provides the anticipated Project's different phases. The terrestrial and nearshore activities would happen during daylight hours, 7 days a week, to comply with the City noise standards.

- **Terrestrial Work.** The terrestrial work would take place during daylight hours only and would require the following length of time (Table 2-1):
  - **Phase 1.** Approximately 5 months, as explained below:
    - Approximately 6 weeks to install the landing pipes
    - Approximately 12 weeks to install the underground conduit system
    - Approximately 5 months to install and test the necessary equipment for the first cable inside the existing CLS
  - **Phases 2, 3, and 4.** Approximately 1 to 2 weeks for each phase and approximately 5 months to install and test the necessary equipment for each cable inside the existing CLS
- **Marine Work.** The offshore marine-related work would continue for 24 hours a day for 7 days a week, or 12 hours a day for 6 days a week (Table 2-1). The duration of marine work would depend on the permit requirements from the California Department of Parks and Recreation (State Parks) and the California Coastal Commission (CCC). Once a cable arrives offshore and work starts, it would take up to 48 hours to pull this fiber optic cable from offshore to the landing pipe that would bring the cable into the LMH (referred to as "Marine cable pulling from offshore to onshore" in Table 2-1 and seen in Figure 2-7).

Table 2-1. Proposed Construction Schedule for Each Project Phase and Component

Component	Proposed Start Date	Proposed Hours	Duration
Phase 1			
Install landing pipes using marine (larger) HDD machines	Summer 2020	24 hours/day for 7 days/ week or 12 hours/day for 6 days/week	3 to 4 weeks or 5 to 7 weeks
Install underground conduit system using smaller HDD machines	Summer 2020	Monday – Friday: 7:00 a.m.–7:00 p.m. Saturday – Sunday: 8:00 a.m.–5:00 p.m.	12 weeks (3 months)
Install OGB (onshore or offshore) and LMH	Summer 2020	Daylight, 7 days/week	2 weeks
Terrestrial cable pulling	Summer 2020	Daylight, 7 days/week	1 week
Add to and set up the CLS (construction and testing)	Fall 2020	Daylight, 7 days/week	5 months
Pre-lay grapnel run	Summer 2020	24 hours/day, 7 days/week	1 week
Marine cable pulling from offshore to onshore	Fall 2020	24 hours/day, 7 days/week	2 days
Marine cable lay on the ocean floor	Fall 2020	24 hours/day, 7 days/week	4 weeks
Marine cable burial (diver-assisted)	Fall 2020	Daylight, 7 days/week	1 week
Marine cable burial (ROV-assisted)	Fall 2020	24 hours/day, 7 days/week	2 weeks
Phase 2			
Install OGB onshore or offshore	Fall 2021	Daylight, 7 days/week	2 weeks
Terrestrial cable pulling	Fall 2021	Daylight, 7 days/week	1 week
Add to and set up the CLS (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 pulling from offshore to onshore	Fall 2021	24 hours/day, 7 days/week	2 days
Marine cable lay on the ocean floor	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			
Install OGB onshore or offshore	Fall 2023	Daylight, 7 days/week	2 weeks
Terrestrial cable pulling	Fall 2023	Daylight, 7 days/week	1 week
Add to and set up the CLS (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 pulling from offshore to onshore	Fall 2023	24 hours/day, 7 days/week	2 days
Marine cable lay on the ocean floor	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

Table 2-1. Proposed Construction Schedule for Each Project Phase and Component

Component	Proposed Start Date	Proposed Hours	Duration
Phase 4			
Install OGB offshore or onshore	Fall 2025	Daylight, 7 days/week	2 weeks
Terrestrial cable pulling	Fall 2025	Daylight, 7 days/week	1 week
Add to and set up the CLS (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 pulling from offshore to onshore	Fall 2025	24 hours/day, 7 days/week	2 days
Marine cable lay on the ocean floor	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
HDD = horizontal directional drilling
LMH = landing manhole
OGB = ocean ground bed
ROV = remotely operated vehicle

2.3 DETAILED TERRESTRIAL PROJECT COMPONENTS

Terrestrial Project activities would be above the OHWM (outside the CSLC's jurisdiction) and would include the key Project components described below.

2.3.1 Cable Landing Site

The fiber optic cables would be pulled into the cable landing site from offshore (Figure 2-1). Some of the key Project components in the cable landing site (Figure 2-3) are listed below:

- **Staging Areas.** The two staging areas would be occupied from approximately 2 weeks before starting construction until approximately 2 weeks after construction ends. The first staging area would be at the cable landing site where the equipment and materials would be staged (the parking lot and some of the overflow parking lot area under State Parks' jurisdiction) complying with State Parks requirements. No gravel is expected to be added to the staging area.

  The second staging area would be a paved or developed site in the City (not yet identified because it would depend on the contractor). Equipment and material such as backhoes, landing pipe, conduit, and cable needed to install the terrestrial components of the Project would be brought to the staging areas and then distributed to the job site during each day's work. Trucks would access the Project site using Highway 1 and local surface streets.

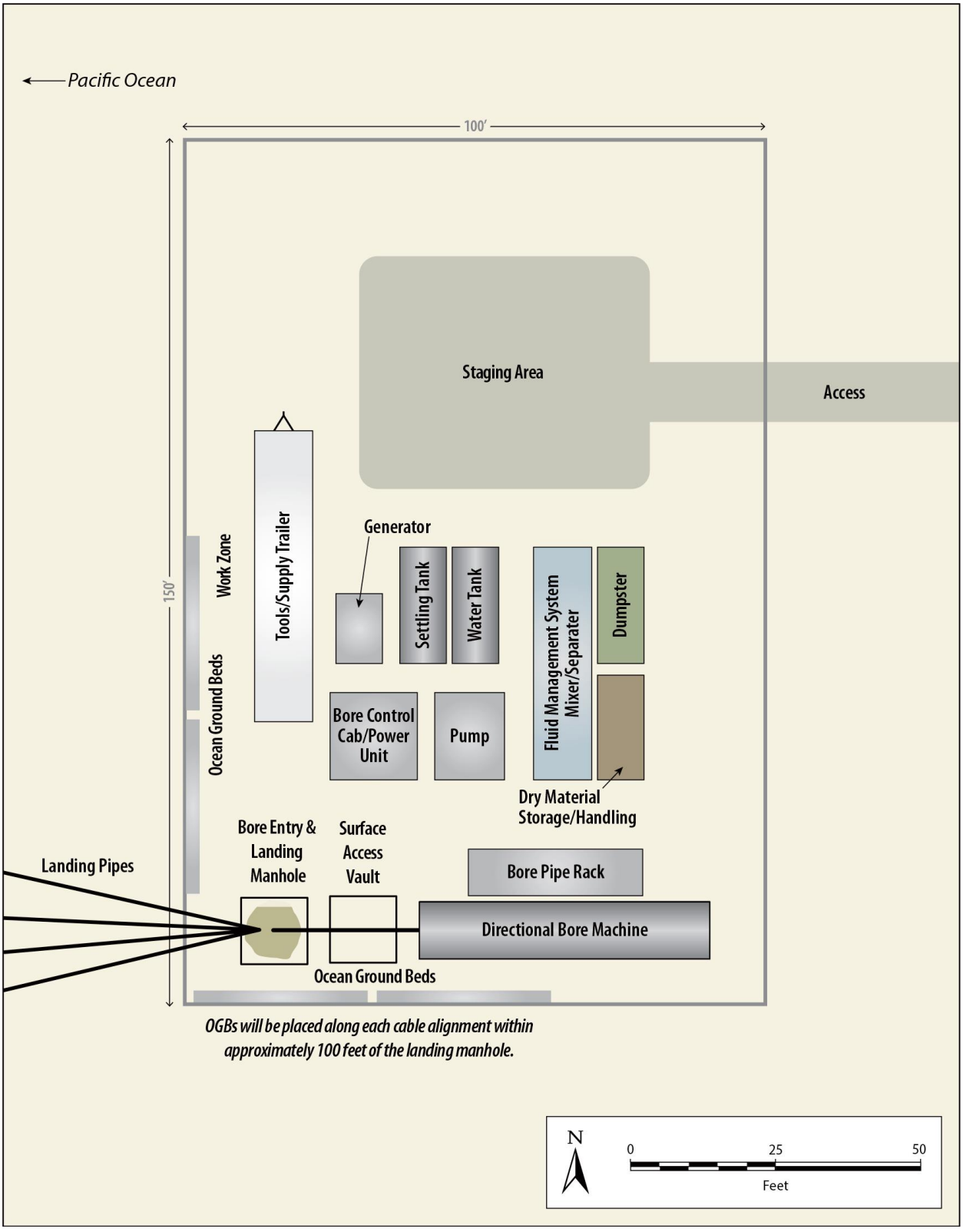
- **Landing Pipes.** The boring equipment for installing the four landing pipes (each 5 to 6 inches in diameter and approximately 4,600 feet long with the HDD construction method would be operated in the cable landing site (Figure 2-3). Once the landing pipes are installed, each fiber optic cable would be pulled through its own landing pipe offshore and be brought onshore into the LMH as part of each separate phase.

- **Landing Manhole (LMH).** The cable traveling through the underground conduit system and the marine fiber optic cable traveling through the landing pipes would connect through splicing (standard fusion splice) in the LMH (Figure 2-1). Each cable end would be prepared for splicing with a splice kit containing a splice coupler and solder that would be used to connect both fiber optic cables together (splicing), which takes place in 1 day. The splicing of the marine fiber optic cable to the terrestrial fiber optic cables would require one splice of a fiber optic cable and two splices of the copper cables. A standard copper fusion would be used to splice the power and ground cables. Once the fiber optic cables are fused together, they would be encased in a splice case and secured to the wall of the LMH.

  The LMH (approximately 8 feet wide by 12 feet long by 9 feet deep) would be buried with a cast-iron manhole cover (36 inches in diameter) at grade level, meaning flush with the ground. The manhole cover would be marked with appropriate identification and would be secured (i.e., locked and bolted). The LMH would be installed in 2 days by excavating with a rubber-tired backhoe or excavator, placing the manhole in the excavation, and then backfilling around the manhole. Operators then would compact the material using a hand-operated vibratory compactor.

- **Surface Access Vault.** In addition to the LMH, a separate access vault would be placed on the land side of the LMH (Figure 2-3). The surface access vault would be a concrete box that is 4 feet wide by 5 feet long by 2.5 feet deep with a steel traffic lid. The access vault would allow workers to install marine fiber optic cables without disturbing additional surface area.

Figure 2-3. Cable Landing Site

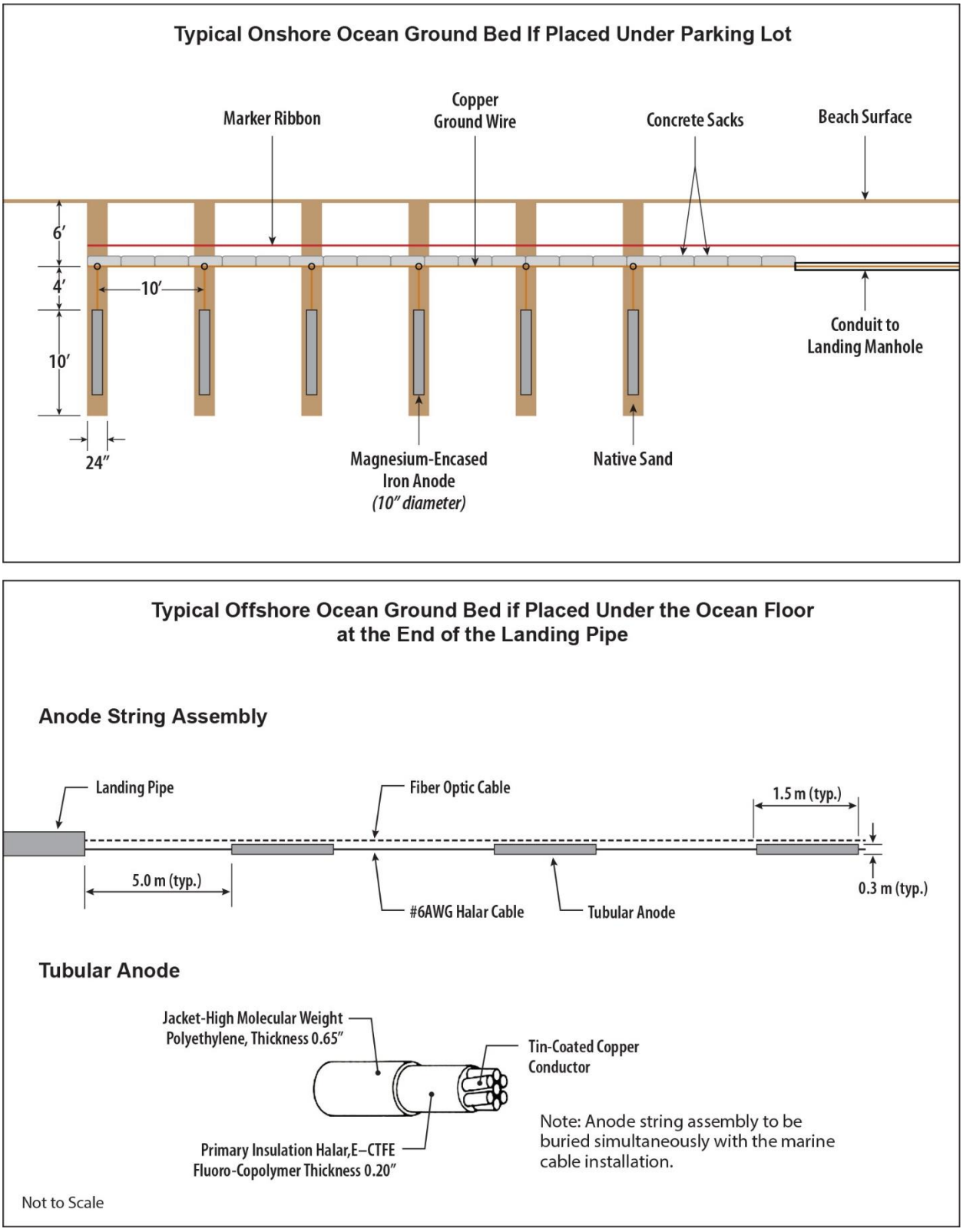


- **Ocean Ground Beds (OGBs).** An OGB would be installed onshore or offshore for each subsea fiber optic cable for cathodic protection to control erosion and to ground electrical signals traveling through the cable to power the marine cable amplifiers (Figure 2-3). The final location of the OGBs would be determined after the electronic components of the cable system are designed and manufactured. At that time, the system engineers would be able to select the grounding location that would offer the best performance characteristics.

  The Figure 2-4 illustrates a cross section of the onshore and offshore OGBs with these differences:

  - Onshore under Grover Beach Parking Lot. If installed under the parking lot, the OGBs would be within approximately 100 feet of the LMH (Figure 2-3). Each OGB would consist of up to six anodes constructed of cast iron and encased in a magnesium canister 10 inches in diameter and up to 84 inches in length. The anodes would be placed in a line and spaced at 10-foot intervals. The tops of the anodes would be approximately 10 feet below grade. Ground cable would be buried approximately 6 feet below grade and lead from each OGB to the LMH. The OGBs would be located approximately 250 feet landward of the mean high-water mark.
  - Offshore under Ocean Floor. If the offshore anode (i.e., American wire gauge mixed metal oxide [MMO]) array is used, the OGBs would be installed in the ocean beginning at the seaward side of the landing pipes. The tubular anodes would be mixed metal oxide rods approximately 11.8 inches in diameter and approximately 4.9 feet in length (Figure 2-4). Three to five anodes would be connected in a linear or string fashion to create an MMO anode string assembly. Each anode on the array would be approximately 9.8 feet apart and connected by an insulated copper conductor. The MMO anode string assembly would be installed by diver jet burial in the same operation as the marine cable burial. The offshore anode array system would be placed beginning at approximately 50 feet beyond the end of each landing pipe and installed along the fiber optic cable so that it would be within the CSLC's leased area. The fiber optic cable and the ocean anode string assembly would be tied together and buried as part of the same burial operation.

Figure 2-4. Cross Section of Ocean Ground Bed (Onshore or Offshore)



2.3.2 Underground Conduit System

An underground conduit system would connect the cable landing site with the exiting CLS. The Applicant is coordinating with the City (Grover Beach Public Works Department) to verify the best alignment and to ensure avoidance of existing utilities and City paving projects. The alignment of the 1.5-mile-long underground conduit system would be in this order (Figure 2-1):

- East of the parking lot following Le Sage Drive
- Under Meadow Creek, Highway 1, the UPRR, and surface streets
- Under Brighton Avenue going east
- Under South 6th Street going east
- Under Trouville Avenue going south
- Under South 7th Street turning into Barca Street going south
- Ending at the CLS on the east side of Barca Street, south of Farroll Road

Here are some key underground conduit system components:

- **Marker Ribbon.** During installation of the underground conduit system, a marker ribbon consisting of an orange warning tape would be buried approximately 1 foot deep to alert individuals digging above the cable.[8]
- **Surface Cable Markers.** Cable markers would be located along the underground conduit system route at intervals of 500 to 1,000 feet to mark the location of the fiber optic cable (inside the underground conduit system) in open areas outside of the surface streets (e.g., the parking area near the LMH, the railroad crossing). The markers would be 4- to 6-inch wide and 4-feet tall wooden poles that would be placed at the edge of the right-of-way along the terrestrial underground cable per City requirements. Signs would be placed on these posts outside of the surface street areas to indicate the presence of a buried cable.
- **Intermediate Manholes.** The Project would install an estimated 12 precast concrete manholes that would be placed at intervals of approximately 850 feet along the route between the CLS and the LMH. This distance between the manholes also would be determined by how the cable would be physically laid out on the surface streets. On average, the manholes would be spaced approximately 850 feet apart from east of the LMH to the CLS site. The manholes are necessary to allow access to the underground conduit system to install and maintain the fiber optic cable. Typically, the manholes (approximately 4 feet wide by 6 feet long and 6 feet deep) would be covered with a cast-iron manhole cover 36 inches in

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

diameter) that would be flush with the ground. All manhole covers would be marked with appropriate identification and would be secured (i.e., locked and bolted).

Activities around each intermediate manhole, such as the laydown of equipment and material to dig up the pit, would need approximately 1,000 square feet in the parking/driving lane of the streets. A typical manhole placement crew can install one to two intermediate manholes per day.

- **Conduit Bundle.** Each underground conduit system would consist of a conduit bundle with 13 direct ducts (1.5 to 2 inches in diameter) that would be buried at a minimum depth of 48 inches. Twelve of the ducts would accommodate the planned four fiber optic cables, and the 13th duct would be a spare for potential future maintenance needs. The following three cables would be in each conduit bundle:
    - Fiber Optic Cable. The fiber optic cable transmits telecommunication data (Figure 2-8).
    - Power Cable. The insulated copper power cable transmits power from the CLS facility to the marine cable.
    - Ground Cable. The insulated copper ground cable is part of the electrical equipment ground system and connects the CLS to the OGB onshore or offshore.

2.3.2.1 Underground Conduit System Installation Method

The underground conduit system would be installed in one of the following two ways:

- **Trenchless Construction Method.** This method would use smaller HDD machines compared to those used to install the landing pipes offshore. This would be the preferred method of installing the underground conduit system.
- **Trenching Construction Method.** Since the preferred method of installing the underground conduit system would be a trenchless construction method, this trenching method would be used only where the trenchless method is not possible or is not permitted. This method may be used in some limited city street areas, depending on site-specific conditions and City requirements.

2.3.2.2 Existing Utilities under Grover Beach Surface Streets

The underground conduit system on Grover Beach surface streets would be installed by the HDD method. To avoid or minimize construction conflicts with existing utilities and public services, the Applicant would coordinate closely with the Public Works Department during final Project design to identify any potential utility conflicts and initiate any needed relocation efforts. The Applicant also would contact the Underground Service Alert at least 2 full working days before construction activity begins. This service alert would contact all registered underground pipelines and utilities owners and inform them that construction

is about to begin in their service area. This notice would allow those owners to mark their underground facilities in the areas near the proposed Project construction site to be avoided during Project construction.

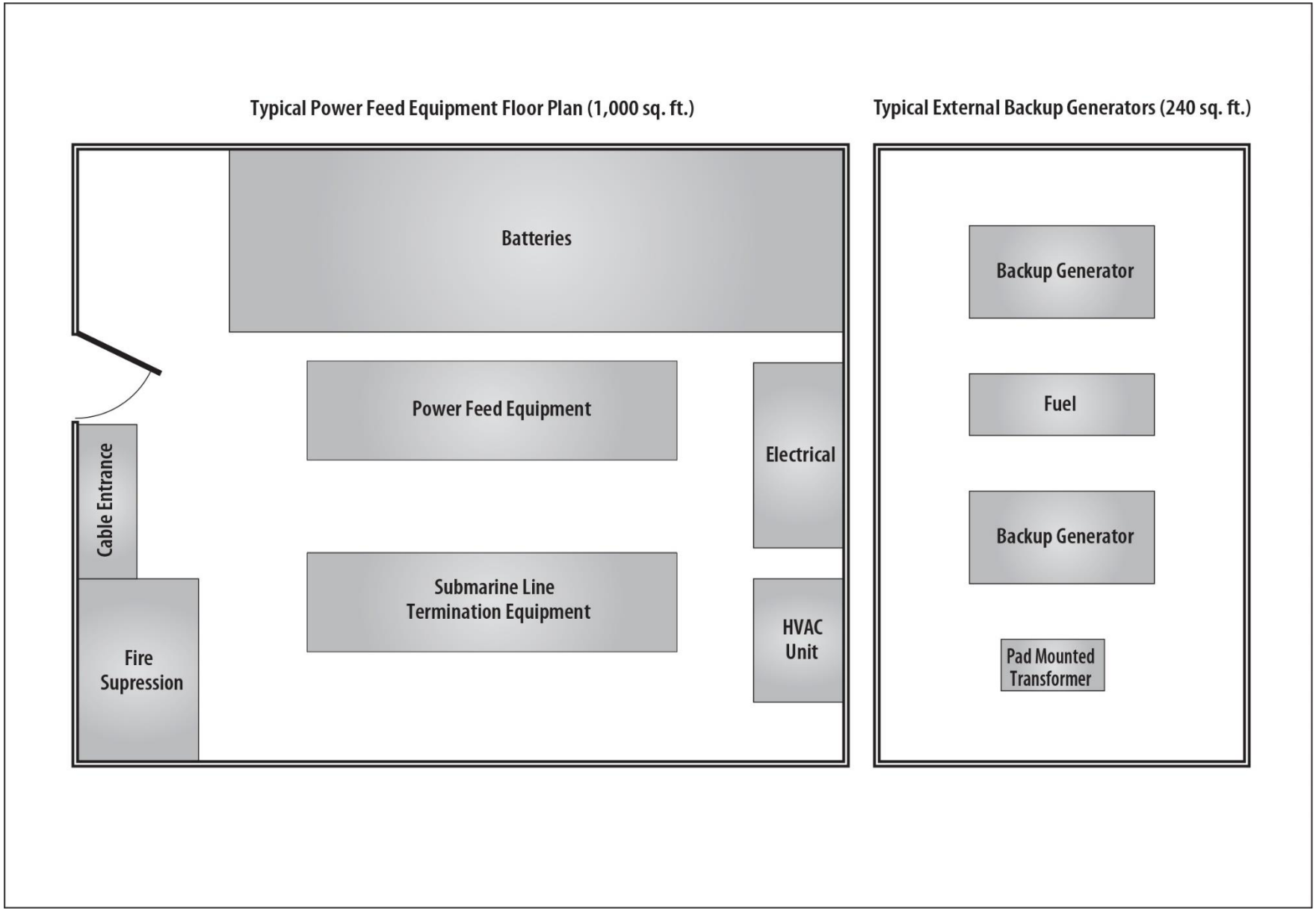
The existing utilities would not be affected during future Project phases because all the infrastructure would be built during Phase 1. Once the underground conduit system is in place, the first fiber optic cable would be pulled through and connected to the CLS.

2.3.3 Cable Landing Station (CLS)

Each of the four fiber optic cables would end at an existing CLS site (Figure 2-1) with its own dedicated equipment space. Modifications to the existing CLS and installation of additional equipment needed to accommodate the new cables would be constructed inside of the existing CLS. Each cable would be hooked up in the CLS with some equipment dedicated to that cable and other equipment that would be shared with future fiber optic cables. Here are some of the key Project components in the CLS (Figure 2-5):

- **Cable Entrance.** Each cable would enter the CLS at this location.
- **Submarine Line Termination Equipment.** Each cable entering the CLS would have "switching equipment" connecting the terrestrial cable with the marine cable.
- **HVAC Unit.** Each cable would need a 6-kilowatt (kW) air conditioning unit for cooling the equipment.
- **Backup Generator.** Each cable would need two 150-kW (200-horsepower) diesel generators for back-up power.
- **Fuel.** The diesel generators would require one 1,000-gallon diesel fuel tank.
- **Pad-Mounted Transformer.** One 150-kW pad-mounted transformer would transform current from AC to DC for each cable.
- **Other Electrical Equipment.** Other equipment would be required to handle electrical connections and power for the cable, including power feed equipment, batteries, and signal amplification equipment.
- **Power Feed Equipment.** Power feed equipment would provide electrical signals in the cable; the cable requires electrical pulses to move data through it from California to Asia or Australia.

Figure 2-5. Cable Landing Station Components



2.3.3.1 Staff at the Cable Landing Station

The existing CLS is permanently staffed. The new fiber optic cable systems would require a technician to make periodic service calls as needed and weekly routine system testing. The facility typically would be accessed during normal working hours (i.e., Monday through Friday, 8 a.m. to 5 p.m.) except in emergencies.

2.3.3.2 Fiber Optic Cable Electrical Signal Generated at the Cable Landing Station

Each fiber optic cable would contain a copper electrical conductor necessary to regenerate the light signal being transmitted through the cable as it crosses the ocean. The electrical signals in the fiber optic cable require electrical pulses to move the data through the cables from California to Asia or Australia. The standard commercial electrical power sources in the CLS would supply this electrical power to help the data travel long distances through the fiber optic cables (Figure 2-5).

Normal operations at the CLS would require approximately 80 kW of 480-volt AC service, or approximately 170 amps (a typical house less than 3,000 square feet in size can run on 100 amps). The commercial power would be converted to DC, and the voltage and amperage would be converted to match the needs of the signal-regenerating technology. The marine fiber optic cable would carry the converted DC electrical current.

2.3.4 Permanent Easement

A permanent easement simply means that the Applicant has obtained the rights to be on an area. The preliminary design calls for a permanent easement (outside of the lands under the CSLC's jurisdiction) of approximately 0.9 acre on the cable landing site from above the OHWM, under the beach, up to the LMH in the parking lot, and then to the eastern California State Parks boundary. This easement area (outside of the CSLC's jurisdiction) would encompass the footprint of the fiber optic cables from the beach to the LMH, the LMH, the OGBs (if onshore), and the underground conduit system to Highway 1 and other public surface streets up to the CLS.

2.3.5 Union Pacific Railroad (UPRR) and Highway 1

The UPRR and Highway 1 traffic would not be affected because the underground conduit system would be installed using smaller HDD machines, and the conduits would travel under both the UPRR and Highway 1.

2.3.6 Traffic Control on Surface Streets

The underground conduit system would be located mainly within public road rights-of-way (Figure 2-1). Because these are city surface streets, traffic would be controlled and coordinated with the City and would conform to City specifications.

Project-related materials would be delivered to the cable landing site staging area at the beginning of construction. Initially, approximately 30 tractor-trailer loads of construction equipment and materials would be delivered. One fuel truck would make a daily fuel delivery.

There would be three weekly truck trips to deliver materials and supplies. Each load would take from approximately 10 to 20 minutes to unload. Standard traffic and pedestrian control measures, such as cones and a flagger (a person with a flag controlling the traffic) would be implemented to ensure that vehicle and pedestrian access is not unduly disrupted.

2.3.7 Terrestrial Equipment and Personnel

The terrestrial components would involve a variety of phases (Table 2-1). Appendix B further discusses the types of equipment, numbers of pieces of equipment, and an estimated number of personnel required for Project-related terrestrial construction activities. In general, the terrestrial Project components would involve the following types of equipment:

- HDD powerplant
- Excavator, backhoe, and forklift
- Trucks and trailer
- Welder
- Generator
- Fluid management system
- Bore machine
- Pavement roller
- Saw cutter

2.3.8 Phase 1 Project Components

As explained in Table 2-1, Phase 1 would include the following Project components:

2.3.8.1 Install Landing Pipes using Larger Marine HDD Machines for Landing Pipes

The four landing pipes (5 to 6 inches in diameter and 4,600 feet long) would be installed from the cable landing site (going at least 35 feet under the beach and the ocean floor as seen in Figure 2-2) to exit offshore using HDD construction method. The HDD construction method would avoid impacts on the surface area of the public beach, surf zone, and ocean floor. At least 60 days before HDD operations, the engineers would provide detailed engineering drawings with supporting site-specific geotechnical report

and calculations. These drawings would depict the horizontal and vertical alignment best fitting the site conditions based on the site-specific geotechnical report.

The cable landing site would be approximately 100 feet by 150 feet, or 15,000 square feet of workspace and large enough to accommodate materials and storage needs (Figure 2-3). The bore entry pit (shown in the cable landing site on Figure 2-3) for the landing pipes would measure approximately 10 feet wide by 12 feet long by 4 feet deep. The bore entry pit also would serve as the HDD fluid return pit to collect the HDD fluid that would return to the bore entry site. Once the landing pipe is installed, the bore pit would be expanded to allow for installation of the LMH.

The HDD would be guided by a drill head fitted with a steering tool, using magnetometers and inertial devices to track the direction of advance (horizontally and vertically) and the absolute location. Two types of drill heads could be used, depending on geologic conditions:

- **Spud Jet.** Spud jets force the drilling fluid through the jet bit to erode the earth material and create the bore hole into which the conduit is inserted. This type of drill head is used in soft soils such as sands, silts, and clays—the expected composition of material to be encountered during landing pipe installation.
- **In-Hole Mud Motor.** An in-hole mud motor would use drilling fluids to rotate a drill head though hard rock such as limestone, sandstone, and granite; this type of head would be used if such conditions were encountered.

The landing pipe would be advanced in 30-foot sections through the bore holes as they are created. Surveys would be conducted in 15-foot and 30-foot increments to verify the drill position and path. The HDD machine would occupy the bore entry site, drilling steel casing into the ground at an angle. Once the landing pipe reaches the desired depth, the direction would level out as the drilling continues to push the landing pipe horizontally through the ground. Once the landing pipe reached the appropriate distance offshore, the drill head would be guided to the surface offshore at least 33 feet below the ocean water (Figure 2-2). This operation would happen four times to install four independent landing pipes for each of the four fiber optic cables coming to Grover Beach.

The marine HDD would be guided by a drill head fitted with a wireline steering tool in conjunction with the energized wire tracking loop to track the direction of advance (horizontally and vertically) and to determine the exact location of the drill head. The tracking system would be implemented continuously to verify the drill position and path. A component of the tracking system is a wire loop that is placed on the ground. The wire loop is energized for a fraction of a second after each 30-foot joint of pipe is installed. The loop allows the drill operator to triangulate the exact location of the drill head. In beach recreational areas, the wire may be buried in the sand a few inches below the sand to keep it out of the way of recreational vehicles or other recreational uses.

The drill head would stay at the exit point of the landing pipe offshore (at least 33 feet below water) until the divers would take it off and install a flapper valve. The flapper valve prevents ocean water from entering the landing pipe that was brought offshore by the HDD method. Once the fiber optic cable comes from Asia or Australia to the landing pipe exit point offshore, the flapper valve would be taken off, and a wire rope would be installed to pull each fiber optic cable through a landing pipe and bring it onshore to the LMH in the cable landing site (Figure 2-2).

Horizontal Direction Drilling 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. Drilling fluid would be used for drilling all conduit except for the final approximately 30 feet of the bore hole. The drilling fluids would be changed to water (instead of the drilling fluid) at the end of the bore hole installing the landing pipes; this would minimize the release of drilling fluids into the ocean floor when the drill bit exits offshore. 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 OHWM would be contained with sandbags and collected for reuse or disposal as required in the Inadvertent Return Contingency Plan (**MM BIO-6**).

For inadvertent releases below the OHWM, it would be impractical to contain and collect releases because of the wave energy in the surf zone. The wave energy in the surf zone would quickly dissipate the drilling fluids. However, the landing pipe operation would be closely monitored as directed in the Inadvertent Return Contingency Plan to be developed. If releases are detected in the water, measures would be implemented at the LMH to minimize and control the release. Measures could include divers or a mini-ROV that would investigate suspected releases. If a release is found, divers would act to immediately contain the release with hand-placed barriers (e.g., Brady barrels, or sandbags, silt fences, or silt curtains) and collect released material using vacuum pumps, as practical.

2.3.8.2 Install Underground Conduit System

The underground conduit system would be installed using the following construction methods:

Horizontal Direction Drilling Construction Method

Most of the underground conduit system installation on surface streets is expected to be trenchless (using smaller HDD machines) rather than trenching. This approach would allow 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 (8 to 10 inches diameter in radius) reaches the opposite side of the resource or obstruction being avoided, the landing pipe would be attached to the bore pipe and pulled back through the bore opening. One or two bore machines (as needed) would drill approximately 300 linear feet per day per machine.

Trenchless construction disturbs only the ground surface at the bore entry and exit pits, which would be spaced approximately 300 feet apart. Assuming approximately 1.5 miles of trenchless installation, approximately 30 pits would be required. 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 160 cubic feet with 32 square feet of surface disturbance. Activities around each pit, such as the laydown of equipment and material, would occupy approximately 500 square feet.

Similar to larger marine HDD, the smaller HDD installment methods used for underground conduit would also be using drilling fluid (i.e., bentonite and water). The alignment would be surveyed and identified before construction activity begins. Alignment identification would entail staking the centerline of the alignment, utility line crossings, and limits of the construction work area. Before the construction starts, any environmentally sensitive areas (e.g., wetlands, special-status species habitat, and cultural resources) also would be staked and flagged.

Conventional Boring Construction Method

Conventional boring is not expected to be widely used on this Project except if incompetent or unstable material makes the HDD method infeasible or unadvisable. 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 to accommodate 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 of the excavation through the casing. The process continues until the bore is completed into the receiving pit, an excavation that permits access to the auger and casing. In the final step, the auger is extracted, and the conduit is installed within the casing. Conventional boring disturbs the ground surface at entry and exit pits. Each pit would encompass approximately 150 square feet. Activities around each pit, such as the laydown of equipment and material, would occupy approximately 500 square feet.

Trench Construction Method

As mentioned previously, very little (if any) trenching is anticipated, but trenching may be necessary in a few limited city street areas. Such locations cannot be determined until construction starts. For example, trenching might be needed at the tie-in locations to the LMH or at utility crossings. Only very short segments (approximately up to 50 feet) of the underground conduit system would need this type of trenching. Typically, the trenches would be from 12 to 18 inches wide and a minimum of 48 inches deep (Figure 2-6). Trenches would be excavated with a rubber-tired backhoe or similar excavating equipment. Once excavated, the crew immediately would start placing the underground conduit system (consisting of duct bundles with 13 empty pipes). Then the trenches would be backfilled. Once a new cable comes offshore from Asia or Australia, a fiber optic cable would be pulled through this underground conduit system from the CLS to the LMH. If existing utilities are in the trench path, a minimum clearance of 24 inches would be maintained between the utility and the conduit. Generally, where existing utilities are encountered, the new facilities would be placed below the existing utilities to avoid interfering with future maintenance of the utilities. Any excavation or trenching involving shoring will be constructed in a safe manner and comply with the current industry standards and requirements, including but not limited to, those of the Division of Occupational Safety and Health, better known as the California Occupational Safety and Health Administration.

2.3.8.3 Install Intermediate Manholes

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.

2.3.8.4 Backfill Trenches and Bore Pits

Backfilling trenches and bore pits would begin immediately after installing the underground conduit system and would involve using a rubber-tired backhoe or similar equipment. The backfill material would consist of native soil, imported aggregate base, or sand-cement slurry and would conform to the specifications of the local jurisdiction. Material removed during trenching that would not be used to backfill would be disposed of at locations approved to receive clean fill. The excavation crew typically conducts backfilling activities. The equipment and labor needed to carry out the work are included in the allocations for bores, trenches, and manholes.

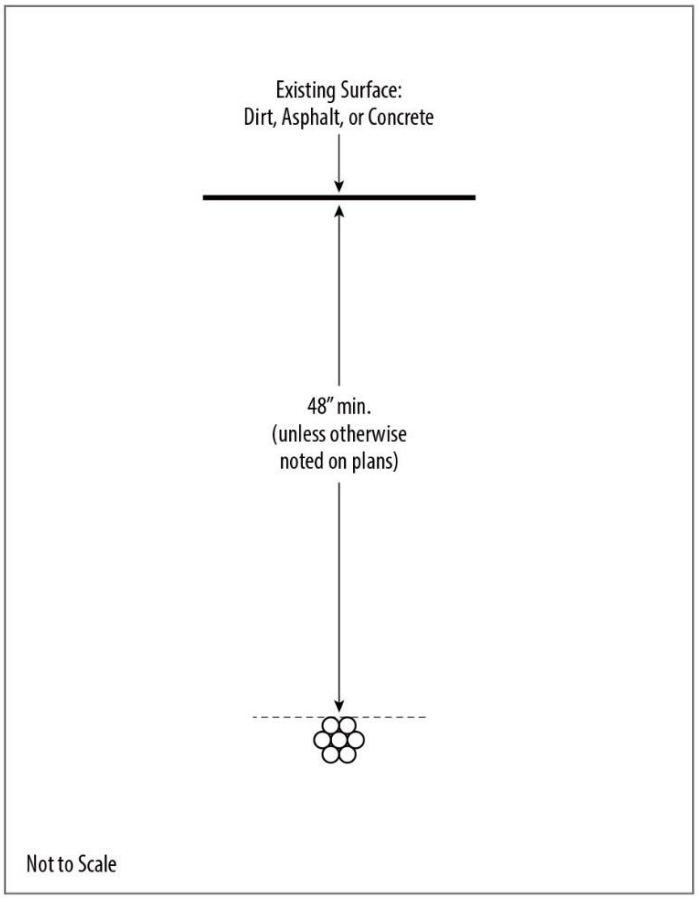
The backfill would be compacted with a pneumatic drum roller, backhoe-mounted vibratory compactor, or hand-operated vibratory compactor. Water would be added to the material, as necessary, to obtain the relative density required by State or City specifications. Unless otherwise specified, compaction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

2.3.8.5 Restore Terrestrial Surfaces

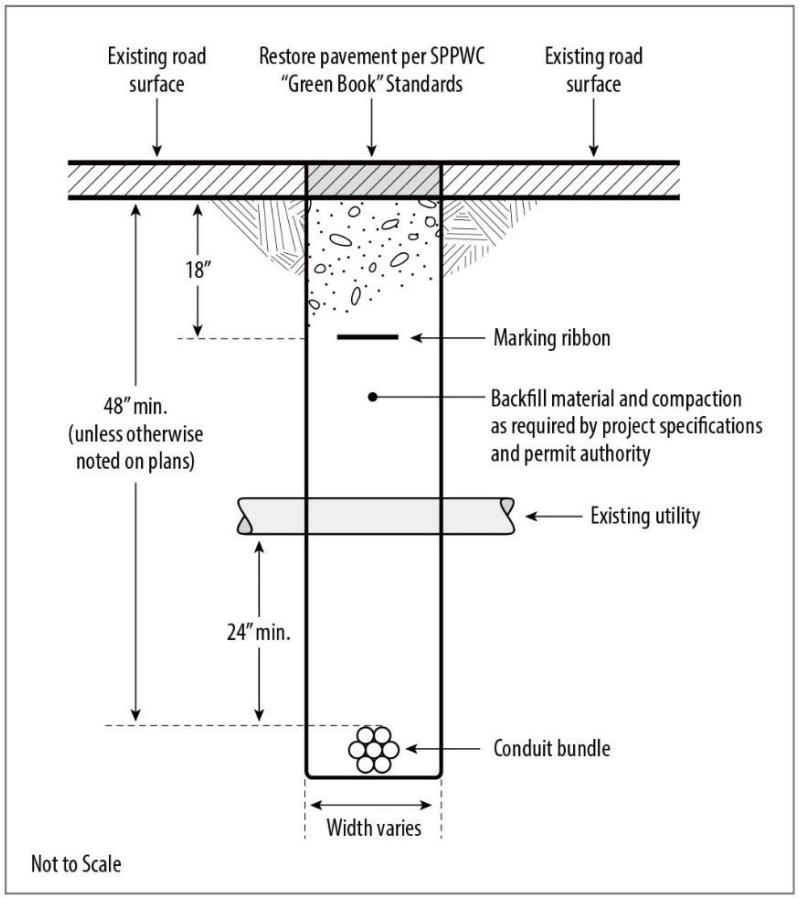
Surface restoration is the final step in the construction process. The streets chosen for the Project alignment are streets that have not yet been upgraded by the City. In paved surfaces (like surface streets), restoration would entail pavement repair, curb and gutter reconstruction, and pavement re-striping, if needed. Typical pavement repair involves cutting and removing a strip of asphalt wider than the trench along its entire length. This is then replaced with new asphalt after backfilling and compaction (Figure 2-6).

There would be limited unpaved areas (e.g., the cable landing site and staging area) along the cable alignment, restoration would include minor grading to restore original contours, installing erosion control devices at locations susceptible to erosion. The last step would be seeding, mulching, and fertilizing to return the site to pre-construction conditions.

Figure 2-6. Typical Restoration of Bores and Trenches



Typical Bore Detail



Typical Trench Detail

* SPPWC = U.S. Standard Plans for Public Works Construction

2.3.8.6 Construct Cable Landing Station Power Feed Equipment

Power feed equipment would be installed within the existing CLS structure. Equipment required for installation will include a crane or forklift (for placing large/heavy equipment), a backhoe (for any minor grading or excavation), and a pick-up truck for delivery of equipment and materials.

2.3.8.7 Install Ocean Ground Beds (onshore or offshore) and LMH

The following OGB location would be selected by the cable engineer at the time of the construction (Figure 2-4):

- **Onshore.** If installed onshore, the OGB for each cable would be installed onshore by drilling holes from the LMH down to the seawater level with a well-drilling machine and then installing the iron anodes in the drilled holes (Figure 2-4). The copper ground cable would be installed by excavation between the tops of the iron anodes to connect the tops of the anodes to one another and back to the ground cable in the LMH. Trucks and trailers would be used to deliver equipment and supplies.
- **Offshore.** If installed offshore, the OGB for each cable would be installed on the ocean floor at the end of the landing pipe as part of the cable marine burial operation.

2.3.8.8 Pull Terrestrial Cable

The underground conduit system would be constructed in Phase 1 before the fiber optic cables would arrive offshore of Grover Beach. Once the underground conduit system is installed, the fiber optic cables would be pulled into the LMH from both from offshore and the CLS.

Pull Fiber Optic Cable from Existing Onshore CLS to LMH

The fiber optic cables would be installed (starting from the CLS going to the LMH) by pulling them from one intermediate manhole to the next. A rope pull would be installed at the time of construction to facilitate pulling the fiber optic cables through. Equipment required for this operation includes trailers to transport the cable and truck-mounted mechanical pulling equipment. Although cable pulling does not physically disturb the ground surface, traffic control may be required for manholes located in traffic lanes.

To reduce friction while pulling the cable into the underground conduit system, a pulling lubricant (i.e., Polywater Lubricant, manufactured by American Polywater Corporation) would be used. The lubricant would be introduced without pressure directly into the inner cell of the underground conduit system, typically at a rate of less than 1 gallon per

1,000 feet. The lubricant dries to a nontoxic powder that remains in the underground conduit system and its spaced-out terrestrial manhole system.

Fiber optic cable pulling would not involve subsurface excavation. Pulling activities for the underground conduit system would occupy approximately 40 feet (linear feet) of one roadway lane. Cable pulling activities around each manhole would require approximately 500 square feet and take several hours to complete. The entire operation of pulling cable into the underground conduit system would take approximately 1 week per cable. However, it would take only a few hours at each manhole to pull the cable through on surface streets in Grover Beach.

Pull Fiber Optic Cable from Offshore to LMH

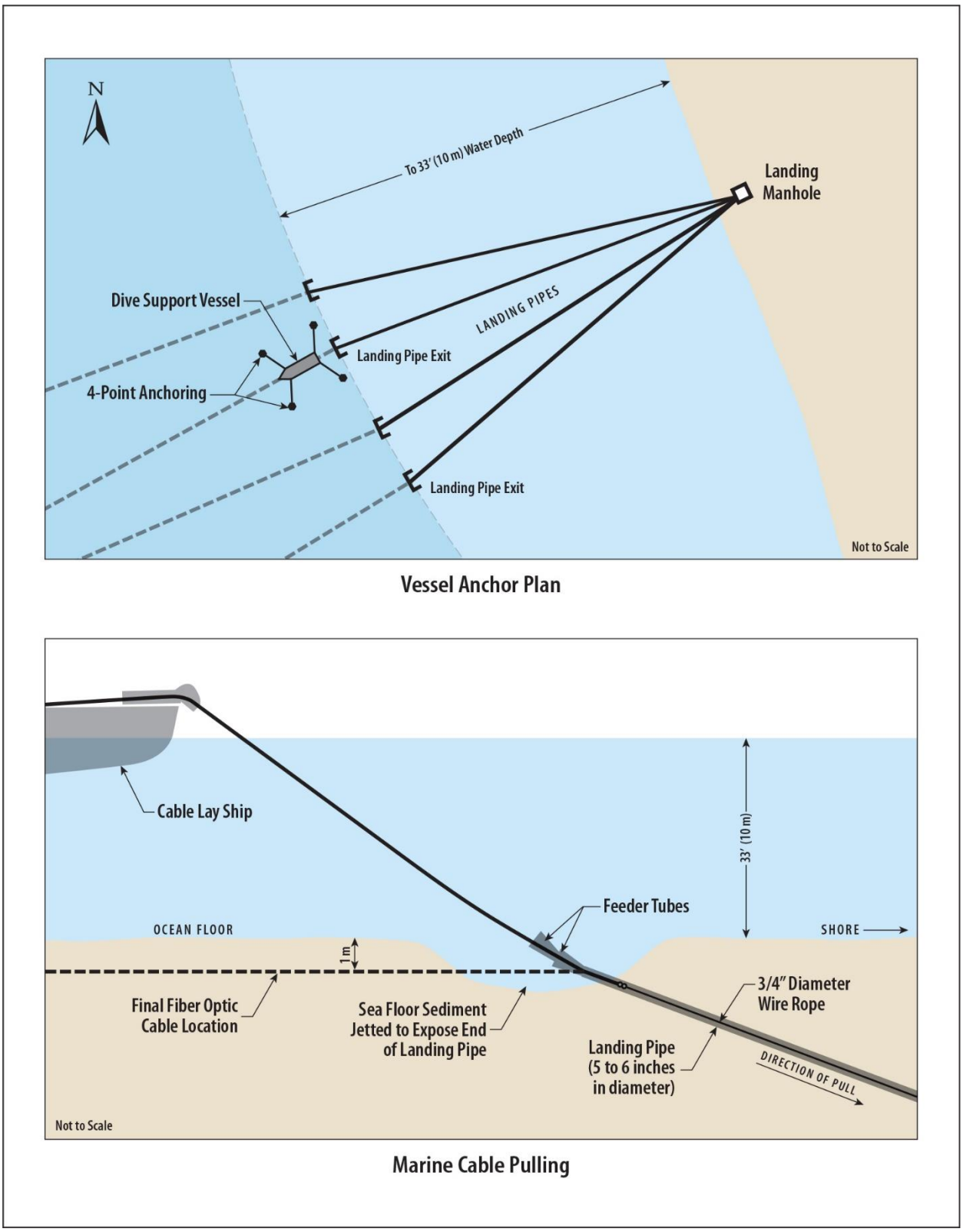
Since the underground conduit system would be constructed at early part of Phase 1 (Figure 2-1), the cables coming offshore would be pulled on land through their own designated landing pipes and into the LMH. This would require work at both offshore at where the landing pipes exit and onshore at the LMH (Figure 2-7) with these steps:

1. Landing pipes (5- to 6-inch-diameter) would be installed using HDD from the LMH under the dunes, beach, and ocean floor to the marine exit point.
2. A dive support vessel would be anchored at the landing pipe exit point using 4-point mooring (details to be provided in the Marine Anchor Plan [APM-2]). Divers from this vessel would temporarily remove the ocean floor sediment using jetting to expose the landing pipe end.
3. A winch would be set up onshore just east of the LMH to pull the marine fiber optic cable. A wire rope (installed during landing pipe installation) would be attached to the winch and to the end of the marine cable on the cable lay ship. The winch would pull the marine cable from the cable lay ship through feeder tubes into the landing pipes and then into the LMH, where the cable would be anchored in place.

2.3.8.9 Add to and Set Up the CLS (construction and testing)

Each of the four fiber optic cables would have its own dedicated equipment space (Figure 2-5). All modifications would be done from the inside of the existing CLS. Each cable would be hooked up in the CLS with some equipment dedicated to it and some equipment that would be shared with future fiber optic cables.

Figure 2-7. Marine Cable Pulling from Offshore to Onshore



2.4 DETAILED MARINE PROJECT COMPONENTS

The marine Project components are segments between the OHWM and the outer limit of the OCS at approximately 5,904 feet of seawater depth. The CSLC's jurisdiction is the OHWM to 3 nautical miles (nm) offshore (Figure 1-1) and the federal jurisdiction is past 3 nm. 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 Landing Pipes

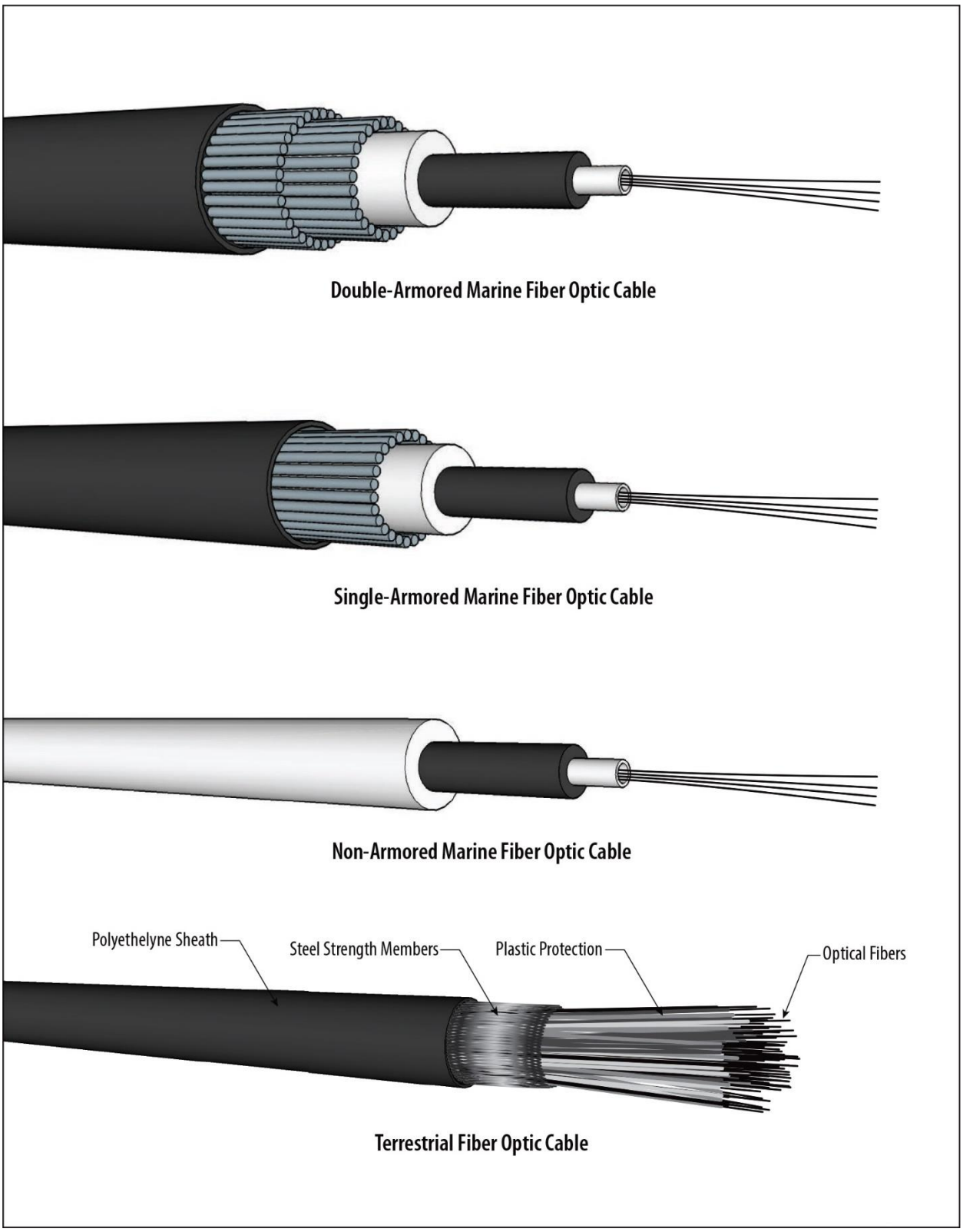
The four landing pipes (5 to 6 inches in diameter) would extend west from the LMH into the ocean (Figures 2-2 and 2-7) as explained in Section 2.3, *Detailed Terrestrial Project Components*. These landing pipes would be installed by the HDD construction method. Once a marine fiber optic cable arrives offshore from Asia or Australia, it would be pulled onshore into the LMH.

2.4.2 Marine Fiber Optic Cables

The following two marine fiber optic 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):

- **Double Armor Cable.** This design (less than 2 inches in diameter) offers the greatest degree of protection and is recommended to be used in rocky or coarse substrate areas where protection from fishing gear may be warranted. There are 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 Cable.** This design (less than 2 inches in diameter) is like double armored cable but with only a single surrounding polypropylene sheath and ring of galvanized wires. This cable would be used where there is reduced risk of damage caused by substrate conditions or fishing by burying the cables in soft bottom sediments using a sea plow or remotely operated vehicle (ROV) (Figure 2-10).

Figure 2-8. Marine and Terrestrial Fiber Optic Cables



2.4.3 Signal Regenerators in the Marine Fiber Optic Cables

The marine fiber optic cable would contain a copper conductor to transmit telecommunication data signals (light pulses). The maximum signal that can travel without a regenerator is only approximately 35 miles. Therefore, signal regenerators would be required at appropriate intervals in the fiber optic cables to help transmit the signals from Grover Beach to Asian or Australia.

The regenerator equipment would operate from 48 volts of DC electricity using DC power feed equipment housed at the CLS (Figure 2 5). The marine fiber optic cable would transmit this signal (DC electrical power) to the regenerators. The DC power equipment system would also include protective equipment to detect a sharp decrease or sharp increase in electrical current flow in the fiber optic cables. If an abnormal current flow is detected in the fiber optic cable, the DC power system would shut down. The DC power would generate a magnetic field on the order of 5 milligauss at 3.28 feet from the fiber optic cable. The magnetic field would diminish with distance from the fiber optic cable (such that, at 33 feet, it would be approximately 0.5 milligauss).[9]

2.4.4 Marine Project Construction Methods

The marine Project construction would happen during all Project phases (Table 2-1). Appendix B discusses the type and number of equipment and an estimated number of personnel required for Project-related marine construction activities. Overall, it would involve a dive support vessel (primary work vessel) and a cable lay ship (Figure 2-7). The Table 2-2 below and text below explains the different marine construction methods.

Table 2-2. Summary of Proposed Marine Construction Methods

Water Depth Range	Approximate Distance Offshore	Installation Method
Landing manhole to 40 feet deep	Up to 0.66 mile	Horizontal directional drilling
Between 40 and 98 feet deep	From 0.66 to 1.3 miles	Diver-assisted post-lay burial
Between 98 and 5,904 feet deep	From 1.3 to 68.4 miles	Cable plow, or diver- or ROV-assisted post-lay burial
Greater than 5,904 feet deep	Beyond 68.4 miles	Direct-surface lay

Term:
ROV = remotely operated vehicle
Note: All buried and unburied sections will be detailed in a burial report, prepared after each Project phase.

[9] 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.

2.4.4.1 Horizontal Direction Drilling to Install Landing Pipes (LMH to 40 feet deep, up to approximately 0.66 mile offshore)

The first marine Project component would be to install the four landing pipes using the HDD installation method. Once all four landing pipes are installed, the cable lay ship would arrive offshore from Asia or Australia as it lays fiber optic cable in the deep ocean.

Expose Landing Pipe Exit by Jetting Ocean Floor Sediment

Approximately at 3,600 feet offshore (where the landing pipes exit) (Figure 2-7), divers would jet approximately 10 to 15 cubic yards of ocean floor sediment to expose the end of the landing pipes. The divers would remove the drill head from the landing pipe and install a flapper valve on the end of the landing pipe to keep seawater from entering until the cable arrives offshore.

Dive Support Vessel (Primary Work Vessel)

This 100 to 200-foot-long dive support vessel (Figure 2-7) would arrive and set up on station within about 50 feet of the landing pipes exit point (about 3,600 feet offshore) using a 4-point mooring with an anchor spread of 328 feet. A smaller secondary work vessel would be used with this dive support vessel to set and retrieve anchors and to shuttle crew between the diver support vessel and the shore. All anchors would be set and retrieved vertically to avoid dragging them across the ocean floor. All anchoring would be conducted as described in the Marine Anchor Plan (**APM-2**), and the anchor drop zones would avoid hard bottom and existing utilities. Reference Appendix B, Table B-6 (Marine Vessel Inventory), for a list of vessels by phase and hours per day that each vessel would be in use. Up to 10 employees per day during construction were assumed for air quality emissions modeling purposes.

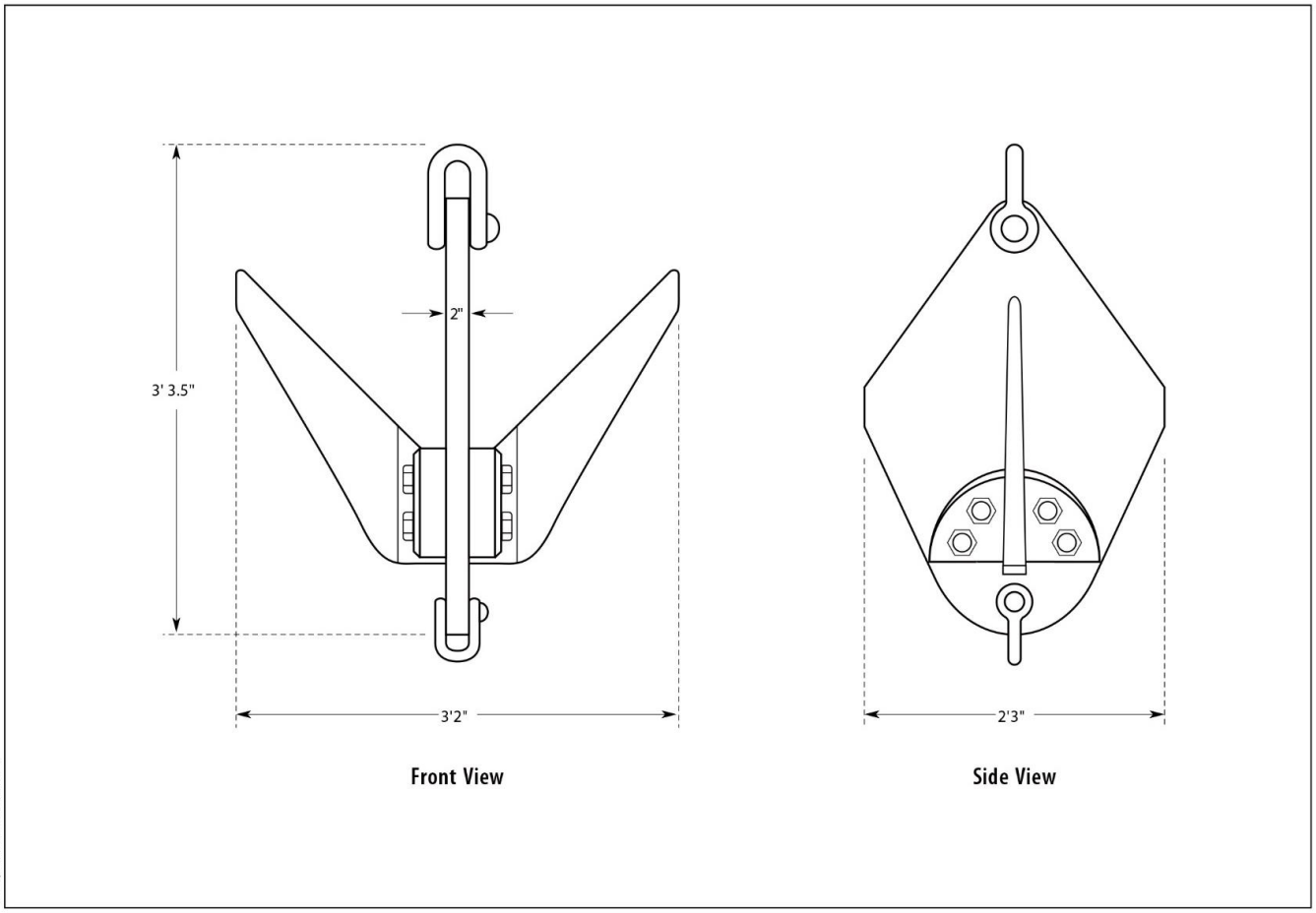
Cable Lay Ship

Once the cable lay ship arrives offshore, it would position itself several hundred feet oceanward of the end of the landing pipe (3,600 feet offshore). The divers would connect the end of the cable to the existing wire rope (0.75 inch wire rope would be attached to a hydraulic winch when landing pipe is installed) in the landing pipe, install cable chutes (also known as *feeder tubes* as seen in Figure 2-7) into the end of the landing pipe, and attach floats to the cable so it can be pulled through the landing pipe and brought onshore in the LMH. Then, the cable would be pulled onshore into the LMH by the winch and anchored behind the LMH. Once the cable is secured in the LMH, the cable lay ship would move away from that location. Divers would manage and monitor the pulling process from the dive support vessel.

Pre-Lay Grapnel Run (water depths of 40 to 5,904 feet; between 0.66 and 68.4 miles offshore)

Information from the ocean-bottom surveys would be used to assist in this "run." The purpose of an engineered pre-lay grapnel run would be to clear debris on the bottom of the ocean floor, such as discarded fishing gear, along the cable routes where the cables would be buried on the ocean floor. 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 (Figure 2-9). The grapnel would be attached to a length of chain to ensure that it touches the bottom of the ocean floor. The cable lay ship, or a dive support vessel 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 ocean floor 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



2.4.4.2 Diver-Assisted Post-Lay Burial (water depths of 40 to 98 feet; between 0.66 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 cable as it goes traveling at approximately 2.3 miles per hour (2 knots per hour). The cable would be temporarily laid directly on the ocean floor and later the divers would bury it starting from the landing pipes exit point at about 0.66 miles (40 feet water depth) to 1.3 miles (98 feet water depth) offshore. 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 ocean floor.

Divers would use hand jets to open a narrow furrow beneath the cable, allowing the heavy cable to drop into the furrow. The disturbed sediments then would 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.

2.4.4.3 Cable Plow or Diver- or ROV-Assisted Post-Lay Burial (approximate water depths of 98 to 5,904 feet; between approximately 1.3 and 68.4 miles offshore)

Sea 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.

Cable Plow Post-Lay Burial

The cables can be plowed at water depths of approximately 98 to 5,904 feet, from approximately 1.3 to 68.4 miles offshore. A sea plow (Figure 2-10) 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, would be deployed to the bottom, divers would assist with loading the cable into the sea plow's burial shank (Figure 2-10). The mechanical movements would be controlled by an operator watching the divers through a video camera mounted on the plow. The cable would be buried at the same time as it would continue to feed the cable through the sea plow shank and into the bottom of the furrow all in a single operation. The 3.3 feet wide sea plow furrow would naturally close under the weight of the sediments and the plow sleds. The plow would be expected to operate at the rate of approximately 0.6 mile per hour (approximately 0.5 knot per hour).

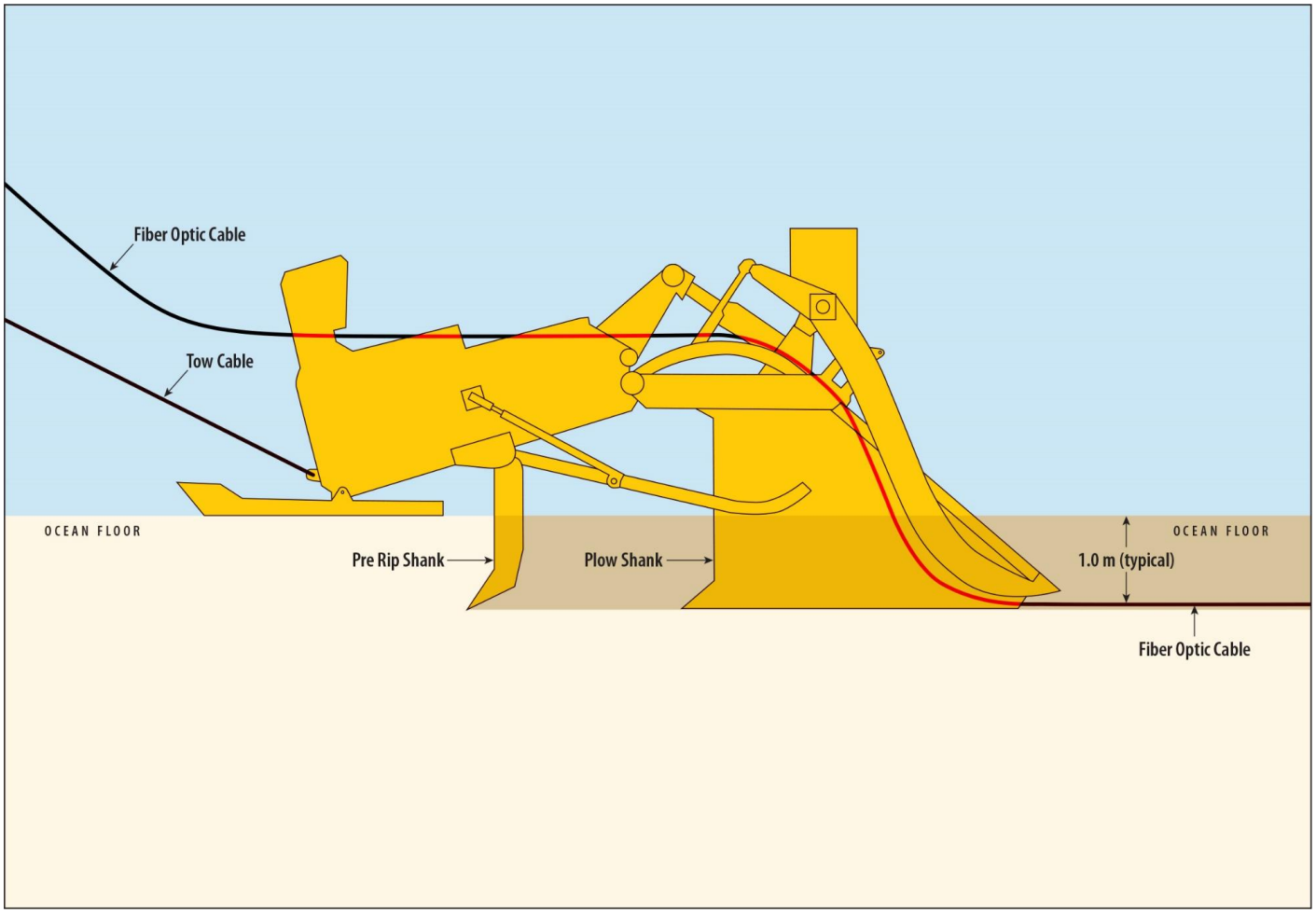
Diver-Assisted Post-Lay Burial

Diver-assisted marine cable burial may be used at water depths of approximately 40 to 98 feet, from approximately 0.66 to 1.3 miles offshore, or where the sea plow cannot be deployed due to shallow water depth.

Remotely Operated Vehicle Post-Lay Burial

At water depths of approximately 98[10] to 328 feet, from 1.3 to 8 miles offshore, or where the sea plow cannot be deployed because of bottom conditions, an ROV (robotic device operated from the cable lay ship) would be used to bury the cable or a similar vessel (Figure 2-7). The ROV would move under its own power and would be tethered to and guided from the cable lay ship. ROV jets would loosen the ocean floor sediments beneath the cable, allowing it to settle to the desired depth of 3 to 4 feet. The disturbed sediments would settle back over the area to their original grade, leaving the cable buried. The ROV would operate at a nominal speed of 0.35 mile per hour (0.3 knot per 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. The post-lay burial of cable by ROV would disturb about 15 feet of the ocean floor (not the water column) (Figure 2-10).

Figure 2-10. Sea Plow for Burying Fiber Optic Cables on the Ocean Floor



[10] There is overlap between the ROV and the Plow (both start at 98 feet). This is because some plows and vessels can deploy at water depths of 98 feet, while some need more depth.

2.4.4.4 Direct-Surface Lay (water depths of more than 5,904 feet; 68.4 miles offshore)

At this depth, the cable lay ship would lay the cable directly on the ocean floor without burial, while maintaining slack control to ensure a straight lay of the cable and ensuring contact with the ocean floor to avoid suspensions.

2.5 CABLE OPERATIONS, MAINTENANCE, AND REPAIR

A differential geographic positioning system (GPS) would be used when the cable systems are installed. 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 and distributed to all cable maintenance zone ships, government charting agencies, CSLC, and other data users. These records can be used in the future to locate theses cables on the ocean floor when a cable repair is needed. These records would be maintained throughout the system's life and after the system is retired.

2.5.1 Cable Operations and Maintenance

There would be no routine maintenance planned for the submerged cable network besides ensuring that the power feed and transmission equipment in the CLS are in properly working. These cables typically operate for 25 years. Because of the stability of the ocean-bottom environment, regular maintenance is unnecessary.

2.5.2 Emergency Cable Repair (Marine)

Even though the cable would be buried at least 3.3 feet deep, it can still be damaged by saltwater entering into the landing pipe and anchors or fishing gear that could snag the cable and cause a *fault* (the point at which transmission is interrupted). These are the two types of emergency repairs that would happen:

- **Buried Repair.** A buried fault would be repaired one of these ways:
    - Shallow-burial repair. The fault usually can be pinpointed through the using low frequency electroding. This type of repair would require adding little if any extra cable (to replace the bad cable) during the repair because of the shallow depth.
    - Up to 20 inches depth repair. A grapnel (Figure 2-9) would be rigged to this location to penetrate and recover the cable buried up to 20 inches.
    - Deeper than 20 inches depth repair. A de-trenching grapnel, divers, or an ROV would remove the cable from the burial trench and bring it to the surface. The cable then would be repaired and reburied in its original position to the extent practicable.

- **Unburied Repair.** It may be possible to engage the cable and bring it to the surface without cutting. If not, then a cutting blade would be fitted to a grapnel (Figure 2-9) to cut the cable close to the fault location before recovery. Then, use Gifford grapnels for holding runs to recover each cut end to 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 is on the ship. After the fault site is removed from the system, the 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 SYSTEM

The Applicant requested an approximately 25-year lease from the CSLC for the Project components under the CSLC's jurisdiction. The Applicant proposes that all terrestrial and marine Project components be left in place and available for future cable systems. Even though the Applicant proposes to keep the structures in place, CSLC authorization would be required for continued occupation beyond the cable's life or once the cable is taken out of service. CSLC's preference is to remove all structures under the CSLC's jurisdiction to ensure that these structures do not become a future public hazard.

At least 2 years before the lease expires, the cable owner(s) would submit a CSLC lease application to remove all Project components (within the CSLC's leasing jurisdiction) or to request for continued use and maintenance of these components. At least 90 days before taking the cables out of service, the cable owner(s) would notify the County and the CCC of their decision and how they plan to dispose the inactive cables.

If the Project components are removed, the potential impacts would be like those activities associated with installing the Project. The significant of removal impacts would depend on the existing setting and significance criteria at the removal time. At the end of the cable's life, subsequent environmental documentation likely would be required to analyze environmental impacts at that time with those existing environmental conditions.

3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

This section presents the Initial Study (IS) for the proposed RTI Infrastructure Inc. Grover Beach Subsea Fiber Optic 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 (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, the 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 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, etc.), 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. 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 implementation of mitigation measures, that reduce the impact to "Less than Significant with Mitigation."

Table 3-1. Environmental Issues and Potentially Significant Impacts

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Cultural Resources – Tribal
☐ Energy	☐ Geology, Soils, and Paleontological Resources	☒ Greenhouse Gas Emissions
☒ Hazards and Hazardous Materials	☒ Hydrology and Water Quality	☐ Land Use and Planning
☐ Mineral Resources	☒ Noise	☐ Population and Housing
☐ Public Services	☒ Recreation	☒ Transportation
☐ Utilities and Service Systems	☐ Wildfire	☒ 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 as well as within Appendix A – Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the 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

4/24/2020
Date

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

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?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

The Project consists of temporary work on land (terrestrial) and in the ocean (marine).

3.1.1.1 Terrestrial Components

Cable Landing Site and Cable Landing Station (CLS)

The Pacific Ocean is visible from the cable landing site in the Grover Beach parking lot (Figure 3.1-1a). Project-related equipment and work in this parking lot would be visible to individuals using this parking lot to visit the Grover Beach or Fin's Seafood Restaurant & Bar. This is not the only parking lot to access the beach. No aesthetic views would be impacted when the existing CLS would be upgraded from inside (Figure 3.1-1c).

Pismo State Beach and Oceano Dunes State Vehicular Recreation Area (SVRA)

The primary access route to Pismo State Beach is West Grand Avenue (south of cable landing site as seen in Figure 2-1). The cable landing site is in the opposite direction of the Pismo State Beach or SVRA and not impacting the Pacific Ocean views. The fore and back dune areas west of the cable landing site are described in the City of Grover Beach Local Coastal Program (LCP) as a "unique visual resource for it is one of the few areas remaining along the California coast that still offers extensive unobstructed coastal vistas easily accessible to urbanized areas" (City of Grover Beach 2014a). The terrestrial environment above water is characterized by the public as open coast sandy beach.

Pismo Invertebrate Reserve

The Pismo Invertebrate Reserve is a cultural feature (now considered a park) located northwest of the cable landing site by approximately 2,000 feet. At that distance, and with intervening vegetation along the dunes (Figure 3.1-1a), views of the cable landing site would be obstructed, and views of the construction equipment in the staging area would be like other vehicles and trailers typically parked in this parking lot.

Pismo Beach Golf Course

The Pismo Beach Golf Course is to the north of the cable landing site. The practice putting green is approximately 390 feet north of the staging area at the cable landing site. At that distance, and with intervening vegetation along the north side of Le Sage Drive (Figure 2-1), construction equipment in the staging area would be like other vehicles and trailers typically parked in this parking lot.

Highway 1 (Eligible State Scenic Highway)

The Pacific Ocean is not visible along Highway 1 within the Project area because of the vegetation and topography. The County's Conservation and Open Space Element includes an Implementation Strategy (VR 4.1.3 Scenic Corridor: Highway Improvements) to pursue State Scenic Highway designation from the California Department of Transportation (Caltrans) for eligible listed corridors (San Luis Obispo County 2010).

Underground Conduit System

No streets along the underground conduit system are designated as a scenic route (Figures 3.1-1a to 3.1-1c).

Figure 3.1-1a. Photographs of Project Site Views

Looking west (approximately 50 feet from the landing manhole) towards the Pacific Ocean

Figure 3.1-1b. Photographs of Project Site Views

Looking east along Le Sage Drive across Highway 1

Looking south along 6th Street from the 6th Street and Brighton Avenue intersection

Figure 3.1-1c. Photographs of Project Site Views

Looking south along Barca Street from the Barca Street and Farroll Road intersection

Looking south at the cable landing station in Barca Street

3.1.1.2 Marine Components

The temporary marine work would happen about 33 feet below the ocean water where the approximately 4,600 feet landing pipes would exit offshore. In this offshore area, incidental fishing vessels or freighters periodically pass by. The equipment used offshore would be lit at night in accordance with applicable U.S. Coast Guard (USCG) safety regulations for marine vessels.

3.1.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to aesthetics relevant to the Project. Local policies from the Grover Beach's General Plan are listed below:

- **Circulation Element Policy 5.1.** Designate local scenic routes and enhance and protect their scenic qualities.
- **Scenic Routes Element Policy 2.1.2.** Underground Utility Distribution Lines When Feasible: Make Overhead Lines Inconspicuous: An active Capital Improvement Program should be initiated for the purpose of undergrounding utilities, not only in scenic corridors, but throughout the entire city.
- **Scenic Routes Element Policy 2.3.5.** Landscape the Rights-of-Way of Existing and Proposed Routes: All existing and proposed routes should be landscaped with native material for the improvement of scenic qualities and for the control of erosion. The landscaping should provide a framework for background corridor views and should not screen or form a solid barrier to distant views and vistas.

The proposed Project-related activities would be consistent with the above policies and would not result in a potentially significant environmental impact.

3.1.3 Impact Analysis

The terrestrial and marine Project-related work would be temporary. Once the work is completed, there would be no new permanently visible structures. The sensitive receptors (persons with increased sensitivity to visual changes, e.g., residents and recreationists) within 1,000 feet of the terrestrial Project footprint are shown in Figure 3.1-2.

Figure 3.1-2. Sensitive Receptors within 1,000 Feet of the Terrestrial Project Footprint

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

Less Than Significant Impact.

Terrestrial Components

There would be less than significant impacts at the following locations since the aesthetic impacts would be temporary to the locals and tourists:

- **Cable Landing Site and the Cable Landing Station (CLS)**. There would be no new above ground structures at the cable landing site. The landing pipes would be installed from the cable landing site and under the dunes and beach by HDD construction methods (Figure 2-2). The CLS structure already exists (Figures 3.1-1c and 2-5) and would be modified from the inside to add new equipment for the cables.
- **Pismo State Beach and Oceano Dunes SVRA.** There would be minimal impacts to the coastline during the 3 to 4 weeks (24 hours work days) or 5 to 7 weeks (12 hours work days) as seen in Table 2-1.
- **Underground Conduit System.** There would be temporary aesthetics impacts to the local residents during construction from having large construction equipment (e.g., excavator, loader) that could affect the views of people traveling along Le Sage Drive, Brighton Avenue, South 6th Street, Trouville Avenue, South 7th Street, and Barca Street (Figures 3.1-1a through 3.1-1b). No streets along these routes is designated as scenic routes.
- **Residents.** There would be temporary visual impacts during construction to the residents as explained above in the Underground Conduit System. Due to the short construction window and compliance with local regulations, this temporary visual impact would be less than significant.

Marine Components

There would be less than significant impacts from the short-term temporary marine work offshore. The offshore work (about 3,500 feet offshore) and vessels would be visible offshore by boats and onshore from Grover Beach. This work would last about 8 weeks (Table 2-1).

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

No Impact.

All Project Components

There would be no impact since there are no scenic resources within the Project area. Highway 1 here is not identified by the State of California as an Officially Designated State Scenic Highway but is designated as an Eligible State Scenic Highway (Caltrans 2011). None of the streets along the Project alignment are designated as a local scenic route. Since work would be within the existing road right-of-way, Project work would not damage trees, rock outcroppings, or 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.

All Project Components

The Project would not conflict with applicable zoning and other regulations governing scenic quality since this would be temporary construction. No natural landforms 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.

All Project Components

Even though offshore work would be continuous for 24 hours, it would comply with USCG's regulations. The night-time lighting would meet all applicable USCG navigational standards. The dive support vessel and secondary work vessel would remain offshore at night, with some limited lighting on the vessels and anchor crown buoys to avoid a navigational hazard to existing marine traffic. There would be no impact from terrestrial areas since this work would occur during daytime hours without introducing any new light or glare to the area.

3.1.4 Mitigation Summary

The Project would not result in significant impacts related to aesthetics; therefore, no mitigation is required.

3.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES[11] - 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.2.1 Environmental Setting

There are no forest lands or agricultural lands in the Project area. The cable landing site, underground conduit, and CLS would be in developed areas within Grover Beach that are not under Williamson Act contract. The cable landing site would be in the Grover Beach parking lot also used for Fin's Seafood Restaurant & Bar, and the onshore cable route and existing CLS are within a road right-of-way and developed parcels within the community of Grover Beach. Zoning in the Project vicinity consists of residential, commercial, and industrial zones, including Coastal Visitor Serving (CVS), Central Business Open (CBO), Central Business (CB), Public Facility (PF), High Density Residential (R3), Medium Density Residential (R2), Low Density Residential (R1), Industrial (I), and Coastal Industrial (CI).

[11] 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

Appendix A contains the federal and state laws and regulations pertaining to agriculture and forestry resources relevant to the Project. At the local level, no goals, policies, or regulations are 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.

<u>All Project Components</u>

The Project would not result in impacts on agriculture or forestry resources and would not conflict with a Williamson Act contract since there are no farmland or forest lands within the developed areas of Grover Beach.

3.2.4 Mitigation Summary

The Project would not affect agriculture or forestry resources; therefore, no mitigation is required.

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?	☐	☐	☒	☐
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?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

3.3.1.1 Local Climate and Meteorology

The Project is in the South-Central Coast Air Basin (SCCAB) that covers the San Luis Obispo, Santa Barbara, and Ventura Counties. This climate is generally characterized as Mediterranean with warm (dry) summers and cooler (relatively damp) winters. Along the coast (terrestrial Project components), the temperatures are mild throughout the year (44 to 68 degrees Fahrenheit [°F]) and annual rainfall averages from 16 to 28 inches. The prevailing winds are from the northwest and west-northwest. These winds are strongest in spring and early summer months when the Pacific High-pressure system attains its greatest strength. In the fall, onshore surface winds decline that can sometimes cause inversions that trap pollutants near the surface.

3.3.1.2 Criteria Pollutants

Criteria air pollutants are those contaminants for which ambient air quality standards have been established for the protection of public health and welfare. Criteria pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, and particulate matter with diameters of 10 (PM_{10}) and 2.5 ($PM_{2.5}$) microns or less commonly are used as indicators of ambient air quality conditions.

These pollutants are regulated under the national NAAQS ambient air quality standards by U.S. Environmental Protection Agency (EPA) and under the California CAAQS ambient air quality standards by California Air Resources Board (CARB). All criteria pollutants can cause human health and environmental effects at certain concentrations.

The NAAQS and CAAQS limit criteria pollutant concentrations to protect human health and prevent environmental and property damage. Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards.

The primary criteria pollutants of concern generated by the Project are CO and PM.[12, 13] Other pollutants of concern are nitrogen oxides (NO_X) and reactive organic gases (ROG), which are precursors to O_3, and the toxic air contaminant (TAC) diesel particulate matter (DPM).[14] Principal characteristics and possible health and environmental effects from exposure to the pollutants generated by the Project are discussed below.

- **Ozone (O_3) and Ozone Precursors.** O_3 is considered a regional pollutant because its precursors combine to affect air quality on a regional scale. Pollutants such as CO, NO2, SO2, and lead are considered local pollutants that tend to accumulate in the air locally. PM is both a local and a regional pollutant. O_3, or smog, is a photochemical oxidant formed when ROG and NO_X (both by-products of the internal combustion engine) react with sunlight. ROG are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

  O_3 poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to O_3 at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. In addition to human health effects, O_3 has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage,

[12] There are also ambient air quality standards for SO_2, lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants typically are associated with industrial sources, which are not included as part of the proposed Project. Accordingly, they are not evaluated further.

[13] Most emissions of NOx are in the form of nitric oxide (Reşitoğlu 2018). Conversion to NO_2 occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO_2 is not considered a local pollutant of concern for the proposed Project and is not evaluated further.

[14] Naturally occurring asbestos (NOA) is a TAC found in certain areas of San Luis Obispo County. However, there are no areas known to contain serpentine rock (NOA-containing formations) within the Project area (SLOAPCD 2019).

and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials (EPA 2019a).

- **Carbon Monoxide (CO).** CO primarily is formed through incomplete combustion of organic fuels. Higher CO values generally are 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. Exposure to CO at high concentrations also can cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects of CO at levels at or near ambient (CARB 2019a).

- **Particulate Matter.** Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Particulates now generally are divided into two categories: respirable particles with an aerodynamic diameter of 10 microns or less (or PM10) and fine particles with an aerodynamic diameter of 2.5 microns or less (or PM2.5). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory ailments. Depending on their composition, both PM10 and PM2.5 can affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (EPA 2019b).

- **Toxic Air Contaminants.** Although NAAQS and CAAQS have been established for criteria pollutants, no ambient standards exist for TACs. A *TAC* is defined by California law as an air pollutant that "may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." DPM is emitted by diesel-powered engines. The CARB estimates that DPM emissions are responsible for about 70 percent of the total ambient air toxics risk in California (CARB 2019b). Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, and bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm).

3.3.1.3 Criteria Air Pollutant Concentration Stations

Several monitoring stations measure criteria air pollutant concentrations in San Luis Obispo County and the SCCAB. The nearest station to the Project is the San Luis Obispo South Higuera Street station is approximately 10 miles north of the proposed cable landing site. Pollutant concentrations monitored at this station are considered representative of ambient air quality in the Project area. Table 3.3-1 below shows the available monitoring data collected at the station from 2016–2018. This station has not experienced any violations of the ozone, PM2.5, or NO_2 ambient air quality standards but recorded five violations of the PM10 24-hour CAAQS in 2017 and one violation of the PM2.5 24-hour NAAQS in 2018 (CARB 2020). As discussed above, the CAAQS and NAAQS are concentration limits of criteria air pollutants needed to adequately protect human health and the environment. Existing violations of the 24-hour PM10 CAAQS and 24-hour PM2.5 NAAQS indicate that certain individuals exposed to this pollutant may experience increased acute cardiovascular and respiratory ailments.

Table 3.3-1. Available Ambient Criteria Air Pollutant Monitoring Data from the San Luis Obispo South Higuera Street Station (2016–2018)

Pollutant and Standards	2016	2017	2018
Ozone			
Maximum 1-hour concentration (ppm)	0.069	0.074	0.062
Maximum 8-hour concentration (ppm)	0.062	0.066	0.053
Number of days standard exceeded[1]			
CAAQS 1-hour (>0.09 ppm)	0	0	0
NAAQS 8-hour (>0.070 ppm)	0	0	0
CAAQS 8-hour (>0.070 ppm)	0	0	0
Nitrogen Dioxide (NO_2)[2]			
National maximum 1-hour concentration (ppm)	27.0	32.0	25.0
State maximum 1-hour concentration (ppm)	27	32	25
State annual average concentration (ppm)	2	2	2
Number of days standard exceeded[1]			
NAAQS 1-hour (98th Percentile>0.100 ppm)	0	0	0
CAAQS 1-hour (0.18 ppm)	0	0	0
Annual standard exceeded?			
NAAQS annual (>0.053 ppm)	No	No	No
CAAQS annual (>0.030 ppm)	No	No	No
Particulate Matter (PM_{10})[3]			
National[4] maximum 24-hour concentration (mg/m^3)	42.6	67.8	45.4
National[4] second-highest 24-hour concentration mg/m^3)	43.2	63.7	46.4
State[5] maximum 24-hour concentration (mg/m^3)	43.2	70.1	46.4
State[5] second-highest 24-hour concentration (mg/m^3)	41.2	64.4	45.7
National annual average concentration (mg/m^3)	15.7	17.8	14.7
State annual average concentration (mg/m^3)[6]	N/A	N/A	15.2
Number of days standard exceeded[1]			
NAAQS 24-hour (>150 mg/m^3)[7]	0	0	0
CAAQS 24-hour (>50 mg/m^3)[7]	0	5	0

Table 3.3-1. Available Ambient Criteria Air Pollutant Monitoring Data from the San Luis Obispo South Higuera Street Station (2016–2018)

Pollutant and Standards	2016	2017	2018
Annual standard exceeded?			
CAAQS annual (>20 mg/m^3)	No	No	No
Particulate Matter ($PM_{2.5}$)			
National[4] maximum 24-hour concentration (mg/m^3)	21.0	25.6	38.4
National[4] second-highest 24-hour concentration (mg/m^3)	20.9	23.1	35.2
State[5] maximum 24-hour concentration (mg/m^3)	21.0	25.6	38.4
State[5] second-highest 24-hour concentration (mg/m^3)	20.9	23.1	35.2
National annual average concentration (mg/m^3)	N/A	6.8	5.8
State annual average concentration (mg/m^3)[6]	N/A	N/A	5.9
Number of days standard exceeded[1]			
NAAQS 24-hour (>35 mg/m^3)	0	0	1
Annual standard exceeded?			
NAAQS annual (>12.0 mg/m^3)	No	No	No
CAAQS annual (>12 mg/m^3)	No	No	No
Carbon Monoxide (CO)			
No data available			
Sulfur Dioxide (SO_2)			
No data available			

Source: CARB 2020

Terms:

> = greater than

CAAQS = California ambient air quality standards

CO = carbon monoxide

mg/m^3 = milligrams per cubic meter

N/A = not applicable or insufficient, or no data were available to determine the value

NAAQS = national ambient air quality standards

O_3 = ozone

PM_{10} = particulate matter 10 microns or less in diameter

$PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

ppm = parts per million

SO_2 = sulfur dioxide

Notes:

[1] An exceedance of a standard is not necessarily a violation because of the regulatory definition of a violation.

[2] Data from the Nipomo-Regional Park station, which is 10 miles southeast of the cable landing site.

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

[4] State statistics are based on local conditions data.

[5] Measurements usually are collected every 6 days.

[6] State criteria for sufficiently complete data for calculating valid annual averages are more stringent than the national criteria.

[7] Mathematical estimates 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.

3.3.1.4 Sensitive Receptors

Figure 3.1-2 shows sensitive receptors within 1,000 feet of the terrestrial Project footprint. The San Luis Obispo County Air Pollution Control District (SLOAPCD) (2012) defines *sensitive receptors* as "people that have an increased sensitivity to air pollution or environmental contaminants." Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). Based on the Project footprint and National Agriculture Imagery Program imagery from the (2018), approximately 1,330 residential properties are within a 1,000-foot buffer of the Project footprint (Figure 3.1-2).

The closest residential receptor to the cable landing site is approximately 750 feet to the east, off Park Drive and Le Sage Drive. Single-family homes are adjacent (i.e., within 40 feet) to most of the underground conduit system alignment (Figure 3.1-2). The closest residential receptor to the CLS is approximately 485 feet to the south, off Calvin Street. The following nonresidential receptors are within 1,000 feet of the Project footprint (Figure 3.1-2):

- **Pismo State Beach.** It is adjacent to the cable landing site and underground conduit system.
- **Le Sage Riviera RV Park.** It is approximately 40 feet south of the underground conduit system and 620 feet east of the cable landing site.
- **Oceano Dunes SVRA.** It is approximately 440 feet west of the underground conduit system.

3.3.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to air quality laws and regulations relevant to the Project. 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, the 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.

The EPA and CARB use ambient air quality monitoring data to determine whether geographic areas achieve the following NAAQS and CAAQS:

- **Attainment Areas.** Areas with pollutant concentrations that are below or within the ambient air quality standards for the respective air district.
- **Nonattainment or Maintenance Areas.** Areas that do not meet the ambient air quality standards for the respective air district.

For regions that do not attain the NAAQS, the CAA requires preparing a State Implementation Plan. The Western San Luis Obispo County (Project area) is designated as attainment area (pollutant concentrations are below the ambient air quality standards) for all criteria pollutants under the NAAQS (EPA 2019c). The County is designated as nonattainment area (pollutant concentrations are above the ambient air quality standards) for the State ozone and 24-hour PM10 standards (CARB 2018a).

The 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 SLOAPCD has air quality jurisdiction within San Luis Obispo County. The SLOAPCD adopted the *2001 Clean Air Plan* in March 2002 to outline recommended control measures to reduce future ozone and PM levels (SLOAPCD 2002). The air district also has established local air quality rules and regulations that address the requirements of federal and state air quality laws to ensure that the NAAQS and CAAQS are met. The Project would be subject to SLOAPCD rules and regulations. Construction activities would require an Authority to Construct pursuant to Rule 202 prior to groundbreaking (or any disturbances to the vegetation).

The SLOAPCD (2012, 2017) has developed recommended thresholds to determine the significance and appropriate mitigation level for a project's short-term construction and long-term operational emissions. Table 3.3-2 presents the recommended construction and operational thresholds. The criteria pollutant 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 demonstrating that there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, air quality effects of projects that generate criteria pollutant and ozone precursor emissions below these thresholds are considered minor and to not adversely affect air quality. As shown in Table 3.3-2, SLOAPCD also has established thresholds for analysis of DPM emissions.

Construction of the proposed Project would require both terrestrial (e.g., underground conduit system installation) and marine (e.g., landing pipes and laying marine fiber optic cable on the ocean floor) activities. The CSLC has exclusive jurisdiction over California's sovereign tide and submerged lands. The offshore boundary of the State's sovereign lands was established in the case of *United States of America, Plaintiff v. State of California*, 135 S. Ct. 563; 190 L. Ed. 2d 514; 2014 U.S. LEXIS 8436 (2014). The U.S. Supreme Court decision permanently fixes the offshore boundary between United States and California at 3 nautical miles (nm) off the coast of California ("State waters").

This analysis evaluates emissions within State waters (i.e., up to 3 nm from shore) consistent with the regulatory authority of the CSLC, as a state agency, under CEQA. Appendix B presents the methodology used for the air quality evaluation and its results.

Appendix B also presents criteria pollutant emissions within 24 nm to support the greenhouse gas (GHG) emissions analysis (Section 3.9) to be consist with the State's GHG emissions inventory and reduction planning goals.

Table 3.3-2. San Luis Obispo County Air Pollution Control District Thresholds of Significance

Source	ROG + NOx	CO	PM10	DPM[1]
Construction	137 lbs/day[2] 2.5 tons/quarter (T1)[3] 6.3 tons/quarter (T2)[4]	–	2.5 tons/quarter (dust)[5]	7 lbs/day[2] 0.13 ton/quarter (T1)[3] 0.32 ton/quarter (T2)[4]
Operation	25 lbs/day 25 tons/year	550 lbs/day	25 lbs/day (dust) 25 tons/year (dust)	1.25 lbs/day[6]

Sources: SLOAPCD 2012, 2017

Terms:

CO = carbon monoxide

DPM = diesel particulate matter

lbs = pounds

NO_X = nitrogen oxides

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

ROG = reactive organic gases

T1 = Tier 1

T2 = Tier 2

Notes:

[1] According to the San Luis Obispo County Air Pollution Control District (2012), DPM seldom is emitted from individual projects in quantities that would cause local or regional PM attainment violations. However, DPM is a toxic air contaminant, and exposure to DPM could lead to increased cancer and non-cancer health risks.

[2] Construction projects exceeding the 137-lbs/day threshold require implementation of standard mitigation measures.

[3] Construction projects exceeding the Tier 1 quarterly thresholds require implementation of standard mitigation measures and best available control technology (BACT) for construction equipment.

[4] Construction projects exceeding the Tier 2 quarterly thresholds require implementation of standard mitigation measures, BACT, a Construction Activity Management Plan (CAMP), and off-site mitigation.

[5] Exceedance of the threshold requires fugitive PM10 mitigation measures and may require implementation of a CAMP.

[6] Projects exceeding the daily DPM threshold require implementation of BACT. If the projects are located within 1,000 feet of receptors, a site-specific health risk assessment may be required.

3.3.3 Impact Analysis

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

Less than Significant Impact.

All Project Components

The proposed Project would not conflict with or obstruct implementing the applicable air quality plan. The Project would generate criteria air pollutants primarily from diesel-powered marine vessels, off-road equipment (e.g., backhoes and HDD equipment), and on-road vehicles used for employee commuting and hauling. Since the San Luis Obispo County is in attainment area (pollutant concentrations are below the ambient air quality standards) for all NAAQS, there is no applicable State Implementation Plan. The SLOAPCD has adopted the 2001 Clean Air Plan that outlines recommended control measures to reduce emissions and attain the state ozone and PM10 standards (SLOAPCD 2002).

While temporary construction and operations activities would generate O_3 precursors (ROG and NOx) and PM10 emissions (discussed below), the Project would implement SLOAPCD's recommended mitigation measures **MM AQ-1, MM AQ-2,** and **MM AQ-3** to reduce impacts to less than significant levels. The Project also would require contractors to comply with Rule 401, which restricts visible emissions of particulate matter. Once the Project is built, it would generate minor criteria pollutant emissions from monthly inspection trips. Therefore, neither construction nor operation of the proposed Project would conflict with, or obstruct implementation of, the current SLOAPCD air quality plan.

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?

Construction

Less than Significant with Mitigation.

All Project Components

The Project is in the San Luis Obispo County's attainment area (pollutant concentrations are below the ambient air quality standards) for all NAAQS. Terrestrial activities would generate criteria pollutant emissions from off-road equipment (e.g., backhoes), vehicles used for employee commuting and hauling, earthmoving and paving, and marine vessels operating within 3 nm offshore. These criteria pollutant emissions were estimated for each of the four construction phases (Figure 1-2 and Table 2-1). Table 3.3-3 (below) summarizes the analysis of construction-related criteria pollutant impacts comparing the proposed Project's maximum daily and quarterly emissions to the SLOAPCD's recommended emission thresholds. Phase 1 would result in the highest emissions of all four phases because that is when all four fiber optic cables infrastructure would be built (Section 2.2.1, *Work Phases*). Appendix B included details about the modeling methods, schedule, and equipment inventories assumed in the modeling.

Table 3.3-3. Estimated Maximum Daily and Quarterly Construction Criteria Pollutant Emissions

Phase	Daily (pounds per day)	Quarterly (tons per quarter)	
	ROG + NOx	ROG + NOx	Fugitive PM10
Phase 1 (2020)	1,088	3.4	0.2
Phase 2 (2021)	1,086	3.0	0.1
Phase 3 (2023)	1,081	1.8	0.1
Phase 4 (2025)	1,080	2.9	0.1
Threshold	*137*	*2.5 (Tier 1)* *6.3 (Tier 2)*	*2.5 (Tier 1)*
Exceed threshold?	*Yes*	*Yes (Tier 1)* *No (Tier 2)*	*No*

Terms:
NO_X = nitrogen oxides
PM10 = particulate matter with a diameter of 10 microns or less
ROG = reactive organic gases

Daily Thresholds

As shown in Table 3.3-3, the daily thresholds of O3 precursors (ROG and NOx) would occur when marine fiber optic cable laying activities would be required, which is typically during the 1st and 3rd quarters of each year. These temporary emissions would be potentially significant and could contribute to ozone ground-level formation in the SCCAB, which at certain concentrations, can contribute to short- and long-term human health effects without mitigation. These impacts would be reduced to less than significant levels by implementing **MM AQ-1** and **MM AQ-2**.

Quarterly Thresholds

As shown in Table 3.3-3, the quarterly thresholds for Tier 1 would exceed. The SLOAPCD's recommended **MM AQ-1** and **MM AQ-2** would be implemented for construction projects that exceed the daily and Tier 1 quarterly thresholds. Pursuant to SLOAPCD guidance, projects that incorporate this mitigation and do not exceed their Tier 2 thresholds would have less than significant short-term construction impacts on air quality (SLOAPCD 2017; Kirkhuff pers. comm. [a]).

The SLOAPCD's required **MM AQ-3** would also be implemented to reduce fugitive dust emissions for all construction projects within 1,000 feet of receptors, regardless of whether PM10 dust emissions exceed their numeric thresholds (Kirkhuff pers. comm. [b]). Therefore, implementing the following **MM AQ-1**, **MM AQ-2**, and **MM AQ-3** would make sure the regional air quality within the SCCAB would not be degraded:

MM AQ-1: Standard Control Measures for Construction Equipment. The following SLOAPCD standard air quality MMs shall be implemented during terrestrial construction. Note that measures less stringent than those required by **MM AQ-2** have been removed from the list.

- Maintain all construction equipment in proper tune according to manufacturer's specifications.
- Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road).
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and job sites to remind drivers and operators of the 5-minute idling limit.
- Diesel idling within 1,000 feet of sensitive receptors is not permitted.
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors.
- Electrify equipment when feasible.
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible.
- Use alternatively fueled construction equipment onsite where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.

MM AQ-2: Best Available Control Technology. Diesel construction equipment used during terrestrial construction shall be equipped with Tier 3 or Tier 4 CARB-certified off-road engines and 2010 on-road-compliant engines.

MM AQ-3: Fugitive Dust Mitigation. The following SLOAPCD fugitive dust MMs shall be implemented during terrestrial construction:

- Reduce the amount of the disturbed area, where possible.
- Use water trucks or sprinkler systems to prevent airborne dust from leaving the site. If wind speeds are more than 15 miles an hour, water more often. Use reclaimed (non-potable) water whenever possible.
- Spray all dirt stockpile areas every day as needed.
- Implement permanent dust control measures identified in the approved Project revegetation and landscape plans as soon as possible once soil-disturbing activities are finished.

- Exposed ground areas that are planned to be reworked at dates greater than 1 month after initial grading should be sown with a fast-germinating, non-invasive grass seed, and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD.
- All roadways, driveways, and sidewalks to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Do not drive any construction vehicles more than 15 miles per hour on any unpaved surface at the construction site.
- Cover or maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) on all trucks hauling dirt, sand, soil, or other loose materials in accordance with California Vehicle Code section 23114.
- Install wheel washers where vehicles enter and exit unpaved roads onto streets or wash off trucks and equipment leaving the site.
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible.
- Show all of these fugitive dust MMs on grading and building plans.
- Designate a person or persons (by the contractor or builder) to monitor the fugitive dust emissions and enhance implementing measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity (cloudiness), and prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork, or demolition.

Operations

Less than Significant Impact.

<u>Terrestrial Components</u>

The Project's normal operation would consist of monthly inspections, requiring one vehicle trip. In the event of power loss, the Project would rely on stationary emergency generators at existing telecommunications buildings. Accordingly, the Project neither

includes new stationary emission sources nor would increase maintenance-related emissions from the existing generators.

Table 3.3-4 summarizes the results of the daily and annual criteria pollutant analysis and compares operations emissions to the SLOAPCD's operational thresholds (Method described in Appendix B). The operations emissions would be well below the SLOAPCD's thresholds and not degrade the SCCAB's air quality levels.

Table 3.3-4. Estimated Operations Criteria Pollutant Emissions

Source	Daily (pounds per day)			Annual (tons per year)	
	ROG + NOx	CO	Fugitive PM10	ROG + NOx	Fugitive PM10
Inspection trips	<1	<1	<1	<1	<1
Threshold	*25*	*550*	*25*	*25*	*25*
Exceed threshold?	*No*	*No*	*No*	*No*	*No*

Terms:
CO = carbon monoxide
NO_X = nitrogen oxides
PM10 = particulate matter with a diameter of 10 microns or less
ROG = reactive organic gases

Marine Components

No impacts on air quality would be associated with marine Project operations. If a marine cable requires repair, marine vessels may be used within State waters. Such event is not expected and would be an emergency condition. Therefore, it is not considered as part of normal operations or emissions for the SLOAPCD's thresholds.

c) Expose sensitive receptors to substantial pollutant concentrations?

Criteria Pollutants

Less than Significant with Mitigation.

All Project Components

All criteria pollutants can cause human health and environmental effects at certain concentrations. Negative health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Ozone and secondary PM can be formed through complex chemical reactions over long distances. In addition, directly emitted PM does not always equate to a specific localized impact because emissions can be transported and dispersed. Given the factors that influence the formation and

transportation of pollution, the model designed to evaluate future criteria pollutant concentrations and resulting health effects was not conducted because it would not yield reliable or accurate results.

As discussed above, the ambient air quality standards for criteria pollutants are set to protect public health and the environment within an adequate margin of safety (42 U.S. Code § 7409 [b] [1]). The SLOAPCD has adopted thresholds for construction and operations criteria pollutant emissions to determine whether increased emissions from a proposed project could cause or contribute to a violation of the NAAQS or CAAQS, requiring further analysis. The thresholds for criteria pollutants are provided in Table 3.3-2. Projects with emissions below the thresholds are not anticipated to contribute to violations of the NAAQS or CAAQS and thus meet the EPA and CARB health-protective standards.

As provided in Table 3.3-3, temporary construction emissions of regional ozone precursors would exceed SLOAPCD's daily and Tier 1 quarterly thresholds. Implementing A**MM AQ-1** and **MM AQ-2** would reduce this impact to less than significant. And, implementation **MM AQ-3** would reduce fugitive dust emissions.

As shown in Table 3.3-4, long-term operation of the Project would result in minimal regional and localized criteria pollutant emissions. Emissions would be generated by monthly employee inspection trips and would be well below SLOAPCD thresholds. Consequently, criteria pollutant emissions from implementing the Project would not be expected to contribute a significant level of air pollution such that regional air quality within the SCCAB would be degraded.

Diesel Particulate Matter

Less than Significant Impact.

<u>Terrestrial Components</u>

Terrestrial construction would generate short-term diesel exhaust emissions from the use of heavy-duty equipment and vehicles. The Project does not include new stationary sources of DPM that would affect adjacent sensitive receptors. Accordingly, no impact related to DPM would be associated with long-term operation of the Project. The following analysis focuses on short-term, construction generated DPM.

As shown in Figure 3.1-2, numerous residential (approximately 1,330) and three non-residential receptors are located within 1,000 feet of the Project footprint. The closest residence to the Project is approximately 43 feet from the underground conduit system. As noted above, the SLOAPCD has established thresholds to assist lead agencies in evaluating the significance of DPM emissions and associated health effects. Table 3.3-5 summarizes DPM generated by terrestrial construction sources. Most terrestrial activity

and thus emissions would occur during Phase 1 because that is when the initial support facilities would be built (Section 2.2.1, *Work Phases*) (refer to Table 1 in Appendix B, Phase 1-5).

Table 3.3-5. Estimated Maximum Daily and Quarterly Terrestrial Construction Diesel Particulate Matter Emissions

Phase	Daily (pounds per day)[a]	Quarterly (tons per quarter)[a]
Phase 1 (2020)	1	0.03
Phase 2 (2021)	<1	<0.01
Phase 3 (2023)	<1	<0.01
Phase 4 (2025)	<1	<0.01
Threshold	*7*	*0.13 (Tier 1)* *0.32 (Tier 2)*
Exceed threshold?	*No*	*No*

Note:

[a] The diesel particulate matter estimates were derived from the PM10 exhaust calculations. This approach represents a worst-case scenario because it includes gasoline PM10 exhaust from employee vehicles.

As shown in Table 3.3-5, terrestrial construction would not generate DPM more than the SLOAPCD thresholds. Table 3.3-5 does not account for emissions benefits achieved by **MM AQ-1** and **MM AQ-2**, which are required to address ozone precursor emissions (Air Quality Impact Question a) but also would reduce DPM emissions. Moreover, health risks related to DPM generally are associated with chronic exposure and are assessed over a 30- or 70-year exposure period. Emissions generated during underground conduit system installing, cable pulling, and CLS facility upgrading would be temporary (approximately 120 working days during Phase 1 and from 5 to 7 working days during Phases 2 through 4) and spread throughout the Project alignment. Consequently, individual receptors would not be exposed to elevated levels of DPM for an extended period. Therefore, the DPM emissions from terrestrial construction would have a limited potential to affect sensitive receptors (Figure 3.1-2).

Marine Components

Marine vessels also would generate DPM even though they would occur exclusively offshore. Support vessels would operate no closer than 2,000 feet from the shore, and ocean-going vessels approximately 3,600 feet from shore (Brungardt pers. comm.). The nearest receptor from the shore is approximately 1,500 feet (Figure 3.1-2). Accordingly, the distance between the marine emissions source and the closest receptor is approximately 3,600 feet. The concentration of DPM decreases dramatically as a function of distance from the source. For example, studies show that DPM concentrations at 1,000 feet from the source can be reduced by more than 65 percent, compared to concentrations directly at the source (CARB 2005). Consequently, DPM concentrations, and thus health risks, would be substantially reduced at the nearest receptor location.

Moreover, marine vessels would have a limited potential to affect sensitive receptors since they would operate only during marine fiber optic cable laying operations, which are expected to occur fewer than 10 days per year (Table B-1 in Appendix B).

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

Less than Significant Impact.

All Project Components

There would be less than significant impact from the temporary Project construction since it would not create objectionable odors affecting a substantial number of people. Diesel-powered equipment would generate temporary odors in the immediate surrounding area (Figure 3.1-2) and not long-term nuisance odors. These odors would be intermittent and temporary because they would happen for approximately 120 days during Phase 1 and from 5 to 7 days during each of the Phases 2 through 4 (Table B-1 in Appendix B). The Project does not meet any of the facility types identified by the CARB (2005).

3.3.4 Mitigation Summary

Implementation of the following mitigation measure(s) would reduce the potential for Project-related impacts on air quality to less than significant:

- MM AQ-1: Standard Control Measures for Construction Equipment
- MM AQ-2: Best Available Control Technology
- MM AQ-3: Fugitive Dust Mitigation

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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)?	☐	☒	☐	☐
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?	☐	☐	☐	☒

3.4.1 Environmental Setting

3.4.1.1 Terrestrial Components

The proposed Project would use an HDD installation method that would go under the ground to avoid impacts on the biological resources on the surface. The terrestrial biological study area (BSA) (Figure 3.4-1) extends from the Pismo State Beach parking lot through public roads in the town of Grover Beach for approximately 1.5 miles (Figures 2-1 and 3.4-1), 100-foot buffer around Project disturbances to account for Environmentally Sensitive Habitat Areas (ESHAs) defined by the California Coastal Commission (CCC), and 200-foot buffer around the cable landing site to address the potential for indirect noise disturbances. The terrestrial BSA crosses under an intermittent Meadow Creek (Figure 3.4-1) that flows into Meadow Creek Lagoon. This lagoon converges at the mouth of Arroyo Grande Creek, which flows into the Pacific Ocean.

The terrestrial BSA is within the Central Coast Geographic Subdivision of the California Floristic Province (Baldwin et al. 2012). The climate is characterized by cool, wet winters and dry (foggy) summers. Annual average temperatures within the terrestrial BSA range from 49 to 68 °F, with the coolest temperatures occurring in December and January, and the warmest in August and September (NRCS 2019). Average annual rainfall in the Project vicinity is 16 inches, most of which falls between December and March.

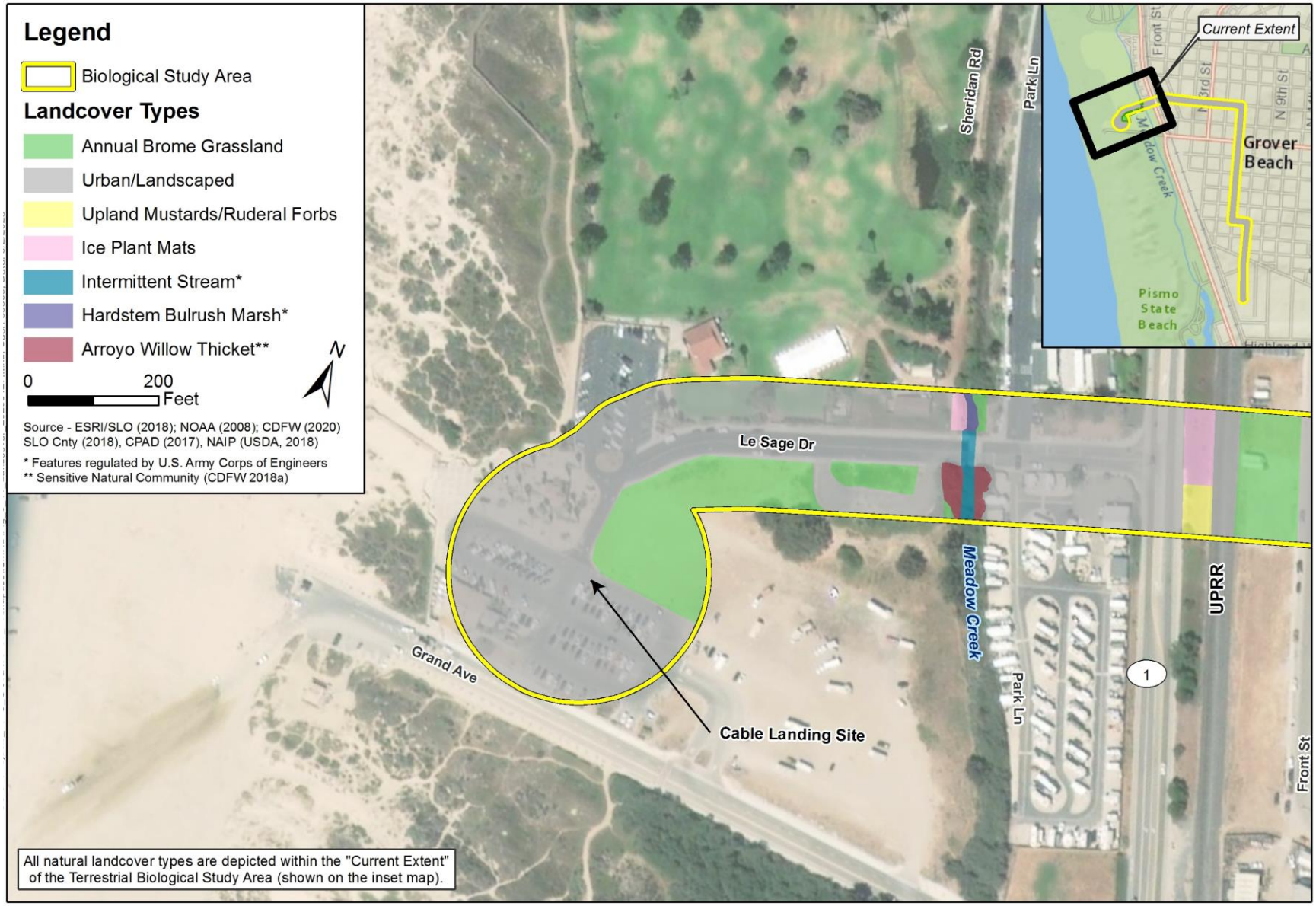
Land Cover Types

The BSA primarily consists of urban areas that are paved and occasionally intermixed with landscape vegetation along sidewalks and in residential areas. Acreages of land cover types mapped in the BSA are shown in Figure 3.4-1, listed in Table 3.4-1, and described below.

Table 3.4-1. Land Cover Types in the Terrestrial Biological Study Area

Land Cover Type	Acreage
Annual brome grassland	1.580
Ice plant mats	0.160
Upland mustards and ruderal forbs	0.082
Arroyo willow thicket	0.085
Hardstem bulrush marsh	0.021
Intermittent stream (Meadow Creek)	0.064
Urban/Landscaped	37.074

Figure 3.4-1. Terrestrial Biological Study Area (BSA)



Annual Brome Grassland

Annual brome grassland is a common natural vegetation community that covers 1.580 acres in the BSA and occurs east of the cable landing site in the Pismo State Beach parking lot, on the east bank of Meadow Creek north of Le Sage Drive, and along a narrow strip between Front Street and the UPRR (Figure 3.4-1). The dominant plant species present in the annual brome grasslands within the BSA are typical of areas with frequent disturbance. They include rip gut brome (*Bromus diandrus*), foxtail barley (*Hordeum murinum* subsp. *leporinum*), Mediterranean barley (*Hordeum marinum* subsp. *gussoneanum*), cheeseweed (*Malva parviflora*), annual sunflower (*Helianthus annuus*), and sand chrysanthemum (*Heteranthemis viscidihirta*).

Animal species that commonly occur in populated areas and may be present within annual grasslands in the BSA include western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), California ground squirrel (*Ostospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), California vole (*Microtus californicus*), mourning dove (*Zenaida macroura*), white-crowned sparrow (*Zonotrichia leucophrys*), house finch (*Haemorhous mexicanus*), western meadowlark (*Sturnella neglecta*), and killdeer (*Charadrius vociferus*).

Ice Plant Mats

Ice plant mats are a non-native vegetation community that covers 0.160 acre in the BSA and is present on the west bank of Meadow Creek, north of the Le Sage Drive bridge and between Highway 1 and the UPRR. Ice plant mats are dominated by ice plant (*Carpobrotus edulis*) and sea fig (*C. chilensis*). Possible animal species here would be like those described above for annual brome grassland.

Upland Mustards and Ruderal Forbs

The upland mustards and ruderal forbs alliance are a non-native vegetation community that covers 0.082 acre in the BSA and is present south of the ice plant mats between Highway 1 and the UPRR. Upland mustards are dominated by wild radish (*Raphanus sativus*) and sand chrysanthemum (*Heteranthemis viscidihirta*).

Possible animal species here would be like those described above for annual brome grassland.

Arroyo Willow Thicket

Arroyo willow thicket covers 0.085 acre in the BSA and occurs along Meadow Creek (discussed below). The arroyo willow thicket is dominated by arroyo willow (*Salix lasiolepis*). The arroyo willow thicket has a dense canopy, with a few Himalayan

blackberry (*Rubus armeniacus*) shrubs growing along the creek banks. Arroyo willow thicket is a riparian community under California Department of Fish and Wildlife (CDFW) jurisdiction and is considered a sensitive natural community (CDFW 2019a). CDFW staff was consulted for this specific Project (Appendix C). Arroyo willow thicket would be regulated as a coastal zone wetland by the CCC.

Arroyo willow thicket provides foraging habitat, nesting habitat, and travel corridors for a variety of wildlife species such as striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*), and numerous neotropical migrant and resident bird species.

Hardstem Bulrush Marsh

Hardstem bulrush marsh covers 0.021 acre in the BSA and occurs in the Meadow Creek channel (discussed below.) Hardstem bulrush marsh is dominated by hardstem bulrush (*Schoenoplectus acutus* var. *occidentalis*). Hardstem bulrush marsh is not considered a sensitive natural community (CDFW 2019a). CDFW staff was consulted for this specific Project (Appendix C). Hardstem bulrush would be regulated as a wetland by U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the CCC.

Hardstem bulrush marsh can support various mammal, reptile, and amphibian species. Bird species that commonly nest and forage in wet meadows with sufficient cover are waterfowl, shorebirds, red-winged blackbird (*Agelaius phoeniceus*), great blue heron (*Ardea herodias*), song sparrow (*Melospiza melodia*), and great egret (*Ardea alba*).

Intermittent Stream (Meadow Creek)

Meadow Creek is an intermittent stream that flows south under Le Sage Drive in the BSA; Meadow Creek covers 0.064 acre in the BSA, which encompasses the unvegetated portion of the creek. A small amount of water was flowing in the creek during the July 2019 field survey. Meadow Creek drains an approximately 6-square-mile watershed north of the BSA, which includes Canyon Number One and Canyon Number Two east of Highway 101. Downstream of the BSA, Meadow Creek also drains urban runoff from the town of Grover Beach (Althouse and Meade 2009). South of the BSA, Meadow Creek flows through a dense willow thicket to Meadow Creek Lagoon. Meadow Creek Lagoon is approximately 0.8 mile south of the BSA. Meadow Creek Lagoon converges into Arroyo Grande Creek and drains into the Pacific Ocean. In the BSA, Meadow Creek has an average water depth of 10 inches, and the substrate primarily is composed of silt. Meadow Creek would be regulated by the CDFW, USACE, RWQCB, and CCC.

Intermittent streams support a variety of aquatic wildlife species. Species that may be present within intermittent stream habitat in the BSA are comparable to those described for arroyo willow thicket (discussed above) and bullfrogs (*Lithobates catesbeianus*)

(Althouse and Meade 2009). In a biological assessment of Meadow Creek Lagoon, downstream of the BSA, by Terra-Verde Environmental Consulting (2012), amphibian species observed included bullfrog, California red-legged frog (*Rana draytonii*), and Sierran treefrog (*Pseudacris sierra*); one crustacean (crayfish [*Pacifastacus* sp.]); and several species of fish, including largemouth bass (*Micropterus salmoides*), western mosquitofish (*Gambusia affinis*), golden shiner (*Notemigonus crysoleucas*), Sacramento sucker (*Catostomus occidentalis*), Pacific staghorn sculpin (*Leptocottus armatus*), bluegill (*Lepomis macrochirus*), prickly sculpin (*Cottus asper*), and three-spine stickleback (*Gasterosteus aculeatus*).

Urban/Landscaped

Urban/landscaped areas are the dominant land cover type in the BSA and cover 37.074 acres in the BSA. Urban/landscaped consists of roads, buildings, homes, and yards. Where vegetation is present within urban/landscaped areas, it consists predominantly of ruderal and ornamental species. Tree species common to urban/landscaped areas in the BSA include acacia (*Acacia* sp.), blue-gum eucalyptus (*Eucalyptus globulus*), Myoporum (*Myoporum laetum*), date palm (*Phoenix dactylifera),* and palm (*Washingtonia filifera*).

Wildlife species common to this habitat type are house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), mockingbird (*Mimus polyglottos*), striped skunk, house mouse (*Mus musculus*), and black rat (*Rattus rattus*).

Special-Status Species

For the purpose of this MND, *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 2019b).

- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.).
- Plants with a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, and 2B on CDFW's Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2020), and considered threatened or endangered in California by the scientific community.
- Plants designated as CRPR 3 and 4 that may warrant legal consideration if the population is locally significant and meets the criteria under State CEQA Guidelines section 15380(d).

ICF's terrestrial biological team (wildlife biologist, wetland ecologist/botanist, and fish biologist) reviewed the following existing natural resource information and reports prepared for nearby projects to evaluate which special-status species or other sensitive biological resources could occur in the BSA:

- California Natural Diversity Database (CNDDB) records search of the 7.5-minute U.S. Geological Survey (USGS) quadrangle containing the BSA (Oceano) and the two neighboring coastal quadrangles (Pismo Beach and Point Sal) (CDFW 2019c).
- The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) species report for the BSA (USFWS 2020).
- Final designated critical habitat as mapped by the USFWS Environmental Conservation Online System (ECOS).
- The Grover Beach Lodge and Conference Center EIR prepared by SWCA Environmental Consultants for the City of Grover Beach (SWCA Environmental Consultants 2015).
- Biological Assessment for the Grover Beach Conference Center prepared by Althouse and Meade, Inc. for the City of Grover Beach (Althouse and Meade 2009).
- The Biological Resources Assessment for Meadow Creek Lagoon prepared by Terra-Verde Environmental Consulting for San Luis Obispo County Flood Control and Water Conservation District (Terra-Verde 2012).
- Nesting of the California Least Tern and Western Snowy Plover at Oceano Dunes State Vehicular Recreation Area, San Luis Obispo County, California 2019 Season. Prepared by California Department of Parks and Recreation, Off-Highway Motor Vehicle Division, Oceano Dunes District (2019).

The ICF terrestrial biological team also coordinated with relevant resource agencies to discuss sensitive biological resources expected within the terrestrial BSA. A summary of agency communications and site visits is provided in Appendix C:

Special-Status Wildlife Species

ICF wildlife biologist Angela Alcala conducted a habitat-based field survey for wildlife in the terrestrial BSA on April 23, 2019. The survey consisted of visually scanning the terrestrial BSA for suitable habitat where special-status species could occur. Meandering transects were conducted in accessible areas. During the field survey, Ms. Alcala evaluated existing conditions, including vegetation composition, aquatic resources, and land use in the BSA, to determine the potential for special-status wildlife species to occur there.

ICF consulted with State Parks (Ms. Stephanie Little) to discuss species that could occur near the work area (see a summary of this coordination effort under Resource Agency Coordination in Appendix C). Two additional bird species—western snowy plover and California least tern—are known to occur in the Project vicinity; however due to the high recreational use associated with direct beach access from the parking lot at the cable landing site and the heavy level of disturbance in the terrestrial BSA, the potential for these species to occur in the BSA is none to very low. The Project would not directly or indirectly affect the western snowy plover or California least tern because the Project is designed to do all work from the cable landing site in the Grover Beach parking lot and the landing pipes would exit offshore (Figure 2-2). However, because substantial data are available on the occupancy of western snowy plover and California least tern in the Project vicinity, these species are discussed further below.

No habitat for special-status fish is present within Meadow Creek in the BSA because of intermittent flows and lack of suitable habitat characteristics. Consequently, special-status fish are not discussed further.

Based on a review of existing information, existing habitat conditions, anticipated level of disturbance, and coordination with resource agencies (Appendix C), 19 special-status fish and wildlife species were identified with the potential to occur in or near the BSA (Table C-1 in Appendix C). Of these 19 special-status wildlife species, the following have moderate to high potential to occur in the BSA or be affected by Project activities:

- California red-legged frog
- Northern California legless lizard
- Western pond turtle
- Blainville's horned lizard
- two-striped garter snake
- White-tailed kite

California Red-Legged Frog

No California red-legged frogs or other amphibian species were observed in the terrestrial BSA, specifically at the crossing of La Sage Drive over Meadow Creek, during the April 2019 field survey. Flows in Meadow Creek in the BSA are intermittent and do not provide suitable pools for breeding and juvenile metamorphosis. However, Meadow Creek in the BSA does provide suitable dispersal and foraging habitat for California red-legged frogs. The BSA is not within designated critical habitat for California red-legged frogs. California red-legged frog is federally listed as threatened and is a state species of special concern known to occur in the Project vicinity. The CNDDB lists 12 reported occurrences between 1995 and 2017 within 5 miles of the BSA from Arroyo Grande Creek, Los Berros Creek and its tributaries, Corbit Canyon Creek, Pismo Creek, and associated springs and ponds (CDFW 2019c). The closest sightings are from 2012 surveys conducted for the San Luis Obispo County Flood Control District in the Meadow Creek Lagoon and Arroyo Grande Estuary, approximately 1.5 miles downstream from the Meadow Creek crossing in the BSA (Terra-Verde 2012).

Northern California Legless Lizard

No northern California legless lizards were observed in the BSA during the April 2019 field survey. Annual brome grassland and arroyo willow thicket habitat in the BSA represent suitable habitat for California legless lizards. It is a state species of special concern that is known to occupy coastal scrub and dune habitat within the Oceano Dunes SVRA adjacent to the BSA, with the most recent observations in 2018 (CDFW 2019c).

Western Pond Turtle

No western pond turtles were observed in the BSA, specifically within Meadow Creek, during the April 2019 field survey. Western pond turtle is a state species of special concern that is known to occupy the Meadow Creek Lagoon area, downstream from the BSA (Terra-Verde 2012). Meadow Creek in the BSA is an intermittent stream but could support pond turtles when enough water is present. While annual brome grassland and riparian habitat in the BSA could provide suitable nesting habitat for pond turtle, it is unlikely that pond turtles nest in the BSA because the closest permanent water sources are approximately 0.2 mile north in the Pismo Beach Golf Course and 0.75 mile south at Meadow Creek Lagoon.

Blainville's Horned Lizard

No Blainville's horned lizards were observed in the BSA during the April 2019 field survey. Annual brome grassland and arroyo willow thicket habitat in the BSA represent suitable habitat for Blainville's horned lizard. Blainville's horned lizard is a state species of special concern that is known to occupy coastal scrub and dune habitat within the Oceano Dunes SVRA approximately 6 miles south of the BSA, with the most recent recorded

observations in 2008 (CDFW 2019c). The species was not observed during 2012 focused wildlife surveys conducted within the Meadow Creek Lagoon area south of the BSA (Terra-Verde 2012).

Two-Striped Garter Snake

No two-striped garter snakes were observed in the BSA during the April 2019 field survey. Two-striped garter snake is a state species of special concern. The closest reported occurrences of two-striped garter snake are more than 20 miles east of the BSA (CDFW 2019c). Two-striped garter snake was not observed during 2012 focused wildlife surveys conducted within the Meadow Creek Lagoon area south of the BSA (Terra-Verde 2012). The BSA is within the range of the species, and suitable habitat is present within aquatic and riparian habitat along Meadow Creek in the BSA.

White-Tailed Kite

No white-tailed kites or existing nest structures were observed during the April 2019 field survey of the BSA. White-tailed kite is a state species of special concern and is known to nest in the Meadow Creek Lagoon area, downstream from the BSA (Terra-Verde 2012). Riparian habitat located within and adjacent to the BSA represents suitable nesting habitat for white-tailed kites.

Western Snowy Plover

No snowy plover nests have been documented in or adjacent to the BSA. Western snowy plover is federally listed as threatened and a state species of special concern. The species is known to nest in the Oceano Dunes SVRA southwest of the cable landing site (State Parks 2019a). Annual monitoring studies are conducted for the species along an approximately 8-mile section of the Guadalupe-Nipomo Dunes Complex that includes the beach/dune habitat adjacent to the BSA. The closest documented nest location identified during 2019 monitoring efforts is 1.7 miles south of the cable landing site near the Arroyo Grande Creek outflow to the Pacific Ocean, in an area subject to seasonal closures to protect sensitive bird species (State Parks 2019a).

While western snowy plovers are not known to nest in the habitats adjacent to the BSA, suitable wintering areas occur on sandy beach/dune habitat immediately west of the BSA. This area is designated as an open recreation area that is not subject to seasonal wildlife closures and is heavily used because it is adjacent to a beach access parking lot. The BSA is not within designated critical habitat for the species. Project impacts on beach/dune habitat would be avoided by HDD to install the landing pipes beneath the beach (Figure 2-2). Boring equipment would be located within a developed parking lot and in a heavily used recreation area more than 400 feet from dune habitat that could be used by plovers during the wintering season. This buffer distance will ensure that, if the species was wintering in beach areas near the BSA, they would not be affected by Project

activities. The directional bore path from the cable landing site to the offshore cable exit point extends through an area that is heavily used by pedestrians accessing the beach from the parking lot. Although no Project activities are anticipated along the directional bore path through the beach, this pathway is subject to ongoing disturbance from recreational use. Therefore, the Project would not directly or indirectly affect the western snowy plover because the Project is designed to conduct all work from the cable landing site in the Grover Beach parking lot, and the landing pipes would exit offshore (Figure 2-2).

California Least Tern

The closest documented California least tern nest was identified in 2019 monitoring efforts to be 4.3 miles southwest of the cable landing site within beach habitat subject to seasonal closures (State Parks 2019a). California least tern is state- and federally listed as endangered and is known to nest in the Oceano Dunes SVRA southwest of the cable landing site (State Parks 2019a). Concurrent with western snowy plover, annual monitoring studies are conducted for the species along an approximately 8-mile long section of the Guadalupe-Nipomo Dunes Complex that includes the beach/dune habitat adjacent to the BSA. While California least terns are not known to nest in the habitats adjacent to the BSA, suitable wintering areas occur on sandy beach/dune habitat immediately west of the BSA. This area is designated as an open recreation area that is not subject to seasonal wildlife closures and is heavily used because it is adjacent to a beach access parking lot. The BSA is not within designated critical habitat for the species. Project impacts on beach/dune habitat would be avoided by installing the fiber optic cables under the beach using the HDD construction technique. For reasons like those described above for western snowy plover, the Project would not directly or indirectly affect California least tern.

Special-Status Plant Species

No special-status plant species were observed during the 2019 floristic surveys, and no special-status plants have been previously documented in the BSA (based on a review of the existing information listed above). Prior to conducting floristic surveys, an ICF botanist reviewed the existing information and identified 15 special-status plant species (Table C-2 in Appendix C) with the potential to occur in the Project region based on the species range, habitat characteristics present in the BSA, and nearby documented occurrences. After further investigation and 2019 floristic surveys, no special-status plants are expected in the BSA (Table C-2 in Appendix C).

The floristic surveys were conducted on April 23 and July 25, 2019, to confirm the absence of special-status plants in the BSA by following CDFW's *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018). The floristic surveys were timed to coincide with the

identifiable periods of the special-status plant species reported in the three-quadrangle CNDDB search. The surveys were floristic, with every species encountered identified to the lowest taxonomic level necessary to determine whether it was 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 ready to be used to record the locations of special-status plant species and habitat types observed. A list of plant species observed during the floristic surveys is provided in Table C-3 in Appendix C.

Sensitive Natural Communities

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

- Special-status natural communities defined by CESA and protected by CDFW or local agencies
- Sensitive habitats protected by the County of San Luis Obispo and the 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 (CNPS 2019b), and their sensitive status was informed by review of CDFW's (2019a) California Natural Community List descriptions. Arroyo willow thicket is the only sensitive natural community that occurs in the BSA.

Wetlands and Non-Wetland Waters

In total, 0.085 acre of wetlands and non-wetland waters were mapped in the terrestrial BSA, including 0.021 acre of wetland (hardstem bulrush marsh) and 0.064 acre of non-wetland waters (open water/unvegetated portions of Meadow Creek). The CCC also regulates 0.170 acres of coastal zone wetlands in the BSA of hardstem bulrush marsh, Meadow Creek, and arroyo willow thicket.

An ICF botanist and wetland ecologist conducted an aquatic resources delineation of the terrestrial BSA using the routine on-site determination methods described in the *Corps of Engineers Wetlands Delineation 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 *The National Wetland Plant List: 2016 Wetland Ratings* (Lichvar et al. 2016).

The USACE defines jurisdictional wetlands under CWA Section 404 as areas that exhibit positive field indicators for all three wetland parameters: hydrophytic vegetation, hydric soils, and wetland vegetation. The CCC regulates features that display one or more of the wetland parameters provided above as defined in the *Definition and Delineation of Wetlands in the Coastal Zone* (CCC 2011).

Environmentally Sensitive Habitat Areas (ESHA)

The CCC defines an *ESHA* as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." ESHAs delineated in the BSA consist of intermittent drainage (Meadow Creek), arroyo willow thicket, and hardstem bulrush marsh (Figure 3.4-1). The CCC and the City of Grover Beach's LCP (City of Grover Beach 2014a) would regulate any ESHAs in the terrestrial BSA.

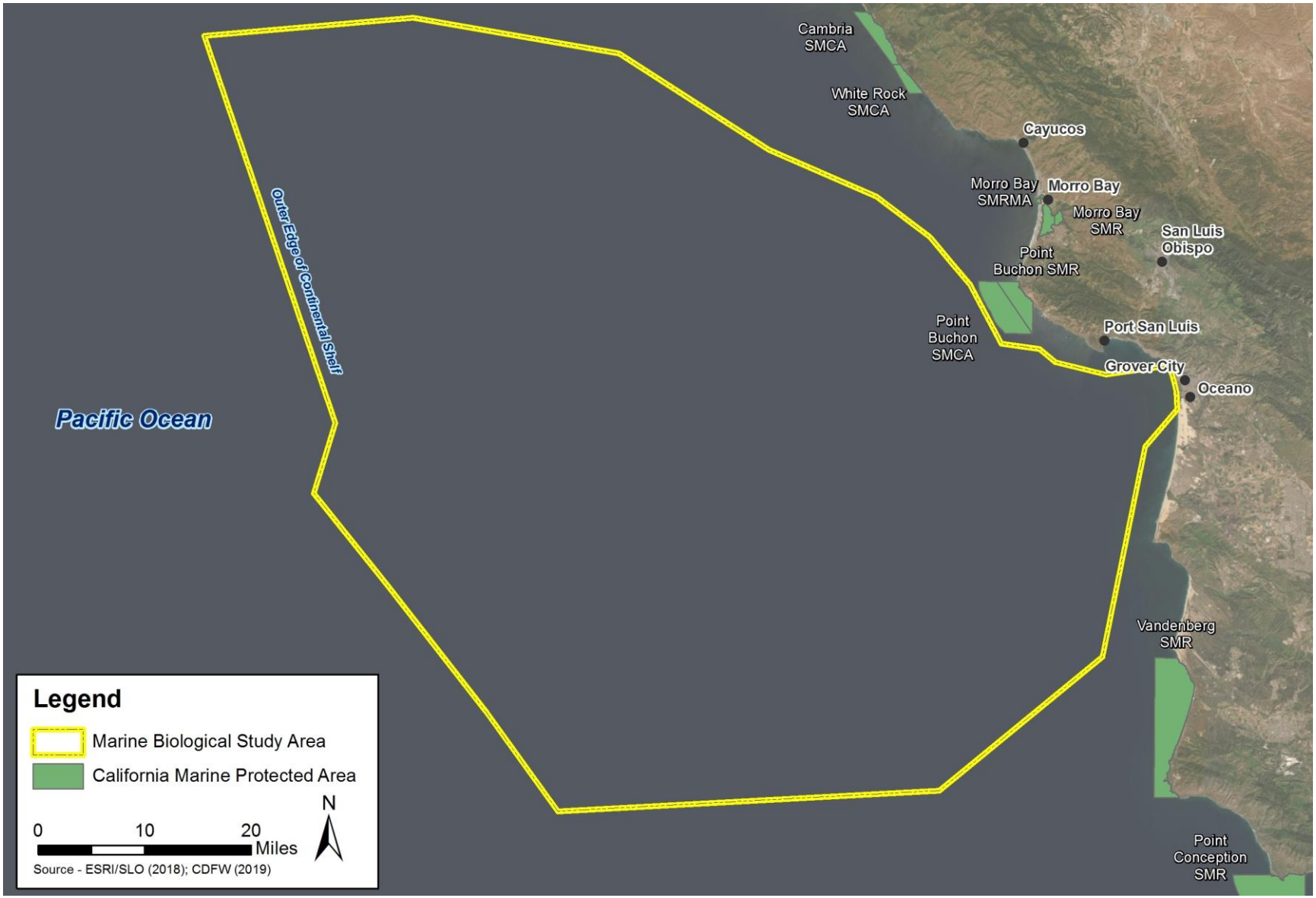
3.4.1.2 Marine Components

The marine biological study area (MSA) extends west into the Pacific Ocean and is south of Point Buchon State Marine Conservation Area, Point Buchon State Marine Reserve, and Morro Bay State Marine Recreational Management Area (Figure 3.4-2). It extends to the 5,904-foot depth contour from the mean high-tide mark comprising of coastal water, intertidal, and subtidal habitats occurring offshore of the cable landing site. It also extends approximately 1,650 feet (about 0.5 mile) up-coast and down-coast of the proposed fiber optic cable routes. Since there would be up to four fiber optic cables for this Project, the 1,650-foot buffer in the MSA would be beneficial to plan cable routes.

The marine biota in the MSA (Figure 3.4-2) includes invertebrate infauna,[15] mobile epifauna[16] sessile[17], encrusting invertebrates, marine vegetation attached to either natural or artificial hard substrate, 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 Aquatic Habitats and Biological Resources Offshore Grover Beach, California* (Marine Biology Technical Report) (AMS 2019 [Appendix C]).

[15] Organisms living in the sediments of the beach or ocean floor.
[16] Organisms living on the surface of the ocean floor or attached to submerged objects.
[17] Organisms that are permanently attached or established on hard substrate habitat and typically are not free to move about.

Figure 3.4-2. Marine Biological Study Area (MSA)



The marine habitat consists of intertidal and nearshore and pelagic open water habitats.

Intertidal and Nearshore Habitat

The intertidal and nearshore zones include sandy beach and subtidal habitats that support benthic species and demersal fish, as described below.

Sandy Beach

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

Generally, beaches are highly dynamic environments subject to intense wave-related energy, exposure to air and sun during low tides, constant reworking, and large-scale seasonal substrate variations (Thompson et al. 1993). In addition, the distribution of organisms within the sand is subject to daily fluctuations in the temperature, salinity, and moisture content of the sand (Dugan et al. 2015). Individual animals that live in the sand are mobile and frequently shift position in the sand in response to environmental fluctuations. A variety of invertebrates live in the sand and in wracks of decaying seaweed and other detritus on the beach surface. Kelp wrack and other washed-up organic debris are the predominant energy and food source for beach ecosystems (Nielsen et al. 2013, 2017).

Subtidal Habitats

Soft substrate is the predominant habitat on the Outer Continental Shelf (Horizon Water and Environment 2012) (Appendix C). Ocean floor sediment composition is dependent on physical factors such as wave energy, water depth, and currents. Subtidal habitats generally are broken into two broad categories:

- **Soft Substrate –** typically ranges from coarse sands to finer silts and clays with depth
- **Hard Substrate –** can be composed of naturally occurring features (e.g., rocky outcrops) or artificial structures (e.g., concrete, pilings, debris, and trash)

The elevation (relief) of hard substrates from the ocean floor commonly is quantified (low, moderate, high, and mixed) because species abundance and diversity tends to increase

with an increase in elevation above the ocean floor (AMS 2019 [Appendix C]); the increased species diversity and abundance are attributed to less turbidity, sand scouring, and periodic burial.

Benthic Species

Benthic (bottom-dwelling) biological communities change with both the type of substrate and water depth. Mobile scavengers and predators and organisms that can burrow are common on soft substrates,[18] while hard substrates typically support abundant sessile organisms that anchor to the surfaces or species that prefer physical features that provide hiding spaces. Many subtidal benthic species are not strictly restricted to substrate type, as many organisms (e.g., crabs, sea stars, brittle stars, and many fish species) can inhabit both soft and hard substrate habitats. Depth also influences benthic community composition because sediments change with depth because of the influence of wave energy. Naturally occurring hard substrates are scarcer offshore in deeper water columns.

As the ocean depth increases and the wave energy decreases, the substrate composition shifts from coarse sand with low organic content at the seashore to fine muds with higher organic content farther from the shore. Along the proposed cable route from a depth of 52 to 82 feet, the sea floor is characterized as fine to medium sand (EGS 2018), with occasional patches of coarse sediment (gravel/cobble beds); these sediment patches potentially could contain swathes of bull kelp (*Nereocystis luetkeana*). More recent aerial surveys indicate that no kelp beds are south of the Pismo Beach pier, but individual strands could be present (AMS 2019 [Appendix C]). Bull kelp is an annual species with ephemeral distribution; the ocean floor at a depth of 52 to 82 feet is dynamic and subject to change from large swells and shifting ocean floor sediments (AMS 2019). At an ocean floor depth of 82 to 328 feet along the proposed cable route, the substrate is characterized as loose silty sand. Mixed-bottom[19] and low-,[20] moderate-,[21] and high-relief [22] hard substrate occurs from 656 to 1,969 feet north of the proposed cable route at an ocean floor depth of 207 to 266 feet and 289 to 312 feet. At an ocean floor depth of 328 to 600 feet along the proposed cable route, the substrate primarily was characterized as loose silty sand (EGS 2018). Specific invertebrate organisms found at various depths and substrate types within the MSA are discussed in detail in the Marine Biological Technical Report (AMS 2019 [Appendix C]).

[18] Soft substrate can range from coarse sands to fine muds, while hard substrate can be divided into natural (rocky outcrop) or artificial substrate and further characterized by elevation or rise above the seafloor.
[19] Mixed-bottom – a combination of coarse sand, gravel, cobble, and small boulders.
[20] Low-relief hard substrate – exposed bedrock and rocky outcropping rising less than 0.3 meter (< 1 foot) from the ocean floor.
[21] Moderate-relief hard substrate – exposed rocky outcroppings that typically rise approximately 0.3–1.0 meter (1–3 feet) from the ocean floor.
[22] High-relief hard substrate – exposed rocky outcroppings that typically rise >1.0 meter (>3 feet) from the seafloor.

Demersal Fish

Demersal fish are those species that live and feed on or near the ocean floor. They are found in coastal waters and over the OCS but are not common in the abyssal plain (the deepest part of the ocean). Seamounts and islands also provide suitable habitats for demersal fish. Examples of demersal fish that inhabit soft substrate ocean floor include flounders (Pleuronectoidei), soles (Soleidae), sanddabs (*Citharichthys* spp.), eelpouts (Zoarcidae), hagfish (Myxinae), combfish (*Zaniolepsis* 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 ocean floor substrate types in the MSA are provided in Section 4 of the Marine Biological Technical Report (AMS 2019 [Appendix C]).

Pelagic Open Water Habitats

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 (Appendix C).

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 tend to be dominated by diatoms year-round (Du et al. 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 promote the growth of phytoplankton, such as dinoflagellates and various *Pseudonitzschia* species that may be considered harmful (Du 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 and Mollusks

Pelagic fish communities tend to be similar throughout the coastal waters of central California. They are characterized by small schooling species such as Pacific sardine (*Sardinops sagax*) and northern anchovy (*Engraulis mordax*); schooling predators such as bluefin tuna (*Thunnus thynnus*), thresher shark (*Alopias vulpinus*), and swordfish (*Xiphias gladius*); and large, solitary predators such as mako (*Isurus oxyrinchu*) and leopard (*Triakis semifasciata*) sharks (CDFW 2019d). Other common fish species that inhabit the open water environment include Chinook salmon (*Oncorhynchus tshawytscha),* market squid (*Doryteuthis opalescens*), smelt (*Spirinchus stark*), jack and Pacific mackerel (*Trachurus symmetricus* and *T. symmetricus*), opah (*Lampris* spp*.),* and assorted perches *(Embiotocidae)*. More information on fish species inhabiting the open waters in the Project vicinity is provided in Section 5 of the Marine Biological Technical Report (AMS 2019 [Appendix C]).

Marine Mammals and Sea Turtles

Marine mammals and sea turtles in open ocean habitat along the California coast are identified as special-status species (*Special-Status Marine Species*).

Special-Status Marine Species

The central California 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 this analysis, special-status marine species are those species that meet any of the following criteria:

- Listed or proposed, or are candidate species for listing as threatened or endangered by USFWS pursuant to FESA
- Listed as rare, threatened, or endangered by CDFW pursuant to CESA
- Managed and regulated under the Magnuson-Stevens Fishery Conservation and Management Act (or Magnuson-Stevens Act)
- Protected under the Marine Mammal Protection Act (MMPA)

- Managed and regulated by CDFW under the Nearshore Fisheries Management Plan and the Market Squid Fisheries Management Plan
- Designated by CDFW as California species of concern
- Designated by the National Oceanic and Atmospheric Administration (NOAA) as species of concern
- Not currently protected by statute or regulation but considered rare, threatened, or endangered under CEQA (Guidelines section 15380)

Special-status species considered for evaluation and their likelihood to occur in the MSA are discussed in detail in the Marine Biology Technical Report (AMS 2019 [Appendix C]). Table C-4 in Appendix C lists special-status marine species and their potential to occur in the MSA.

Marine Mammals

Of the approximately 40 marine mammals known to occur along the Californian coast, a few have been observed in the MSA near Grover Beach (Table C-4 in Appendix C). Those species with a moderate or high probability to occur in the MSA (and thus potentially subject to Project effects) are blue whale (*Balaenoptera musculus*), bottlenose dolphin *(Tursiops truncatus*), California sea lion (*Zalophus californianus*), short-beaked common dolphin (*Delphinus delphis*), fin whale (*Balaenoptera physalus*), eastern Pacific gray whale (*Eschrichtus robustus*), harbor seal (*Phoca vitulina*), humpback whale (*Megaptera novaeangeliae*), northern elephant seal (*Mirounga angustirostris*), southern sea otter (*Enhydra lutris nereis*), and northern Steller sea lion (*Eumetopias jubatus*). These species can be expected to be present in the MSA seasonally when migrating along the coast or opportunistically when foraging in the area. There are no established haul-out, pupping, or birthing sites in the MSA.

Sea Turtles

Four species of sea turtles can occur in the nearshore waters off central and northern California: green sea turtle *(Chelonia mydas*), loggerhead turtle (C*aretta caretta*), leatherback turtle (*Dermochelys coriacea*), and olive ridley turtle (*Leipidochelys olivacea*). Of these four species, only the loggerhead and leatherback sea turtles have a low potential to occur in the marine MSA (Table C-4 in Appendix C).

Fish

Of the eight fish species listed in Table C-3 (Appendix C), only the South-Central California Coast Steelhead Distinct Population Segment of steelhead trout (*Oncorhynchus mykiss*) and white shark (*Carcharodon carcharias*) have at least a moderate potential to occur in the MSA (Table C-3 in Appendix C).

Invertebrates

Of the four gastropods listed in Table C-4 (Appendix C), only the black abalone (*Haliotis cracherodii*) has the potential to occur in the MSA.

Critical Habitat

Although many state- and federally listed species could occur in the coastal and offshore waters of the MSA (Table C-4 in Appendix C), the MSA includes designated critical habitat for the leatherback sea turtle and black abalone; the tidewater goby has critical habitat north of the MSA in Pismo Creek (0.7 mile north of the MSA), and the steelhead trout (South-Central California Coast Distinct Population Segment) has critical habitat in Pismo Creek and Arroyo Grande Creek (1.5 miles south of the MSA).

Essential Fish Habitat

The MSA off of Grover Beach is located in an area designated as essential fish habitat (EFH) under four Fishery Management Plans: Pacific Coast Groundfish (PFMC 2016a), Coastal Pelagic Species (PFMC 2018a), Pacific Coast Salmon (PFMC 2016b), and Highly Migratory Species (PFMC 2018b). An EFH assessment was prepared in support of the Project (AMS 2019; Table 4-1 in Appendix C).

Non-Native and Invasive Species

Project-specific marine surveys were not conducted. Data on marine habitats and species were obtained from previous studies. CDFW reported the presence of invasive Japanese wireweed (*Sargassum muticum*) in an outer coast survey of Diablo Canyon (approximately 13 miles north of the BSA) in 2004 and 2007 (CDFG 2008). Non-native and invasive species are spread through human activities such as international shipping, recreational vesseling, aquaculture, and aquarium trade. 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.

All shipping operations that involve major marine vessels are subject to the Marine Invasive Species Act of 2003 (Pub. Resources Code, §§ 71200–71271), 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. Legislative and public outreach/volunteer efforts are designed to prevent the spread of invasive species.

3.4.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to biological resources relevant to the Project. At the local level, the following policies, and programs in the City of Grover Beach's LCP (2014a) and Development Code (2019b) are immediately applicable.

***Grover Beach Local Coastal Program* (2014) Policies 4 through 6:**

- **Policy 4.** The City should manage its Meadow Creek wetlands, floodplains, and associated resources to achieve the multiple objectives of:
    a. Maintaining and restoring natural conditions and fish and wildlife habitat.
    b. Preventing loss of life and minimizing property damage from flooding.
    c. Providing recreational opportunities which are compatible with fish and wildlife habitat, flood protection, and use of adjacent private properties.
- **Policy 5.** Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
- **Policy 6.** Environmentally Sensitive Habitat Areas shall be buffered by a minimum of 50 feet. Development in areas adjacent to ESHA shall be sited and designed to prevent impacts which would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas.

***City of Grover Beach – Development Code* 3.10.070 Setback Requirements and Exceptions (2019):**

- **Setback requirements for Meadow Creek.** All structures adjacent to Meadow Creek shall have a minimum 50-foot setback.
- **Setback requirements for ESHA.** All structures adjacent to Environmentally Sensitive Habitat Areas (ESHA) shall have a minimum 50-foot setback. (Am. Ord. 14-04).

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?

Less than Significant with Mitigation.

Terrestrial Components

Since the Project would be going under the Meadow Creek (using the HDD installation method), no special-status plant or fish species (associated with Meadow Creek) are expected to be affected; therefore, they are not addressed below.

The following nesting migratory birds have no to a very low potential to occur in the BSA:

- Western snowy plover
- California least tern

The following 6 special-status wildlife species (out of the 19 discussed in Table C1, Appendix C) have moderate to high levels of potential for occurring in the Project area:

- California red-legged frog – moderate potential to occur in the Project area
- Northern California legless lizard – high potential to occur in the Project area
- Western pond turtle – moderate potential to occur in the Project area
- Blainville's horned lizard – moderate potential to occur in the Project area
- Two-striped garter snake – moderate potential to occur in the Project area
- White-tailed kite – moderate potential to occur in the Project area

California Red-Legged Frog

There would be moderate potential to occur in the Project area since the Project would HDD under the Meadow Creek with potential habitat for California red-legged frogs. Because of the HDD, the frogs would not be affected. While frogs could use grassland and riparian habitat along Meadow Creek, the cable landing site would be located more than 500 feet from Meadow Creek, and the entry and exit pits (4 by 8 feet) for the directional bore would be set back a minimum of 50 feet from Meadow Creek within the existing paved roadway. These frogs are known to occupy aquatic habitats downstream from the terrestrial BSA in the Meadow Creek Lagoon and Arroyo Grande Estuary (Terra-Verde 2012).

Although the Meadow Creek and associated aquatic habitat would be avoided by the HDD, an inadvertent release of drilling fluids could occur if the drilling mud used to

lubricate the bore leaks from the bore hole. Should the lubricant reach the surface of the stream channel and mix with water, it would affect water quality and the aquatic substrate.

The Applicant would implement the conditions and requirements of any state and federal permits obtained for the proposed Project to minimize permanent impacts on California red-legged frogs. The **MM BIO-1** through **MM BIO-6** would reduce potential impact to less than significant levels by training personnel, surveying, flagging work areas, installing escape ramp in open trenches, following best HDD practices, and implementing an inadvertent return contingency plan as discussed below.

MM BIO-1: Provide Worker Environmental Awareness Training. The Applicant shall provide an environmental awareness training before starting construction activities for all construction personnel (including new personnel as they are added to the Project) working on the terrestrial and marine Project components. This training would be given by biological monitors and cultural monitors (approved by CSLC staff) to help the trainees understand the following:

- Surrounding common and special-status species and their habitats
- Applicable regulatory requirements
- MMs designed to avoid or minimize impacts on sensitive resource areas

The training materials shall be developed and approved by CSLC staff at least 30 days before starting Project activities in the terrestrial and marine work areas. The biological monitors shall maintain a list of all contractors who have been trained and shall submit this list and the final training material to CSLC staff within 30 days after construction starts and after construction is completed.

The lead environmental monitor shall be the main contact for reporting any special-status species observed in or near the Project area by any employee or contractor. The Applicant shall provide the contact information for the lead environmental monitor and the biological monitors to on-site construction workers, USFW, CDFW, and CSLC staff before construction starts.

MM BIO-2: Conduct Biological Surveying and Monitoring. A biological monitor (typically with a college degree in a field of biology or environmental science, knowledge of species surveying for, and experience with pre-construction and construction monitoring), approved by CSLC staff, shall be present onsite to survey the work area for special-status wildlife species (e.g., California red-legged frog, western pond turtle, northern California legless lizard, Blainville's horned lizard, and two-striped garter snake) and nesting birds (as applicable) prior to starting work in the terrestrial work area to minimize potential impacts on any special-status species or other wildlife that may be present during Project construction.

The biological monitor shall be onsite at all times during Project construction for all work west of the UPRR in and adjacent to natural habitats and not during work occurring east of the UPRR on city streets in developed areas. 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 biological monitor), the biological monitor 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 protect the special-status species.

Construction monitoring reports for work under CSLC's jurisdiction shall be submitted daily and for work outside of the CSLC's jurisdiction shall be submitted weekly.

MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources. Natural areas outside the construction work area shall not be disturbed. Before starting Project construction, the following areas shall be staked and flagged by the biological monitor (**MM BIO-2**), in coordination with the CSLC, and inspected throughout construction to ensure that they are visible for construction personnel:

- Identify construction work area limits at the cable landing site.
- Delineate bore pits and staging area (for equipment and fueling), and site these areas at least 100 feet from Meadow Creek.
- Mark areas using stakes and flags to identify environmentally sensitive areas (Meadow Creek and associated wetland and riparian communities) that would remain marked during construction.

MM BIO-4: Install Metal Covers or Some Kind of Escape Ramps in Open Trenches. To prevent accidental entrapment of wildlife species during construction, all excavated holes and trenches that will be left open overnight shall have a metal cover or some kind of soil ramp installed, allowing wildlife an opportunity to exit. If escape ramps are installed, a biological monitor or the construction inspector (for work in developed areas east of the UPRR) shall inspect excavations before starting construction each day to confirm that no wildlife species are entrapped or to remove wildlife species that are unable to escape on their own. Any wildlife handling will be conducted under the biological monitor's applicable collection permit or as authorized by the appropriate wildlife agency. If a biological monitor is not present, the lead environmental monitor for the Project would be contacted immediately to determine the appropriate course of action.

MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities.

A. When using the large marine HDD equipment to install landing pipes, the following shall be submitted to CSLC staff for review at least 60 days before starting construction:

- Engineering design drawings for construction certified by a California-registered Civil/Structural Engineer.
- A site-specific geotechnical report certified (stamped, signed, and dated) by a California-registered Geotechnical Engineer, including boring logs and any geotechnical recommendations (including, but not limited to, identification of reasonably foreseeable risks during HDD installation and proposed risk mitigations) for safe HDD installation.
- If HDD is under CSLC jurisdiction, a minimum depth of 35 feet is required unless a shallower depth is recommended by a California-registered Geotechnical Engineer.

B. When using small HDD equipment to install the underground conduit system, do the following to reduce possible environmental impacts:

- Engineering design drawings for the underground conduit system construction would be certified by a California-registered Civil/Structural Engineer.
- Prevent the underground conduit from becoming exposed by natural scour of the streambed by boring at least a minimum of 5 feet below the streambed of Meadow Creek.
- Locate drill entry and exit points far enough from the banks of Meadow Creek to minimize impacts on the creek system.
- Avoid removal of riparian vegetation along Meadow Creek between bore entry and exit points in preparation of trenchless stream crossing operations.

MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan. A Final Inadvertent Return Contingency Plan for the large and small HDD including the following objectives shall be submitted to CSLC staff for review at least 30 days before starting construction:

- Measures to stop work, maintain appropriate control materials onsite, contain and remove drilling mud before demobilization, prevent further migration of drilling mud into the stream or waterbody, and notify all applicable authorities.

- Control measures of constructing a dugout/ settling basin at the bore exit site to contain drilling mud to prevent sediment and other deleterious substances from entering waterbodies.
- Workers shall monitor the onshore and offshore to identify signs of an inadvertent release of drilling fluids.
- Any abandonment contingency plans in case the HDD operations are forced to be suspended and a partially completed bore hole abandoned.
- Complete list of the agencies (with telephone number) to be notified, including but not limited to the CSLC's 24-hour emergency notification number (562) 590-5201, and the California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550.

Northern California Legless Lizard, Blainville's Horned Lizard, Western Pond Turtle, and Two-Striped Garter Snake

The Northern California legless lizard are the only ones with high potential to occur in the Project area. The other three special-status reptiles (Blainville's horned lizard, western pond turtle, and two-striped garter snake) have moderate potential to occur in the project area. All four of these species share the same grassland habitat at the cable landing site and in riparian and marsh habitats associated with Meadow Creek. Construction activities such as excavation, minor grading, and stockpiling of soil could fill, remove, or otherwise alter suitable habitat for these species and could result in their injury or mortality.

If present within the work area, these species could be entrapped in open trenches or pits associated with the cable landing site and the directional bore pits. These species also could disperse across Le Sage Drive during construction to access habitats on either side of the roadway and be killed or injured by equipment or fall into open pits. The **MM BIO-1** through **MM BIO-4** would be impacted by training personnel, surveying, flagging work areas, and installing escape ramp in open trenches to minimize or avoid temporary impacts on suitable habitat and avoid injury or mortality of individuals during construction.

White-Tailed Kite and Other Non-Special-Status Migratory Birds

White-tailed kite has moderate potential to occur in the Project area. This bird and other non-special-status migratory birds protected under the federal Migratory Bird Treaty Act have the potential to nest in or adjacent to the terrestrial BSA since there is suitable nesting habitat for migratory birds within riparian, marsh, and grassland habitat in the terrestrial BSA (Figure 3.4-1). Project activities would not remove any riparian or marsh vegetation within these habitats; however, existing disturbed grassland habitats would be affected. In addition, HDD would cause noise disturbances above existing conditions in the vicinity of suitable nesting habitats.

Project construction activities during the migratory bird breeding season (typically from February 1 to September 1) could disturb or remove occupied nests of migratory birds. Ground disturbance within annual grassland habitat (Figure 3.4-1) could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Increased levels of noise and human activity in the vicinity of an active nest also could result in nest abandonment or forced fledging and subsequent loss of fertile eggs, nestlings, or juveniles. Implementing **MM BIO-7** would reduce potential impacts on nesting birds to a less than significant level by surveying for nesting birds before starting construction to not violate the Migratory Bird Treaty Act and California Fish and Game Code sections 3503, 3503.5, and 3511.

MM BIO-7: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures. If construction occurs during the nesting season (typically from February 1 to September 1), the following conditions (designed to protect both special-status and non–special-status birds) shall be implemented:

- Areas within the terrestrial BSA: No more than 1 week before starting Project-related construction, a biological monitor, approved by CSLC staff, shall survey the non-developed natural areas within the BSA to look for nesting activity.
- Areas outside the terrestrial BSA: Areas outside the BSA (but within the line-of-sight from active construction) would be surveyed using binoculars and accessing from within the public right-of-way.
- If no active nests are detected during these surveys, no additional measures are required.
- If an active nest is found, an appropriate avoidance buffer (based on the species as explained below) would be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (generally August 31) or until after biological monitor determines that the young have fledged and moved out of the area (this date varies by species). Suitable buffer distances may vary between species. The extent of these buffers will be determined by the biological monitor in coordination with the applicable wildlife agency (i.e., CDFW and/or USFWS), and will depend on the bird species, level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. No disturbances shall occur within the protective buffer(s) until all young birds have fledged, as confirmed by the biological monitor.
- A biological monitor shall be retained by the Applicant (**MM BIO-2**) and shall always be onsite during construction activities in non-developed areas of the Project (west of the UPRR).

Less than Significant with Mitigation.

Marine Components

Special-status marine taxa with the potential to occur in the marine MSA (Figure 3.4-2) include marine mammals, sea turtles, marine birds, fish, and invertebrates. 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. The Project design, construction methods, duration, and extent of construction activities would reduce possible impacts to less than significant with mitigation measures like **MM BIO-1**, **MM BIO-5**, and **MM BIO-6**. As discussed in greater detail below, the potential effects on marine habitats in the marine MSA (Figure 3.4-2) would be temporary, affecting a small area of habitat. Disturbed habitat is expected to recover rapidly to pre-disturbance conditions. Consequently, none of the potential Project-related effects on marine ecosystems are expected to eliminate a marine plant or wildlife community or cause a fish or marine wildlife population to drop below self-sustaining levels.

Contaminant Release

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

HDD of the landing pipes poses a small risk of accidental release of bentonite drilling fluid to the marine environment. Bentonite is a marine clay that is used for lubricating the borehead cutting tool and transporting borehole cuttings back to shore. During the HDD process, it is possible that some bentonite drilling fluid could be released to the ocean floor and thus into the water column. The greatest potential for substantive effects on marine habitats and associated marine biota from an accidental release of bentonite drilling fluids during HDD activities is release of a large volume of drilling fluid. The bentonite contained in the fluid could result in short-term burial and smothering of benthic epifauna and infauna, clog fish gills (Robertson-Bryan 2006), and cause longer-term increased turbidity around the release are. **MM BIO-5** details procedures for preventing the accidental release of drilling fluid during HDD work, monitoring for a release, and responding to a release. These measures would prevent an inadvertent discharge of large volumes of bentonite drilling fluid to the marine environment or minimize its impact. To monitor for a release, Rhodamine WT dye would be added to the drilling fluid to detect its presence in the ocean water above the HDD drill head. Implementing **MM BIO-5** and **MM BIO-6** would reduce this potential impact to a less than significant level by following best HDD practices, and implementing an inadvertent return contingency plan.

Cable Entanglement

There could be a potential for cable exposures or suspensions to entangle marine species. Whale entanglements described in a 1957 paper raised concerns about hazards posed to marine species. The paper documented and investigated 14 instances of sperm whale entanglements with submarine cables at depths up to 3,720 feet (Heezen 1957). Replacement of historic 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. In addition, burying the cable out to a water depth of 5,904 feet would further reduce the potential for entanglement. No mammal or wildlife entanglements have been reported in fiber optic cable systems installed in California waters since 2000 (AMS 2019). Implementing **MM BIO-8** would reduce the potential for entanglement of any kind with the installed cable to a less than significant level.

MM BIO-8: 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.
- Submit a burial report after each Project phase with detailed descriptions of all buried and unburied sections and justification for any unburied sections.

Fishing Gear Entanglement

Cables could be a source of entangling marine species if fishing gear gets snagged and abandoned on exposed cable segments. Most of the 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 the gear is removed or recovered.

The exposed cable and tangled fishing gear possibilities would be reduced by routing and installing cable using state-of-the-art cable route planning and installation techniques designed to increase burial success. These routes were developed based on desktop and ocean floor 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. Implementing these measures listed above **MM BIO-9** 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.

MM BIO-9: Cable Entanglements and Gear Retrieval. If 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 42 days 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 14 days of completing the recovery operation, the Applicant shall submit to CSLC staff a report describing the following:

- Nature and location of the entanglement (with a map)
- Method used for removing the entangled gear or object, or the method used for minimizing harm to wildlife if gear retrieval proves infeasible.

In addition, the Applicant would implement **APM-1** by enacting a Fishing Agreement that would establish methods of gear replacement and costs claims in the unlikely event that fishing gear is entangled in cable owned by the Applicant.

APM-1: Fishing Agreement. The Applicant will enact a fishing agreement, or will join an existing 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:

- 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:
    - 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

Increased Turbidity

During plow and trenching activities, temporary spikes in near-ocean floor turbidity may occur. Increased turbidity typically is restricted to the water immediately above and adjacent to the ocean floor 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 resettle to the ocean floor. During ROV surveys of cable routes, ocean floor sediments frequently are 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 plowing activities.

Like increases in turbidity from cable trenching and plowing activities, HDD boring of landing pipes 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 ocean floor. The HDD boring process typically terminates the landing pipe 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 ocean floor sediments occurring at these water depths are composed of sand with some minor silt and clay components. Coastal ocean floor sediments at these water depths typically are exposed to wind and wave surge, as well as regular resuspension of ocean floor sediments, resulting in naturally occurring increased turbidity near the ocean floor. 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 around release or to result in any permanent changes to soft substrate habitat.

Underwater Noise

The Project-related activities associated with the offshore installation of landing pipes (Figure 2-7) and burial of the cable would generate temporary (Table 2-1) and isolated non-impulsive underwater noise. The HDD construction method and vessel support for the landing (Appendix B) would generate non-impulsive, continuous noise as explained in Section 2.4.4, *Marine Project Construction Methods*. The HDD-related activities would occur for about 24 hours a day for 1 week (Table 2-1) when the landing pipes be installed from cable landing site and exit offshore (Section 2.3.8.1, *Install Landing Pipes using Larger Marine HDD Machines for Landing Pipes)*. The installation and burial of the cable to a depth of up to 5,904 feet would be about 24-hours a day for 3 weeks (Table 2-1). Ambient underwater noise levels in the nearshore Project area have been reported

averaging between 128 and 138 dB peak (re 1 μpPa[23] at 3.3 feet) (Fabre and Wilson 1997). The following Project-related activities would generate these ranges of underwater noise:

- Cable Trenching: Studies in the North Sea assessing cable trenching and plowing projects for offshore wind farms reported a peak, underwater noise sound pressure level (SPL) for underwater noise of 178 dB (re 1 μpPa at 3.3 feet) (Nedwell et al. 2003).
- Cable Installation & Lay Vessel: Peak SPL underwater noise levels for cable laying ships has been reported to range between 170 and 180 dB (re 1 μp at a distance of 3.3 feet) (Hale 2018) and between 160 and 180 dB at a distance of 3.3 feet for small work vessels (Caltrans 2015), depending on the vessel size and design.

The following are detailed discussions of fish, marine mammals, and sea turtles expected to be in the MSA (Figure 3.4-2) (Section 3.4.1.2 *Marine Components* and Table C-4 in Appendix C).

Fish

Out of the 8 fish species expected in these waters, only steelhead trout and white shark have moderate potential to occur in the MSA (Figure 3.4-2) (Section 3.4.1.2 *Marine Components* and Table C-4 in Appendix C). In the absence of formal non-impulsive, continuous noise thresholds for fish, the established impulsive noise threshold of 206 dB was used. Project-generated peak SPL underwater noise levels would degrade below peak average background levels of 128 to 138 dB in approximately 210 to 420 feet, respectively, from the sound source, based on an assumed dB drop of 5 to 6 dB per doubling of distance from the noise source (McKenna et al. 2012). The non-impulsive underwater sound generated by the Project is not expected to impact fish behavior.

Marine Mammals and Sea Turtles

Out of the 40 marine mammals known to occur along California's coast, a few have moderate or high potential to occur in the MSA (Figure 3.4-2) (Section 3.4.1.2 *Marine Components* and Table C-4 in Appendix C). The blue whale, bottlenose dolphin, California sea lion, short-beaked common dolphin, fin whale, eastern Pacific gray whale, harbor seal, humpback whale, northern elephant seal, southern sea otter, northern Steller sea lion, could be impacted from Project-related generated noise as explained above. Loggerhead and leatherback sea turtles also have a low potential for occurring within the area, and could be impacted by underwater noise.

Project-related activities can generate peak SPL underwater noise levels ranging between 170 and 180 dB. In 2018, NOAA established updated thresholds for the onset

[23] μPa is microPascal to measure pressure.

of permanent threshold shifts (PTS) and temporary threshold shifts (TTS) for impulsive and non-impulsive noise sources based on marine species hearing groups. The updated impulsive noise thresholds are dual metric, meaning whichever results in the largest isopleth for calculating PTS or TTS onset should be used. NOAA recommends that the peak SPL threshold for impulsive noise be used if a non-impulsive sound has the potential of exceeding the peak SPL noise threshold associated with impulsive sounds. Therefore, the following were PTS and TTS values were used in Table 3.4-2 for the Project's underwater noise analysis since the Project-related activities would create non-impulsive noise and would not exceed the peak SPL thresholds for impulsive sound (NOAA 2018):

Table 3.4-2. Cumulative Sound Exposure Levels

Marine Mammal Group	Onset of Permanent Threshold Shifts (PTS) (Cumulative SEL)	Onset of Temporary Threshold Shifts (TTS) (Cumulative SEL)
Baleen Whales	199 dB	179 dB
Dolphin and Toothed Whales	198 dB	178 dB
Porpoises	173 dB	153 dB
True Seals	201 dB	181 dB
Sea lions, fur seals, & sea otters[24]	219 dB	199 dB

With the exception of the SELs established for porpoises, all the NOAA-established underwater thresholds for non-impulsive sound levels (PTS and TTS) are either greater than or at the upper limit of the underwater noise generated by cable installation equipment and vessels at a distance of 3.3 feet from the noise source. 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 <153 dB in approximately 26 feet from the sound source. Dall's porpoise (*Phocoenoides dalli*) (Table C-4, Appendix C) is the only porpoise species with "Not Expected-Low" potential to occur in the coastal waters offshore of Grover Beach. It is expected that marine wildlife would avoid the immediate area where underwater noise is generated during cable lay activities. Noise levels generated by the Project would fall below ambient underwater with noise levels beyond 105 feet (32 meters) from the cable lay ship or diver support vessel (Figure 2-7). In addition to Dall's porpoise avoiding the work area, there would be marine mammal observes onboard the vessels identified in the Marine Wildlife Monitoring and Contingency Plan (**MM BIO-10**).

Sea Turtles

Little scientific information is known about the effects of anthropogenic underwater noise on marine turtles or at what potential threshold levels acute or behavioral responses may occur (Williams et. al 2015). Sea turtles appear to be sensitive to low-frequency sounds

[24] Sea otters are managed by the USFWS and these PTS and TTS thresholds are considered advisory.

with a functional hearing range of approximately 100 Hz to 1.1 kHz (Grebner and Kim 2015). Scientific information on direct measurements of underwater noise sources on marine turtles concerns impulsive sound sources (not generated from the Project-related activities), such as airguns and dynamite explosions (not part of the proposed Project-related activities). These studies indicated that marine turtles may be somewhat resistant to successive dynamite blasts (Erbe 2012) and can detect and exhibit avoidance behavior to in response to 175 dB RMS-generating impulsive airgun sounds (Weilgart 2012) when several kilometers away from the source.

Additionally, the Acoustical Society of America developed guidelines for sound exposure criteria for fish and turtles and suggested that sea turtle hearing was probably more similar to that of fishes than marine mammals and when assessing potential underwater noise effects to marine turtles, that the peak SPL acute threshold level for fish of 206 dB might be an appropriate measure (Grebner and Kim 2015).

As indicated above, potential Project related underwater peak SPL noise levels are expected to be in the 160-180 dB range, which is well below the 206 dB level for acute impacts. Based on the behavioral responses to impulsive based sound sources, it can be anticipated that any marine turtles approaching Project-related active cable installation activities are expected to avoid Project work vessels. As indicated above, the Marine Wildlife Monitoring and Contingency Plan (**MM BIO-10**) would also apply to marine turtles. If avoidance does not occur and a turtle approached a Project work vessel, an onboard observer would observe the turtle and stop cable installation activities until the turtle had transited a safe distance past operations.

Implementing **MM BIO-10** would further prevent exposing porpoises, other marine mammals, and sea turtles to underwater noise levels of enough magnitude to result in any effect and reduce possible impacts to less than significant levels.

MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan. The Applicant shall prepare and implement a Marine Wildlife Monitoring (MWMCP) for installing or repairing cables with 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.
- Have two qualified shipboard marine mammal observers onboard all cable installation vessels during cable installation activities. The MWMCP shall establish the qualifications of and required equipment for the observers.
- In consultation with the National Marine Fisheries Service, 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 stop until the marine mammal or sea turtle has moved beyond.

- Project-specific control measures for Project vessels (including support vessels) 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 made to be required in the post-installation reports. The MWMCP shall identify the resource agencies to be contacted in case of marine wildlife incidents and to receive reports at the conclusion of Project installation.
- The MWMCP shall be submitted to the CSLC and CCC for review at least 60 days before starting 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?

Less than Significant with Mitigation.

Terrestrial Components

Per the CCC, ESHAs delineated in the BSA include Meadow Creek, arroyo willow thicket, and hardstem bulrush marsh (depicted in Figure 3.4-1). The Project will bore under Meadow Creek to avoid any direct impacts on the creek and associated ESHAs. These ESHAs could be indirectly affected by ground-disturbing activities that occur within 100 feet of habitat, including trenching within the existing roadway and establishment of work areas required for HDD. While this work would occur within the existing roadway, there is a potential for impacts to result from the introduction of contaminants from equipment leaks and chemical spills.

Implementing **MM BIO-1** through **MM BIO-6** would also reduce potential impacts on ESHAs to a less than significant level. Implementing **MM BIO-1** through **MM BIO-4** would ensure that construction crews are aware of and implement all applicable MMs, sensitive biological resources are identified and protected, a qualified biological monitor oversees construction activities, and sensitive biological resources are avoided through HDD. Implementing **MM BIO-5** and **MM BIO-6** would require implementing trenchless construction BMPs and controlling drilling mud.

Marine Components

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, Significant Ecological Areas, MPAs, State Marine Reserves, State Marine Parks, State Marine

Conservation Areas, and 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 1.2 miles north of the MSA near the Pismo Beach pier. No deep-sea corals are known to occur along the proposed cable route within the MSA. As mentioned in the Addendum to the Marine Biology Technical Report (AMS 2019 [Appendix C]), a blend of mixed-bottom and low-, moderate- and high-relief hard substrate occurs approximately 656 to 1,969 feet (200 to 600 meters) north of the proposed cable route in water depths from 207 to 266 feet, where soft and hard corals might occur.

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 landing pipes. 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 landing pipes at the seaward terminal point, and repairs (if needed). Cable installation would extend from the landing pipe exits and continue offshore along the transpacific routes.

The potential scale and duration of ocean floor disturbance caused by Project installation and maintenance activities would be limited, resulting in predominantly localized and temporary disturbance to the ocean floor. In undisturbed areas adjacent to cable laying, the infauna are expected to rapidly start colonizing the affected area, as demonstrated in studies of the ATOC/Pioneer seamount cable (Kogan et al. 2006), the PAC fiber optic cable in the Olympic Coast National Marine Sanctuary (Antrim et. al. 2018), and the MARS fiber optic cable in the Monterey Bay National Marine Sanctuary (Kuhnz et al. 2015). In the assessment of the ATOC/Pioneer cable, it was noted that the cable provided an artificial hard substrate for anchorage that was quickly colonized by *M. farcimen* and *Urticina* spp. anemones, occasional sponges, and other low-relief colonizing taxa (Kogan et al. 2006); in the sediments, the cable actually had higher species diversity and established a microcosm that attracted fish and crab taxa (Kogan et al. 2006). 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 Project activities on soft substrate habitat and associated biological communities would be less than significant.

Burying cables through soft sediment ocean floor areas could also temporarily increase turbidity in the pelagic zone. Any resuspended sediments would resettle onto the ocean floor quickly. Implementing **MM BIO-6** would address any potential inadvertent return during HDD. Consequently, any increased water turbidity is expected to cause a less than significant effect on pelagic marine habitats and associated biological resources.

Hard Substrate Communities

Cable installation along hard bottom substrate, if unavoidable, could directly affect hard substrate habitats and associated marine biological resources, if the cable is installed directly onto these habitats. Biota associated with hard substrate habitat are predominantly slow growing and susceptible to crushing, dislodgement, and other physical disturbances. Preliminary ocean floor mapping of the proposed cable routes appears to avoid hard substrates with moderate to high relief (Appendix C).

Any potential impact would be restricted to an area proportional to the width (approximately 3 inches) and length of the cable through the hard substrate area and would affect less sensitive hard substrate organisms. Laying the cable on moderate- and high-relief hard substrate features exposes the cable to unnecessary suspension, increased tension stress, and possible damage.

Installing a fiber optic cable on any potential low-relief hard substrate initially would bury or crush any taxa attached to the hard substrate directly under the cable. As observed and documented in visual surveys of cable routes in California coastal waters, low-relief (less than 3.3 feet high) hard substrate habitats often are exposed to cycles of periodic burial by sand as well as increased turbidity (AMS 2015). This typically results in lower species diversity and abundances of the taxa inhabiting these features than occurs in high-relief hard substrate communities. These harsh physical conditions have been observed to support a more ephemeral community that is dominated by organisms more tolerant of high turbidity and sand scouring, or whose individual growth is enough to avoid burial (AMS 2019 [Appendix C]). Typical taxa observed in prior habitat and macrobenthic taxa surveys conducted by ROVs for fiber optic cable routes in nearby marine protected areas include cup corals, puffballs, and other similar sponges; gorgonian soft corals; and some species of anemones, such as *Stomphia* spp. and *Urticina* spp. (AMS 2019).

High-relief (more than 3.3 feet high) hard substrate areas typically have higher species diversity than low-relief habitats because their elevation results in lower turbidity, less sand scouring, and less periodic burial. Such areas typically support organisms sensitive to physical disturbances such as erect turf species, hard and soft hydrocorals, branching corals, and branching and erect sponges. High-relief hard substrate areas generally are more sensitive to physical impacts than low-relief hard substrate habitat.

The potential for post-lay effects on hard substrate areas depends on the location of the individual cable. Placement of the cable on the ocean floor at all water depths always is performed in a way that avoids suspension, which can result in movement of the cable in response to currents and wave surge in shallow depths (i.e., less than 100 feet), causing ongoing abrasion of hard substrate and damage to attached biota, as well as unnecessary cable tension stress and possible damage. As noted above, the Applicant would avoid

any hard substrate habitat areas along the nearshore coastal route whenever possible; moreover, the cable is to be buried in soft substrate to a water depth of 5,904 feet.

Past cable route and post-lay surveys conducted in California coastal waters have observed minimal impacts on hard substrate communities. During their survey of the AT&T Asia-America Gateway S-5 cable, which ran parallel to previously laid fiber optic cables in low-relief hard substrate, AMS (2008) reported that no noticeable impacts associated with previously laid cables in the area were detectable. Offshore British Columbia 2 years after cable laying, Dunham et. al (2015) reported that glass sponge reefs had recovered 85 percent cover of the control sites. Summaries from other surveys indicated that large erect sponges were observed growing on or over exposed cables (AMS 2019 [Appendix C]).

The fiber optic cable's marine segments are designed to maximize installing along soft substrate (where the cables can be buried) and to avoid areas identified as hard substrate where feasible. Even though the substrate where the landing pipes exit is soft, the cable laying ship would not plan to anchor that cable right away as it is installing it. Anchoring of other support vessels would be kept to a minimum and would result in only minor, temporary disturbances of soft substrate ocean floor sediments. Implementing **MM BIO-11** would minimize impacts to hard substrate habitat areas during cable installation. If any hard bottom substrates are impacted, then **MM BIO-12** would provide compensation for the impairment or loss of hard substrate-associated marine taxa and their role in marine ecosystems in the marine MSA (Figure 3.4-2).

MM BIO-11: Minimize Crossing of Hard Bottom Substrate. At least 30 days before starting construction of Phase I, a pre-construction seafloor survey shall be conducted and provided to CSLC covering the proposed cable lease area and the temporary construction corridor (including construction vessels anchoring areas and depicting seafloor contours, all significant bottom features, hard bottom areas, sensitive habitats, the presence of any existing wellheads, pipelines, and other existing utilities) to identify any hard bottom habitat, eelgrass, kelp, existing utilities (including but not limited to pipelines), and power cables. The proposed cable routes and anchoring locations shall be set to avoid hard bottom habitat (to the extent feasible), eelgrass, kelp, existing utilities (including but not limited to pipelines), and power cables, as identified in the seafloor survey.

MM BIO-12: Contribute Compensation to Hard Substrate Mitigation Fund. The following would be proposed if slow-growing hard substrate organisms are damaged:

- 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 for impacts on 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 affected 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 CCC for review and approval. Both the 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.

Introduction of Non-Native and Invasive Species

As discussed in Section 3.4.1.2, *Marine Components*, many non-native and invasive species are introduced by vessels—either as encrusting organisms on the hulls or other submerged parts of the vessels, or when ballast water is discharged from the vessels. No introduction of marine invasive species through ballast water exchange is anticipated in the MSA because Project vessels would not exchange ballast water within the MSA (Figure 3.4-2). Implementing **MM BIO-13** would reduce any potential Project-related contribution to the spread of invasive non-native species to a less than significant level.

MM BIO-13: Control of Marine Invasive Species. The 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. Regardless of vessel size, ballast water for all Project vessels must be managed consistent with 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-foot isobath.

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?

Less than Significant with Mitigation.

Terrestrial Components

The Project would avoid impacts on 0.085 acre of aquatic resources within the terrestrial BSA (Figure 3.4-1) under Meadow Creek and associated riparian and marsh habitat by installing the underground conduit system using HDD installation methods. If an inadvertent drilling fluid is released from the drilling mud (used to lubricate the bore), it could reach the surface of the stream channel and mix with water and affect the water

quality and the aquatic substrate. Implementing **MM BIO-5** and **MM BIO-6** by following best HDD practices and implementing an inadvertent return contingency plan would minimize the risk of contamination from inadvertent releases of drilling fluids and reduce potential impacts on federally protected wetlands to a less than significant level.

Less than Significant Impact.

Marine Components

Because no federally protected wetlands occur in the ocean, there would be no impact. Since the marine cables would be installed under the beach and ocean floor using HDD construction methods bored, there would be no placement of dredged or fill material. Potential water quality impacts associated with disturbance of ocean sediments are 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?

Less than Significant Impact.

Terrestrial Components

Based on current conditions and the proposed Project design (i.e., boring under Meadow Creek), construction would not substantially impede the movement of fish or wildlife species, block or interfere with resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The terrestrial BSA (Figure 3.4-1) consists mostly of developed areas. Natural areas in the western portion of the Project area (west of the UPRR) support disturbed annual brome grassland habitat adjacent to the Pismo Beach parking lot. This area could be used by resident terrestrial wildlife; however, the area is not part of an established movement or migratory corridor and Project activities would not substantially impede wildlife movements. Natural areas in the BSA also include Meadow Creek and its associated riparian and marsh habitats that could be used as a movement corridor for wildlife species between Meadow Creek Lagoon and habitats upstream of the BSA. The Project would HDD under Meadow Creek and therefore would not impede wildlife movements through this habitat.

Less than Significant with Mitigation.

Marine Components

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 2019 [Appendix C]). Work vessel movement and noise often result in disruption of animal movements or altered behavior. Such disturbances typically are 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 2019). According to the Large Whale Ship Strike Database, most 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).

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. Implementing **MM BIO-1** would train the personnel involved in operating cable laying vessels and other coastal work vessels to avoid marine mammals and sea turtles while transiting between port and the work site. Despite the low potential for vessel collisions with marine mammals and turtles, a small risk remains of marine mammals and sea turtles encountering Project vessels during their routine movements and foraging activities. Implementing **MM BIO-10** 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)?

Less than Significant with Mitigation.

Terrestrial Components

As discussed above, the Project has the potential to adversely affect sensitive natural communities (e.g., riparian habitat and wetlands); fish, and wildlife species; nesting special-status bird species, and marine resources. Implementing **MM BIO-1** through **MM BIO-13** would protect the environmentally sensitive areas identified in the BSA, and no development is proposed within the 50-foot setback buffers described in the LCP and the Development Code. No conflict with local policies or ordinances is anticipated.

Marine Components

Although no local policies or ordinances pertain to the marine components of the Project, installation of the marine cables would entail work in EFH (Appendix C). 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 in the area. The Project would not introduce permanent structures that would block emigration or 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?

No Impact.

All Project Components

There are no local, regional, or state habitat conservation plans or natural community conservation plans in the Project area; therefore, there would be no impact.

3.4.4 Mitigation Summary

Implementation of the following mitigation measure(s) would reduce the potential for Project-related impacts on biological resources to less than significant:

- MM BIO-1: Provide Environmental Awareness Training
- MM BIO-2: Conduct Biological Surveying and Monitoring
- MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources
- MM BIO-4: Install Metal Covers or Some Kind of Escape Ramps in Open Trenches
- MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
- MM BIO-7: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures
- MM BIO-8: Inspection and Burial of Cable
- MM BIO-9: Cable Entanglements and Gear Retrieval
- MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan
- MM BIO-11: Minimize Crossing of Hard Bottom Substrate
- MM BIO-12: Contribute Compensation to Hard Substrate Mitigation Fund
- MM BIO-13: Control of Marine Invasive Species
- 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?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

3.5.1.1 Marine Components

Approximately 67 shipwrecks have been logged in the CSLC Shipwrecks Database for the area offshore of Grover Beach. Except as verified by actual surveys, CSLC data on shipwrecks was taken from books, old newspapers, and other contemporary accounts that do not contain precise locations. The CSLC Shipwrecks Database reflects information from many sources and generally does not reflect actual fieldwork. Additionally, not all shipwrecks are listed in the CSLC Shipwrecks Database and their listed locations may be inaccurate, as ships often were salvaged or re-floated.

Historic-period shipwrecks consist of the remains of watercraft that were used as early as the 16th century in the study area to traverse Pacific waters. The majority of shipwrecks reported in this area occur near natural hazards such as rocky shoals, headlands, and reefs and in the vicinity of coves, historic landings, anchorages, wharves and lighthouses, or other ports-of-call. However, they also may occur in deeper waters such as those associated with historically established shipping lanes. Ports-of-call are accessed from the coastal shipping lanes. These historic watercraft most often came to rest on the ocean floor due to numerous causes, such as equipment failure, inclement weather and associated marine casualties such as capsizing, foundering, stranding, explosion, fire, and collision occurring during their travels on the Pacific Ocean. They also may be present due to purposeful scuttling. Their *in-situ* remains may be partially or wholly obscured by sediments and in rocky strata along the ocean floor in the study area.

3.5.1.2 Terrestrial Components

The cultural resources study area is the Project area (as described in Section 2.3, *Detailed Terrestrial Project Components*) and mainly encompasses the pavement and shoulder of roads through parts of the city of Grover Beach. The study area includes portions of San Luis Obispo County Assessor parcels where the Project's terrestrial

infrastructure connects with the Project's marine infrastructure (Assessor's parcel number [APN] 060-381-010, State of California), where the Project connects Le Sage Drive to Brighton and Ramona Avenues (APNs 060-131-019, Union Pacific Railroad Company; 060-131-020, Rykal/Forde LLC) and where the Project's terrestrial infrastructure ties into the existing CLS (APN 060-543-014, PC Landing Inc).

3.5.1.3 Cultural Setting

Historic Context

Background research conducted for the Project revealed several key themes that frame the historical context for which cultural resources in the study area are best understood (e.g., community development, including highways and railways). 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 European Colonization and the Spanish Period

The first documented Europeans to walk the coastal region of present San Luis Obispo County occurred during Spain's late 16th century and early 17th century explorations of the Americas. Don Juan Rodrigo Cabrillo's Spanish expedition was the first to venture along the Baja and Alta California coasts in 1542. During the voyage, parts of the Channel Islands were claimed for Spain, and Morrow and San Luis Bays may have been identified (Morrison and Haydon 1917). Subsequently, Pedro de Unamuno arrived at Morro Bay in 1587, and Sebastian Rodriguez Cermeno arrived at San Luis Obispo Bay in 1602 (Kyle 2002).

Following Europe's Seven Years War (1756–1763), Spanish exploration and settlement of California resumed. In September 1769, the Gaspar de Portola expedition erected temporary camps at present Price Canyon, at San Luis Canyon, and at the southern portion of Los Osos Creek. While resupplying with available game, mainly bears, the expedition named the area "La Cañada de los Osos," or "Canyon of the Bears."

Beginning in the 1740s, Russian hunting companies explored the Pacific Coast in search of fur seals. These Russian expeditions undoubtedly influenced Spain's rapid colonization of California's northern coast. By 1777, Spain had established a chain of coastal military presidios and civic pueblos from San Diego to San Francisco, each supported by the agrarian economies of Franciscan missions. Throughout the Spanish Period (1765–1821), Spain's colonial military continued to launch expeditions in support of new mission sites. Although illegal under Spanish law, peaceful trade between Spaniards and Russians continued until the end of California's Spanish governance in 1821 (Kyle 2002).

Father Junipero Serra oversaw the development of Alta California's Franciscan missions, including the region's fifth mission, San Luis Obispo de Tolosa. Junipero Serra founded

the mission on September 1, 1772, for Saint Luis, Bishop of Toulouse (Mission San Luis Obispo de Tolosa 2019). The mission's combination of belfry and vestibule is unique in California mission architecture, and the building is California Historical Landmark No. 325 (OHP 2019).

The Mexican Period

In 1821, Mexico achieved independence from Spain; in 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). Two factors would have a major impact on the subsequent development of California. The first was 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 brought not only a massive influx of Mexican settlers to California but also allowed the emergence of a powerful new class of wealthy landowners known as *rancheros*. The second factor was the coming of United States 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. Hostility between the *Californios* (persons of Spanish or Mexican heritage) and American settlers culminated in a violent struggle for control of California and ended with the Treaty of Guadalupe Hidalgo in 1848. The treaty ceded California to the United States, and the territory quickly became the country's newest state in 1850.

The American Period

Agriculture

By the early 20th century, agriculture formed the backbone of the regional economy that includes Grover Beach and was led by Japanese-American and Japanese immigrant farmers. The Pismo Beach Grower's Association, formed in 1922, was helmed by Japanese-American pea farmer George Fukunaga. The popularity of the region's irrigated pole pea known as the *Oceano pea* is credited with sustaining San Luis Obispo County's agricultural economy through the Depression.

In the 1930s, the Pismo Beach Grower's Association merged with the neighboring Arroyo Grande Pea Growers Association to form the Pismo-Oceano Vegetable Exchange (the Exchange). Bob Fukunaga, George's younger brother, was appointed its first manager. Because the Fukunagas were U. S. citizens, they were able to own and lease lands to immigrant Japanese farmers who were otherwise prohibited from acquiring property under the state's Alien Land Law of 1913. During World War II, the Exchange lost its core membership as Japanese and Japanese-American members were incarcerated at the War Relocation Authority camps. San Luis Obispo County citizens are noted in the region's history as having cared for the farms of incarcerated families despite backlash

from their fellow community members. Of some 40 Japanese farming families, only 5 families returned to their properties in San Luis Obispo County after the War Relocation Authority camps closed. By 1955, however, Nisei farmers rebuilt the Exchange and developed its agricultural interests and operations to meet contemporary market demands. The Exchange soon became the largest supplier of Chinese or *nappa* cabbage in North America, and operations such as Okui Strawberries produced strawberries for both regional and national markets (Pismo-Oceano Vegetable Exchange 2019).

Grover Beach

The community of Grover Beach is located within the Mexican-era Rancho Pismo land grant, awarded by Governor Manuel Jimeno Casarin to Jose Ortega in 1842. In 1846, Ortega sold the southern half of the deed to Isaac Sparks, a fur trapper and merchant who also had been awarded the adjacent Rancho Huasna by Governor Manuel Micheltorena in 1843. Sparks patented his deeds in 1866 with the California Public Land Commission (Kyle 2002). The Isaac Sparks adobe, also known as the Rancho Huasna Adobe, is recognized as an historical resource by San Luis Obispo County (OHP 2019; Perez 1982; San Luis Obispo County 2010).

Sparks employed an Englishman, John Michael Price, to manage the Huasna lands. Price purchased half of Rancho Pismo from Sparks' heirs in 1887. The other half was sold to Francis Ziba Branch, a cattle rancher who also held the nearby Rancho Santa Manuela. Price would go on to start the community of Pismo Beach, and the John Price House in Pismo Beach (National Register No. 88002013; Johnson Heumann and Associates 1988) is historically significant for both its association with important historical developments in San Luis Obispo County and its architectural style.

In 1887, Price sold 1,149 acres of his property to Dwight William Grover, and by August, Grover had established the Town of Grover and Huntington Beach. At the same time, Grover and his partner George Gates formed the Southern Land and Colonization Company of San Luis Obispo and began auctioning off partitioned lots. Grover's city grid plan included streets named for popular late-19th century beaches; his vision for a coastal resort town included a train depot, hotel, and city park (Kyle 2002; City of Grover Beach 2010).

Grover's development plan relied on persuading the Southern Pacific Company to establish a railway depot, and Grover had chosen the town's name specially to attract the attention of Collis P. Huntington, one of the Big Four railroad barons of California. In 1896, the Southern Pacific Company instead established its depot in nearby Oceano (Oceano Depot 2007).

In 1935, Horace V. Bagwell's Grover City Development Company purchased 1,100 acres of Grover's lands, changed the community's name to Grover City, and marketed the town and amenities to working class families. In the 1940s, Grover City's first store and post

office were built, the local Fairgrove Fire District established a firehouse, and the Grover City Water District was formed (City of Grover Beach 2010a). These early municipal properties are located outside of the current Project footprint.

With public calls for incorporation, a vote was brought to ballot, and the town officially became the City of Grover City in 1959. The new city's first mayor was Fay Keen, and the new City Council met at a firehouse at 9th Street and Ramona Avenue, which became the site of City Hall. This property is located outside of the current Project footprint.

The City of Grover City and the nearby communities of San Luis Obispo, Arroyo Grande, and Santa Maria experienced economic growth in the late 20th century. Also, during this period, the City of Grover City's citizens decided that its name failed to reflect the community's character and resources; in 1992, the city was renamed Grover Beach (City of Grover Beach 2019a). D.W. Grover's dream of having a railroad depot in his town finally came to fruition in 1996, when the city constructed the Grover Beach Station on the Union Pacific rail near Grand Avenue and Highway 1.

To date, no Grover Beach historic properties have been identified or listed in the NRHP, and no historic resources have been listed in the California Register or a local historical register.

Transportation

Railway was first constructed along the San Luis Obispo County coastline in the late 1800s, and the city of Grover Beach did not have a passenger rail stop until an Amtrak station was constructed in 1996.

PACIFIC COAST RAILWAY

The Pacific Coast Railway (PCR) operated a 3-foot gauge line from 1882. The PCR served as the main connection between the city of San Luis Obispo and San Luis Obispo Bay. At the bay terminus, Hartford's Wharf provided a hub for steam shipping up and down the coast. At its peak, the PCR operated some 76 miles of track, serving the communities of San Luis Obispo, Nipomo, Santa Maria, and Los Olivos. Around the middle of the 20th century, affordable automobiles and improved roadways depressed previously robust rail usage and, save for increases in oil and gravel freight service, the PCR's revenues slowly declined. By December 1941, the company abandoned its last remaining lines south of San Luis Obispo and, with a brief run under the management of the Port of San Luis Transportation Company, ceased operations entirely by October 1942. The PCR's Company Grain House at 65 Higuera Street in San Luis Obispo represents the company's historical industry in the region and was listed in the NRHP in 1988 (National Register No. 88000921; Schmidt 1987).

Southern Pacific Company

In 1894, the Southern Pacific Company (SPC) was operating standard-gauge (4’ 8.5”) lines that eventually connected much of San Luis Obispo County to wider regional and national markets. The SPC’s Coast Line ran from 1901 and serviced regular passenger and freight transport from San Francisco to Los Angeles, passing through San Luis Obispo County.

Union Pacific Company

The current Project footprint crosses a portion of what is presently Union Pacific Company rail passing through Grover Beach on a broadly north-south route. Amtrak secured the SPC’s passenger service circa 1971, and SPC divested its remaining assets to Union Pacific Company in 1996. That same year, the Grover Beach Amtrak Station was constructed on the rail near Grand Avenue at Highway 1 through a cooperative campaign between Caltrans, Amtrak, and the City of Grover Beach.

Highway 1

In the 1890s, development and maintenance of public roadways was a popular cause throughout California. County-owned roads were commonly hard-packed dirt or graveled, and often impassable in winter due to storm damage and flooding. In 1895, the Bureau of Highways was created and tasked with planning a state highway system (Blow 1920).

In the early 20th century, a growing number of automobiles and motorists continued to fuel the demand for better roads. Motorists formed automobile clubs such as the Good Roads Bureau of the California State Automobile Association and lobbied for such interests as road improvements (Blow 1920). The state legislature passed the Road Bond Act of 1909, which provided $18,000,000 for new road construction (Blow 1920).

The current Project footprint crosses a portion of Highway 1, a public highway that stretches from Mexico to the Oregon border. Portions of Highway 1 construction started in 1919, but with its $1.5 million price tag, voters had to approve releasing state funds for the project. In addition to paired funding from the federal government, the highway project used prison labor from San Quentin’s inmate population to reduce expenses.

Planning for Highway 1 on San Luis Obispo County’s rugged coastline was substantially revised in favor of an inland route through the city of San Luis Obispo, the county’s seat. The coastal area in the current study area continued to be served primarily by rail and by county roads. Nevertheless, the state’s goal of building a coastal highway from its southern to its northern border was still supported by smaller highway projects, including improvements to San Simeon Road (Blow 1920). By the 1960s, the automobile route through coastal San Luis Obispo had been adopted as part of the Highway 1 highway system.

Existing Conditions

Terrestrial Archaeological and Built Environment Records Search

The California Historical Resources Information System (CHRIS) Central Coast Information Center (CCIC) in Santa Barbara maintains the California Office of Historic Preservation (OHP) cultural resource records for San Luis Obispo County. On May 28, 2019, the CCIC provided record search results for the Project footprint and an additional 0.25-mile study area radius (IC File No. 19-118).

The records searches found that 13 cultural resources studies had been conducted in the study area (Table 3.5-1). These studies collectively have covered most of the study area. As provided in Table 3.5-2, the record searches also found that one previously recorded historic-era built environment resource was identified in the study area.

Table 3.5-1. Previously Conducted Cultural Resources Studies in the Study Area

CCIC Study No.	Year	Author(s)	Title
SL-00172	1978	Sawyer, W.B.	*Archaeological Element of the Pismo Beach Proposed Ocean Disposal Facilities Plan (Pismo Beach Wastewater Effluent Disposal Project C-06-1327)*
SL-00220	1980	Osland, K. S., et al	*Phase Two Archaeological Evaluation for the Proposed Pismo Beach Wastewater Effluent Disposal System*
SL-00508	1982	Woodward, J.	*Archaeological Survey Report on the Grand Avenue Entrance Project, Pismo Beach, SLO County*
SL-02390	1993	City of Grover Beach	*Grover Beach Improvement Project Environmental Impact Report*
SL-03713	1981	Caltrans	*Historic Property Survey Report for Widen and Channelize, Bike Lane on State Highway 1 near Pismo Beach, San Luis Obispo County*
SL-04037	2000	Bertrando, B.	*Historic Resources Inventory and Evaluation for Built Environments along the Proposed Boardwalk Extension Routes from Addie Street to Grand Avenue, Pismo Beach, CA*
SL-04069	2000	Getchell, B. and Atwood, J. E.	*Cultural Resources Survey for the PC-1/PAC-1 Cable Landing Project in the City of Grover Beach, San Luis Obispo County, CA*
SL-04255	2000	Denardo, C.	*Pacific Crossing and Pan American Crossing Fiber-Optic Cable System in Grover Beach, San Luis Obispo County, California.*
SL-04800	2002	Stevens, N.	*Archaeological Monitoring for the Mentone Storm Drain Project (4th Street–8th Street) Grover Beach, California*

Table 3.5-1. Previously Conducted Cultural Resources Studies in the Study Area

SL-04808	2002	Clift, G. and Farrell, N.	*Archaeological Survey of Grover Beach Conference Center Highway 1 and Grand Avenue, Grover Beach, San Luis Obispo County, California.*
SL-05882	2005	Gibson, R.	*Results of Archival Records Search and Phase One Archaeological Surface Survey for the Grover Beach Conference Center and the Grover Beach Multimodal Transportation Facility Projects, Grover Beach, CA*
SL-06851	2014	Lober, A. and Hannahs, T.	*Historic Property Survey Report for the West Grand Avenue Streetscape Improvement Project from SR-1 to Western City Limits and between 4th Street and 5th Street, Grover Beach, San Luis Obispo County, California*
SL-07010	2015	Treffers, S. and Laurie, L.	*Cultural Resources Survey Report for the Grover Beach Lodge and Conference Center Project*

Table 3.5-2. Previously Recorded Cultural Resources in the Study Area

Primary/ Trinomial	Age/Type	Description	CHRS Code
None	Historic-era built environment	Southern Pacific Railroad segment	6Z[a]

Source: California Historical Resources Information System 2019

Term:

CHRS = California Historical Resources Status

[a] 6Z was found ineligible for listing in the National Register of Historic Places or in the California Register of Historical Resources, or for local designation through survey evaluation.

On July 22, 2019, a letter was sent to the History Center of San Luis Obispo County. The letter briefly described the proposed Project and requested information about cultural resources in the study area. Mr. Thomas Kessler, Executive Director at the History Center of San Luis Obispo, reviewed the Project information and indicated that there were no concerns or comments regarding the Project at this time (Kessler pers. comm).

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

- National Park Service's NRHP Digital Archive website
- OHP's California Historical Landmarks website

- Historical USGS topographic maps (1:24,000, 1:65,500 scales)
- San Luis Obispo County Assessor parcels

The OHP California Historical Landmarks website and the National Park Service's NRHP Digital Archive website did not identify any California Historical Landmarks, historical resources, or historic properties in the study area. Staff at the CCIC reviewed the *Archaeological Determination of Eligibility* for San Luis Obispo County and *Historic Property Data File* for San Luis Obispo County and did not identify any historic properties or historical resources in the study area.

Marine Cultural Resources Records Search

Research methods to inventory marine cultural resources were limited to an archival and records search. All marine cultural resources cited consisted of shipwrecks. The inventory completed for the study area covers the four potential routes plus a 10-nm buffer. No remote sensing survey of the ocean floor for shipwrecks and other debris, or predictive modeling for prehistoric archaeological resources has been completed for the marine portion of the study area. A complete list of sources consulted is included in the Marine Cultural Technical Report (Appendix D).

Sources consulted included:

- CSLC (cultural resource inventories-shipwreck and downed aircraft listings)
- *Inventory and Analysis of Coastal and Submerged Archaeological Site Occurrence on the Pacific Outer Continental Shelf* (ICF International et al. 2013)
- Archaeological Literature Review and Sensitivity Zone Mapping of the Southern California Bight
- NOAA *Automated Wreck and Obstructions Information System* database (1988)
- USACE Los Angeles and San Francisco Districts
- National Maritime Museum in San Francisco
- Los Angeles Maritime Museum
- Commerce Department files at the National Archives in Washington D.C.
- San Bruno, Regional Records Centers at Laguna Nigel, and San Bruno
- The Huntington Library in San Marino
- Published volumes of Lloyds of London Ships Registry 1850–1980 and 1885–1950
- U.S. Department of Commerce Merchant Vessels of the United States 1867–1933
- USCG Merchant Vessels of the United States 1933–1982 (and supplements 1982–1988)

There were 67 shipwrecks reported lost within the study area, which encompasses the four potential routes plus a 10-nm buffer. In addition to these shipwrecks, 24 shipwrecks are reported as off the California Coast and Pacific Ocean. Any of these shipwrecks could occur within the study area. The accuracy of the coordinates provided for the shipwrecks varies. Neither the accuracy of location nor the significance of the vessels listed by the CSLC and Minerals Management Service (1990) or the Bureau of Ocean Energy Management (2013) have been evaluated. Many of the resources listed contain information that, regardless of the documented coordinates, place the vessels north of the southernmost route. This information can neither be verified nor denied based on the information available. Many shipwreck locations may never be found due to the inaccuracy of coordinates sited, or due to their degraded conditions on or within the ocean sediments.

Of these shipwrecks, 16 have been evaluated as insignificant and 2 of these vessels have been accurately located. The remaining shipwrecks have never been evaluated. Details of the offshore record search results are found in the Marine Cultural Resources Technical Report (Appendix D).

The reported locations of historic period shipwrecks are characterized by inaccuracies. Many, if not most, vessels reported as lost in the study area have not been accurately located or assessed for their eligibility for listing in the CRHR. Therefore, the potential for the Project to affect these shipwrecks cannot be accurately assessed. However, given the large number of shipwrecks reported within or near the study area, it is likely that one or more may be found by site-specific remote sensing surveys for each of the four cable routes.

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

Fieldwork

Archaeological and built environment surveys of the study area were conducted on June 18, 2019. ICF archaeologist Shane Sparks conducted the archaeological survey of the study area. The archaeological survey consisted of a pedestrian inspection of the study area, walking a maximum of 30-foot-wide transects. The survey area consisted of both sides of the public right-of-way in the study area and in non-developed areas adjacent to proposed Project activities. Most of the public right-of-way was entirely paved and developed with sidewalks and public road infrastructure. Surface visibility in the northern tie-in area (APN 060-543-014, PC Landing Inc) was good to excellent in the dune areas adjacent to the tie-in areas. Most of the northern tie-in area was developed

with concrete surfaces and park bathrooms, a restaurant, and a park information structure, offering no surface visibility. The open, non-paved parking lot near the northern tie-in area had excellent surface visibility, although the area had been scraped and graded to remove vegetation and to create a level surface. The open area east of the existing rail line offered good to excellent visibility as well, although it appeared to have been graded and cleared. Modern trash and refuse (e.g., plastic soda bottles, plastic bags, and modern bottle glass fragments) were observed in the open parking areas and field adjacent to the rail line. No newly identified archaeological resources were observed or recorded within the study area during identification efforts.

ICF architectural historian Joshua Severn conducted the built environment survey of the study area. Two built environment resources were identified within the study area and were visited during pedestrian surveys: Highway 1 and the UPRR. Buildings in the city of Grover Beach were reviewed and confirmed to be located outside of the study area. Because the Project footprint crosses portions of Highway 1 and the UPRR, these resources are addressed in this analysis. Surrounding residential properties and any potentially historical resources within the city of Grover Beach were confirmed to be located outside the study area. Survey also confirmed that APNs 060-381-010, 060-131-020, and 060-543-014 do not have of-age buildings, structures, or objects with the potential to be considered historical resources.

3.5.1.4 Findings

Built Environment Resources

Two historic-era built environment resources were identified in records search results and pedestrian surveys: a segment of Highway 1 and a segment of the UPRR. Both resources have been recommended as ineligible for listing in both the NRHP and the CRHR and are not considered historical resources for the purposes of CEQA.

<u>Highway 1</u>

The Project footprint crosses a segment of California's Highway 1 on the western side of Grover Beach. ICF architectural historians recorded and evaluated the subject segment in July and August 2019.

Highway 1 through Grover Beach historically was a rugged county roadway alongside coastal railroad grades. Between 1909 and 1933, the State's plans for a coastal highway connecting San Francisco and Los Angeles were funded, designed, and implemented. These plans favored improvements and new construction through San Luis Obispo, the county seat, rather than along the area's rugged coastline. As a result, the roadway that runs through Grover Beach fell under different county and state routes between 1933 and 1964. On July 1, 1964, all the state routes were renumbered to reconcile legislative names

and signage, and the paved road through the western side of Grover Beach officially was designated as part of Highway 1 and the Cabrillo Highway.

Although the planning and construction of California's coastal highway in the early 20th century is a significant event, the section of highway along the San Luis Obispo coast was rejected in early plans and was not officially incorporated into the Highway 1 system until the 1960s. Furthermore, the coast-side developments along the roadway and the expansion of the roadway's original design do not retain its integrity to any period of its construction or development. Therefore, the subject segment of Highway 1 is recommended as ineligible for inclusion in the CRHR and NRHP.

Union Pacific Railroad

A section of the UPRR (APN 060-131-019) was identified in the study area where the Project footprint crosses Highway 1 at Le Sage Drive. The segment of rail was evaluated previously and found ineligible for inclusion in the NRHP and CRHR (SWCA Environmental Consultants 2015). ICF architectural historians reviewed the previous evaluation and agreed with its findings. ICF updated the resource's DPR 523-series form for submittal to the CHRIS. The UPRR segment in the Project footprint does not meet the requirements for an historical resource for the purpose of CEQA.

Archaeological Resources

Terrestrial Archaeological Resources

The records search and pedestrian survey revealed no terrestrial archaeological resources in the study area.

Submerged Offshore Archaeological Resources

The records search, including the shipwrecks database search, revealed no submerged offshore prehistoric resources in the study area. A total of 67 shipwrecks and unknown wreckage or debris locations have been reported in the study area between the 1850s and 1977. All resources that could be placed to within 10 nm of each of the proposed routes have been included for consideration.

Of the 67 shipwrecks that may fall within the study area, 11 are considered eligible or may be eligible for listing in the CRHR without further information. Another 16 of the vessels are considered insignificant and are not eligible for listing in the CRHR. The eligibility of the remaining 40 vessels remains undetermined.

3.5.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to cultural resources relevant to the Project. At the local level, the following policies and programs

are included in Chapter 3.1 of the *City of Grover Beach's Local Coastal Program*, which incorporates the LCP and the Coastal Act policies as well as recommendations set forth in the plan (City of Grover Beach 2014a):

3.5.2.1 Coastal Act Policy

- **Section 30244.** *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required*.

- **Policy 151.** *Protect Historical and Prehistorical Resources. Representative and unique archaeological, paleontological and historical features shall be identified and protected from destruction and abuse. These sites shall be permanently preserved through public acquisition or other means and shall be integrated with recreational and other cultural facilities where appropriate*.

  To implement the above policy, the State Historic Preservation Officer is required to give highest priority for preservation to the following types of archaeological sites:

  1. Areas where substantial information has been recorded but still require a systematic overview.
  2. Those areas of high "sensitivity" where suspected resources are endangered by a proposed development.
  3. Those sites most likely to yield significant new information; and
  4. Those unsurveyed areas located within areas zoned and designated for near-future development.

  In addition to requiring that this system of prioritization be applied to coastal archaeological resources, Coastal Plan policy also mandates that,

  > *Where development would adversely affect identified archaeological or paleontological resources, adequate mitigation measures (e.g. preserving the resources intact underground, fencing the resource area, or having the resources professionally excavated) shall be required.*

Recommendations

1) **Policy.** Where development would adversely impact archaeological or paleontological resources as identified by the State Historical Preservation Officer, reasonable mitigation measures shall be required by the City's Planning Commission and/or City Council.

2) **Policy.** All of the cost associated with archaeological investigations shall be borne by the Applicant.

3) **Policy.** That during any archaeological field investigations one native American representative has access to the property during the investigation.

4) **Policy.** That should archaeological resources be found during the construction phase of any project, all activity shall be temporarily suspended for a maximum of 30 days in which time a qualified archaeologist who has a working knowledge of Coastal Chumash archaeological sites chosen by the City's Environmental Coordinator has examined the site and recommended mitigation measures to be approved by the City. Said investigation costs shall be borne by the developer.

5) **Policy.** That prior to the issuance of any permit within areas identified as potential archaeological sites the City shall require an initial reconnaissance by a qualified archaeologist who has a working knowledge of Coastal Chumash archaeological sites.

6) **Policy.** That the City of Grover Beach's Planning Department shall maintain copies of maps of known areas of archaeological significance.

7) **Policy.** That in general, the standard mitigation for development on or near archaeological sites shall be importation of 18” to 24” of sterile sand fill provided that no utility trenching be allowed in native material; or leave area in open space and that a qualified archaeologist is present during any excavation; or, as a last resort, removal of any artifacts be by a qualified archaeologist. Said artifacts to be turned over to the San Luis Obispo Archaeological Society.

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.

<u>All Project Components</u>

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

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

Less than Significant with Mitigation.

All Project Components

The proposed Project would not cause a substantial adverse change in the significance of a unique archaeological resource as defined in section 15064.5 because no archaeological resources were identified in the Project area. However, if previously unknown archaeological resources (terrestrial or submerged) are encountered during construction of the proposed Project, they could be adversely affected. Implementing **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2**, and **MM CUL-6/TCR-3** would reduce potential impacts on previously unknown terrestrial archaeological resources to a less than significant level. The MMs with CUL/TCR apply to both cultural and Tribal cultural resources. And, implementing **MM CUL-3**, **MM CUL-4**, and **MM CUL-5** would reduce potential impacts on previously unknown offshore archaeological resources to a less than significant level.

MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Resources. In the event that potential cultural or tribal resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until an approved archaeologist and tribal monitor, if retained, has evaluated the nature and significance of the discovery. In the event that a potentially significant cultural or tribal cultural resource is discovered, Applicant, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required 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 to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other measures are mutually agreed to by the lead archaeologist and culturally affiliated tribal monitor that would be as or more effective.

A treatment plan, if needed to address a find, shall be developed by the archaeologist and, for tribal cultural resources, the culturally affiliated tribal monitor, and submitted to CSLC staff for review and approval prior to implementation of the plan. If the archaeologist or tribe determines that damaging effects on the cultural or tribal cultural resource shall be avoided or minimized, then work in the area may resume.

Title to all 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 CSLC jurisdiction. The final disposition of shipwrecks, archaeological, historical, and tribal cultural resources recovered on State lands under CSLC jurisdiction must be approved by the CSLC.

MM CUL-2/TCR-2: Cultural Resources Monitoring. Prior to Phase 1 ground-disturbing activities, the Applicant shall prepare a Cultural Resources Monitoring Plan subject to CSLC approval. The Plan shall include, but not be limited to, the following measures:

- The Applicant shall notify/invite a qualified archeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities in the Project site.
- The Applicant shall provide a minimum 5-day notice to the archeologist and tribal monitor prior to all activities requiring monitoring.
- The Applicant shall provide the archeologist and tribal monitor safe and reasonable access to the Project site.
- Guidance on identification of potential cultural resources that may be encountered.

The archeologist and Native American representative shall provide construction personnel with an orientation on the requirements of the Plan, including the probability of exposing cultural resources, guidance on recognizing such resources, and direction on procedures if a find is encountered.

MM CUL-3: Conduct a Pre-Construction Offshore Archaeological Resources Survey. Using results of an acoustic survey (e.g., a CHIRP [compressed high-intensity radiated pulse] system survey) for evidence of erosion/incision of natural channels; the nature of internal channel-fill reflectors; and overall geometry of the seabed, paleochannels, and the surrounding areas will be analyzed for their potential to contain intact remains of the past landscape with the potential to contain prehistoric archaeological deposits. The analysis would include core sampling in various areas, including but not limited to, paleochannels to verify the seismic data analysis. Based on the CHIRP survey and coring data, a Marine Archaeological Resources Assessment Report shall be produced by a qualified maritime archaeologist and reviewed by the California Coastal Commission or the State Historic Preservation Officer and the CSLC to document effects on potentially historic properties.

MM CUL-4: Conduct a Pre-Construction Offshore Historic Shipwreck Survey. A qualified maritime archaeologist, in consultation with the CSLC, shall conduct an archaeological survey of the proposed cable routes. The archaeological survey and analysis shall be conducted following current CSLC, Bureau of Ocean Energy Management (BOEM), and U.S. Army Corps of Engineers (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).

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 0.5 kilometer on each 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 autonomous underwater vehicle and multibeam data that may have a bearing on identification of anomalies representative of potential historic properties. The analysis shall include evaluation to the extent possible of the potential significance of each anomaly that cannot be avoided within the cable corridor. If sufficient data are not available to identify the anomaly and make a recommendation of potential significance, the resource(s) shall be considered as potentially eligible for listing in the NRHP and CRHR and treated as a historic property.

If any cultural resources are discovered as the result of the marine remote sensing archaeological survey, the proposed cable route or installation procedures shall be modified to avoid the potentially historic property. BOEM administratively treats identified submerged potentially historic properties as eligible for inclusion in the NRHP under Criterion D and requires project proponents to avoid them unless the proponent chooses to conduct additional investigations to confirm or refute their qualifying characteristics. BOEM typically determines a buffer (e.g., 50 meters) from the center point of any given find beyond which the project must be moved, in order to ensure that adverse effects on the potential historic property will be avoided during construction.

MM CUL-5: Prepare and Implement an Avoidance Plan for Marine Archaeological Resources. Pursuant to section 30106 and 30115 of the Coastal Act of 1976, "where developments would adversely impact archaeological…resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required" (Pub. Resources Code, § 30244). An avoidance plan, therefore, shall be developed and implemented to avoid all documented resources from the Marine Archaeological Resources Assessment Report and the Offshore Historic Shipwreck Survey Report, address discoveries of as yet unidentified resources encountered during the planned marine survey and construction, and provide mitigation monitoring if deemed necessary during construction to ensure compliance.

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

Less than Significant with Mitigation.

All Project Components

No human remains are known to be 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 during construction, including those outside of formal cemeteries. This impact is considered potentially significant but would be reduced to a less than significant level by implementing **MM CUL-6/TCR-3.**

MM CUL-6/TCR-3: 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 both the archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. 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 less than significant. The MMs with CUL/TCR apply to both cultural and Tribal cultural resources.

- MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
- MM CUL-2/TCR-2: Cultural Resources Monitoring
- MM CUL-3: Conduct a Pre-Construction Offshore Archaeological Resources Survey
- MM CUL-4: Conduct a Pre-Construction Offshore Historic Shipwreck Survey
- MM CUL-5: Prepare and Implement an Avoidance Plan for Marine Archaeological Resources
- MM CUL-6/TCR-3: Unanticipated Discovery of Human Remains

3.6 CULTURAL RESOURCES – TRIBAL

TRIBAL CULTURAL RESOURCES – TRIBAL	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) 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, 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.	☐	☒	☐	☐

3.6.1 Environmental Setting

3.6.1.1 Ethnographic Context

The Project area historically was occupied by the Obispeño Chumash, the northernmost Chumashan speakers. The original geographic homeland of the Northern Chumash extends miles beyond the current coastline, a coastline that historically has been 5 or more miles farther west than it is today. As a result, village sites, cemeteries, burials and ceremonial sites are now submerged. Despite the dynamic and ever-changing nature of the seafloor, even today divers will occasionally find a stone bowl, or other artifacts (Tucker 2020). At the beginning of the Spanish Era, the Chumash occupied coastal areas from Malibu Canyon in the south to the vicinity of Ragged Point to the north and inland areas as far as the western edge of the southern San Joaquin Valley. Following European contact, the Chumash language may have been influenced by Spanish missions over time with at least six Chumash languages, including Ventureño, Barbareño, Ynezeño, Purismeño, Obispeño, and the Island language (Grant 1978). The Obispeño Chumash were a sedentary group who remained in their homeland for thousands of years. They had a well-developed religion, government, trade network, commerce, all contributing to a sophisticated society (Tucker 2020).

Prior to their colonization and displacement, the Chumash settlement pattern consisted of a main settlement or village, with one or more outlying seasonally occupied camps (Landberg 1965). Chumash dwellings consisted of hemispherical houses, which were made by driving strong, pliable poles into the ground and then arching them into the center where they were tied (Grant 1978:510). Houses were thatched with interwoven grasses. Reed matting was used for mattresses and flooring, and to create room divisions and doors (Grant 1978). Each village contained one or more semi-subterranean sweathouse (temescal) (Grant 1978). A typical village consisted of several houses, a sweathouse, store houses, a ceremonial enclosure, a gaming area, and a cemetery (Grant 1978; Landberg 1965).

The Chumash culture was highly sophisticated. It included spirituality, governance, and language; tool making skills, commerce, trade routes, and currency. The Chumash people had a robust understanding of astronomy, agriculture, and a system of mathematics, as evidenced by their intricate basketry patterns (Tucker 2020). Their material culture included steatite pots and griddles, medicine tubes, smoking pipes, fishhooks, effigies, and charmstones (Grant 1978; Landberg 1965). Beads were made from Olivella, mussel, and clam shells. Shell beads had a variety of uses such as monetary for trade, decoration, and ornamentation with different bead design utilized from the various portions of the shell. Other than shell, beads were also made from talc schist or steatite. Bowls of all sizes, in addition to mortars and pestles, were manufactured from sandstone (Grant 1978). Sandstone “doughnut” stones, perforated sandstone discs, may have had multiple uses, including as weights on digging sticks (Grant 1978). Other fishing weights were made of stone and included a grooved indentation around the rock. Natural asphaltum was used for attaching shell inlays to stone, caulking canoes, sealing water baskets, and fastening projectile points to arrow and spear shafts (Grant 1978). Bone was also utilized to make tools such as awls and needles as well as bone whistles. Projectile points were manufactured from chert, obsidian, and fused shale, in addition to those manufactured from bone and wood (Landberg 1965). Projectile points are typically triangular with a notched base or leaf-shaped with a rounded base (Grant 1978). Chipped stone tools included knives, scraper planes, and choppers (Landberg 1965). Wooden plates and bowls are known from the ethnographic literature. Chumash basketry included water bottles, seed beaters, large burden baskets, flat trays, cradles, hoppers, bait baskets, and large twined tule mats (Grant 1978).

The Northern Chumash were highly successful providers, sustainably managing and tending important food resources on their homelands for thousands of years. Harvested and gathered foods included acorns, walnuts, pine nuts, buckeye nuts, laurel berries, wild strawberries, yucca, prickly pears, wild onion, chia seeds, soap plant, wild cherry, berries, mushrooms, and water cress (Grant 1978; Landberg 1965). Animal foods included California mule deer, coyote, bobcat, fox, rabbits, ground squirrel, pocket gopher, and woodrat (Grant 1978; Landberg 1965). Birds hunted and eaten included eagle, hawk, dove, quail, duck, geese, cranes, and mudhen (Landberg 1965). Reptiles, amphibians,

and insects were collected and eaten (Landberg 1965). Shellfish, fish, and marine mammals were important food items, particularly along the coast. Fish were obtained with spears, nets, fishhooks, poison, and traps (Landberg 1965).

Chumash artistic and manufacturing skill had developed in the context of an inter-regional exchange system over thousands of years (Arnold 2001). For example, the Chumash of the Channel Islands specialized in manufacturing shell bead currency, while the villages on the Santa Barbara Channel coast concentrated on constructing canoes and ferrying currency and fish to distribution points up and down the coast. Meanwhile, the Chumash living in the mountains and inland valleys traded acorns, pine nuts, sage, and venison to the people living on the coast.

3.6.1.2 Tribal Coordination

Pursuant to Executive Order B-10-11 concerning coordination with tribal governments in public decision making (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 only had the Xolon-Salinan Tribe in its records for consultation requests pursuant to AB 52 from tribes in the Project area. Regardless, under AB 52 lead agencies must avoid damaging effects on Tribal cultural resources, when feasible, whether consultation occurred or is required. The CSLC proceeded with contact the Native American Heritage Commission (NAHC), which maintains two databases to assist specialists in identifying cultural resources of concern to California Native Americans (Sacred Lands File and Native American Contacts). A request was sent to the NAHC for a sacred lands file search of the Project area and a list of Native American representatives who may be able to provide information about resources of concern located within or adjacent to the Project area.

On October 15, 2019, the NAHC responded to the CSLC with a list of nine Tribes, listed in alphabetical order below:

- Barbareno/Ventureno Band of Mission Indians
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation
- Northern Chumash Tribal Council

- Salinan Tribe of Monterey, San Luis Obispo Counties
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- Xolon-Salinan Tribe
- Yak tityu tityu yak tiłhini – Northern Chumash Tribe

The NAHC's reply from October 15, 2019, also stated that the Sacred Lands File record search for the Project area was positive. The NAHC requested to contact the San Luis Obispo County Chumash Council contact on their list for more information.

On February 12, 2020, CSLC staff provided a notice of the Project to all Tribes on the NAHC list. CSLC staff received responses from the following Tribal representatives identified in the NAHC's October 15, 2019 letter:

- Fred Collins, Chair - Northern Chumash Tribal Council
- Freddie Romero, Cultural Resources Manager - Santa Ynez Band of Chumash Indians Elders Council
- Mona Tucker, Chairwoman - Yak tityu tityu yak tiłhini Northern Chumash Tribe - San Luis Obispo County and Region

Chair Collins requested and was mailed a copy of the cultural resource survey report; and Mr. Romero expressed the Project would likely involve impacts to sensitive areas but deferred to the Yak tityu tityu yak tiłhini as the primary culturally affiliated tribe. In her response, Chairwoman Tucker requested government to government Consultation pursuant to the Commission's Tribal Consultation Policy (CSLC 2016), regarding potential impacts to tribal cultural resources and sensitive cultural areas. As a result of Consultation, this document incorporates a requirement that the Applicant prepare and implement a Cultural Resource Monitoring Plan to ensure unanticipated discoveries of tribal cultural resources are identified and protected in place where possible and treated with respect and care where avoidance is infeasible. In recognition of the importance of indigenous people telling their own story, the above ethnographic context section also incorporates and reflects Chairwoman Tucker's input during the Consultation process.

3.6.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to Tribal cultural resources relevant to the Project. At the local government level, no goals, policies, or regulations are 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.

All Project Components

The results from a records search of the NAHC's Sacred Lands Files stated that Native American cultural sites were present within the Project area. The CSLC staff conducted outreach to the nine tribes listed by the NAHC to seek further information about known Tribal cultural resource sites or any other tribal cultural resources in or near the Project area. To avoid potential impacts on tribal cultural resources or mitigate them to less than significant, **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2**, and **MM CUL-6/TCR-3** would be implemented (Section 4.5, *Cultural Resources,* for full text).

3.6.4 Mitigation Summary

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

- MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources
- MM CUL-2/TCR-2: Cultural Resources Monitoring
- MM CUL-6/TCR-3: Unanticipated Discovery of Human Remains

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?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.7.1 Environmental Setting

Energy users in Grover Beach rely on Pacific Gas and Electric Company (PG&E) for electricity and Southern California Gas Company for natural gas. PG&E maintains transmission and distribution lines throughout San Luis Obispo County. Southern California Gas Company has transmission lines and high-pressure distribution lines to the north and east of the Project site (Southern California Gas Company 2016).

3.7.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to utilities and service systems relevant to the Project. At the local level, the Grover Beach General Plan does not include any policies applicable to the Project about energy resources.

3.7.3 Impact Analysis

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

No Impact.

<u>All Project Components</u>

The Project's use of energy during construction and operations is necessary to provide for improved telecommunications services and is not wasteful or inefficient. No impact would occur.

During construction, the Project would use a variety of terrestrial equipment and marine vessels, including heavy equipment, trucks, cars, and cable laying and support vessels. The Project encompasses four phases (Section 2.2.1, *Work Phases*). Most of the energy would be consumed during the first phase from installing the landing pipe and underground conduit system onshore. Installation of all the landing pipes and the entire underground conduit system in Phase 1 is efficient because there is no need to separately

mobilize the construction equipment associated with installing landing pipes and underground conduit system. In Phases 2 through 4, most of the energy would be expended laying cable across the ocean floor and pulling cable on shore.

During operations, the Project was assumed to use approximately 292 megawatt-hours of electricity each year (enough to power approximately 29 homes for a year) to power all four cables. Most users in San Luis Obispo County obtain their power from PG&E through the grid, which is sufficiently robust to accommodate the Project's power demand. In 2025, California is expected to generate between approximately 71,000 and 76,700 megawatts, while demand is expected to range from nearly 61,000 to 68,000 megawatts (CEC 2019).

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

No Impact.

<u>All Project Components</u>

The Project does not obstruct state or local plans for renewable energy or energy efficiency. No impact would occur.

3.7.4 Mitigation Summary

The Project would have no impacts related to energy; therefore, no mitigation is required.

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.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
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?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.8.1 Environmental Setting

3.8.1.1 Regional Setting

San Luis Obispo County is in a geologically complex and seismically active region. Seismic, or earthquake-related, hazards have the potential to result in significant public safety risks and widespread property damage. Other geologic hazards that may occur in response to an earthquake include liquefaction, seismic settlement, tsunami, seiche, and landslides. (City of Grover Beach 2000).

The Project area is in the Coast Ranges geomorphic province, which is characterized by northwest-trending mountain ranges formed by active uplift related to complex tectonics of the San Andreas fault/plate boundary system. These mountain ranges are made up of thick late Mesozoic and Cenozoic sedimentary strata. In the southern Coast Ranges, granitic and metamorphic rocks of the Salinian block lie west of the San Andreas Fault and extend from the southern extremity of the Coast Ranges north to the Farallon Islands.

3.8.1.2 Site-Specific Setting

Topography

The Project area is in Grover Beach, with elevations ranging from sea level to approximately 53 feet above mean sea level. The coastal topography of Grover Beach is predominantly flat to gently rolling (City of Grover Beach 2010b).

Geology

Grover Beach is in the Santa Maria Basin-San Luis Range seismotectonic domain. This range is one of four distinct seismotectonic domains in San Luis Obispo County, as defined by rock type and the nature of faulting and folding. This domain's surface geology consists of Quarternary and Holocene sediments of alluvium and dune deposits underlain by Jurassic Age Franciscan basement (Clark et al. 1994) (Figure 3.8-1).

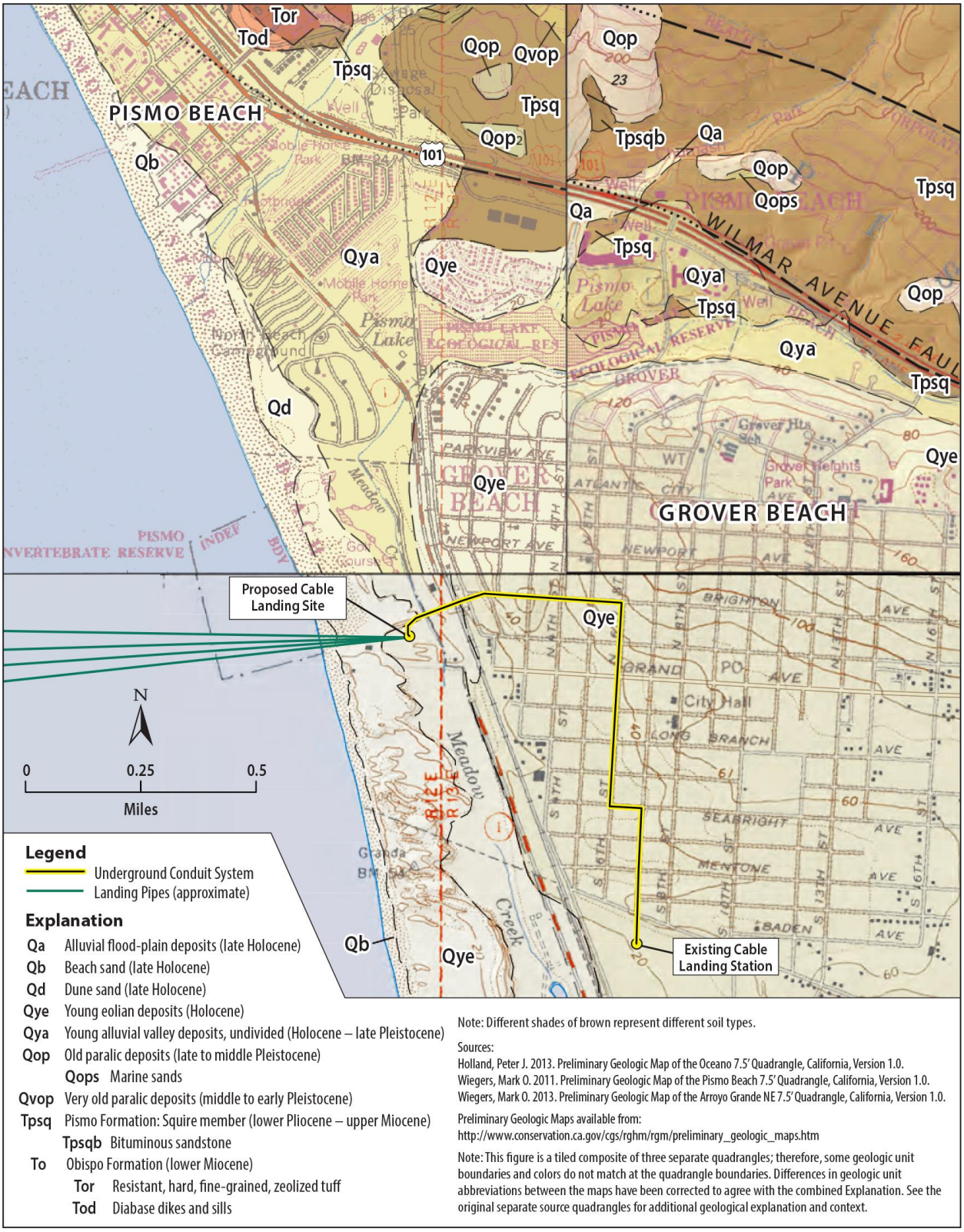
Seismicity

Surface Fault Rupture and Strong Ground Shaking

The Project area is in a highly tectonically active region of California, and both surface fault rupture and strong ground shaking pose a hazard. Earthquake-related hazards have the potential to result in public safety risks and property damage in the Project area. Several secondary seismic hazards (like fault rupture, liquefaction, and ground shaking) are associated with strong seismic shaking, especially in areas characterized by a relatively shallow groundwater table and underlain by loose, cohesion-less soils deposits (Figure 3.8-1).

The Project area is located approximately 3 miles from the Oceano Fault, an inactive fault that trends northwest-southeast along the coastline; however, rupture of this fault may cause ground shaking and damage to property. According to the Earthquake Shaking Potential for California map prepared by the California Geological Survey, the Project area is in a region distant from known, active faults and will experience lower levels of shaking less frequently. In most earthquakes, only weaker masonry buildings would be damaged. Nevertheless, very infrequent earthquakes could still cause strong shaking in this region (CGS 2016).

Figure 3.8-1. Geologic Map of the Project Area and Vicinity



A draft geotechnical investigation was prepared by Geocon Consultants in January 2019 for the proposed Oceano Dunes SVRA Lifeguard Tower Project a few hundred feet southwest of the cable landing site. According to the geotechnical investigation, the Project area is not in or adjacent to an Alquist-Priolo Fault Zone, and no active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site (Geocon Consultants 2019).

Liquefaction and Lateral Spread

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

The areas of Grover Beach with a high potential to be underlain by liquefiable sediments are those areas underlain by beach sand and young alluvium (Qa) (Figure 3.8-1). High groundwater levels can be expected near the Pacific Ocean and adjacent to Meadow Creek. According to Map 6 (Liquefaction Hazards Grover Beach) of the Safety Element, the Project alignment is in an area of Moderate Potential for liquefaction (City of Grover Beach 2000). Site-specific studies are recommended to evaluate whether a geologic unit contains potentially liquefiable materials, and if they require mitigation for development.

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

Slope Instability and Landslides

Landslides and slope instability can occur because of wet weather, weak soils, improper grading, improper drainage, steep slopes, adverse geologic structure, earthquakes, or a combination of these factors. Slope instability can occur in the form of creep, slumps, large progressive translation, or rotational failures, rockfall, debris flows, or erosion. Landslides can result in damage to property and cause buildings to become unsafe due to distress or collapse during sudden or gradual slope movement. Structures constructed in steep terrain, possibly even on stable ground, also may experience landslide hazards if they are sited in the path of potential mud flows or rockfall hazards. Grover Beach is

characterized by gently inclined slopes, with gradients of less than 50 percent on slopes consisting of older alluvium and late Pleistocene dune sands. The potential for slope stability concerns are low (City of Grover Beach 2000.)

Soils

Potential soil concerns in the Project area includes expansive soils. Expansive, or plastic, soils expand and contract with changes in moisture content and can damage buried features, as well as structures. Soil plasticity in the Project area ranges widely, even in small areas, from low to high (NRCS 2019). According to the geotechnical investigation prepared by Geocon Consultants (2019) for the proposed Oceano Dunes SVRA Lifeguard Tower Project, site soils are predominantly granular and non-plastic, and therefore non-expansive when subjected to moisture variations.

The susceptibility of soils to erode in the Project area is mainly related to slope. As stated in the EIR for the updated Land Use Element for Grover Beach, the overall coastal topography of Grover Beach is predominantly flat to gently rolling. The EIR concluded that no soil or geologic conditions were encountered during the investigation that would preclude development of the site as planned, provided the recommendations contained in the report were incorporated into the design and construction of the project (City of Grover Beach 2010b).

Paleontological Resources

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

- Assess the likelihood that the area contains significant nonrenewable paleontological resources that could be directly or indirectly affected, damaged, or destroyed because of the project.
- Formulate and implement measures to mitigate potential adverse effects.

The assessment of paleontological sensitivity is based on the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and other factors relevant to fossil preservation and potential yield. The criteria in the Society's guidelines for determining sensitivity are (1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate, invertebrate, or paleobotanical remains; and (2) the importance of recovered evidence for

new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data (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 therefore are 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 AT&T fiber optic cable project EIR, prepared in 2002, and the Supplemental EIR prepared in 2009 included an extensive paleontological survey along the proposed cable route from San Luis Obispo to Los Angeles. Most of the route was located along the UPRR right-of-way, including the stretch of right-of-way that is located just east of the cable landing site. Part of the Project site was included in the survey area for the AT&T fiber optic cable project. The methodology included the likelihood that fossils would be discovered during excavations into certain rock units; The evaluation of information

covered approximately 0.5 mile on either side of the Project route including the cable landing site, underground conduit alignment, and CLS (City of Grover Beach 2012a).

According to the data collected during the AT&T paleontological investigations, the Project is in recent alluvium and recent dune sands. Geological deposits less than 10,000 years old are considered too young to contain paleontological resources. These deposits typically consist of river and stream sediments from silts and sands to gravel. Older alluvium deposits of river and stream sediments produce Pleistocene fossils; however, no older alluvium has been encountered along the Grover Beach and Pismo Beach coastline. Since the soils encountered on the Project site consist of imbedded layers of sands, silty sands, and clayey silt to sandy silt, these soils would not form fossils (City of Grover Beach 2012a).

3.8.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to geology and soils relevant to the Project. At the local level, the City addresses the potential for ground shaking, liquefaction, landslides, and erosion in the Safety Element of its General Plan (City of Grover Beach 2000).

The Safety Element of the Grover Beach General Plan contains the following policies related to geologic and seismic hazards.

- **Policy 4.1 Fault Information.** Information on faults and geologic hazards in Grover Beach should continue to be updated. The City will enforce the General Plan and applicable building codes that require developments, structures, and public facilities to address geologic and seismic hazards through the preparation and approval of geotechnical and geologic reports.
- **Policy 4.2 Fault Rupture Hazards.** New development shall be located away from active and potentially active faults to reduce damage from fault rupture. Enforce applicable regulations of the Alquist-Priolo Earthquake Fault Zoning Act pertaining to fault zones to avoid development on active faults.
- **Policy 4.3 Reduce Seismic Hazards.** Enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and reduce the amount of property damage.
- **Policy 4.4 Liquefaction and Seismic Settlement.** Require design professionals to evaluate the potential for liquefaction or seismic settlement to impact structures in accordance with the currently adopted Uniform Building Code.
- **Policy 4.5 Slope Instability.** Continue to encourage that developments on sloping ground use design and construction techniques appropriate for those areas. The City acknowledges that areas of known landslide activity are generally not suitable for residential development.

3.8.3 Impact Analysis

The 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 City 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 aboveground and below ground terrestrial construction, such as minor grading for the cable landing site, trenching for cables, HDD, and the presence of Project features that could be damaged.

In accordance with CEQA, this analysis addresses the potential impacts of the Project on the environment; it does not address the potential impact that the environment could inflict on the Project. As stated by the California Supreme Court, "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users." (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 386).

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.

(ii) Strong seismic ground shaking?

(iii) Seismic-related ground failure, including liquefaction?

(iv) Landslides?

Less than Significant Impact.

<u>All Project Components</u>

According to the California Geological Survey's regulatory maps website, no Alquist-Priolo Fault Zones or other active or potentially active faults with the potential for surface

fault rupture are known to pass directly under the Project site (CGS 2015). Therefore, the restrictions of the California Alquist-Priolo Earthquake Fault Zoning Act do not apply to the Project. The Project would not include construction of a structure for human occupation. Nearly all new improvements for the underground conduit system would be below ground. The HDD activities would not be sufficiently strong to trigger an earthquake, liquefaction, or landslides. Because HDD would not affect the dunes, it would not trigger erosion or landslides. A Coastal Development Permit would be necessary for Project approval and its requirements may supplement the requirements of the California Building Standards Code with respect to standard engineering practices and design criteria relative to seismic and geologic hazards.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact.

All Project Components

Most construction activities would occur on paved surfaces (e.g., parking lot, city streets) and would not result in substantial soil erosion or loss of topsoil. If any trenching is used during construction, trenches would be backfilled and compacted immediately after conduit installation, and topsoil would be managed. In addition, standard erosion and sediment control measures and other housekeeping best management practices (BMPs) would be implemented through coordination with California State Parks.

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.

All Project Components

As described earlier in Section 3.8.1.2 *Site-Specific Setting* in the discussion of landslides, lateral spread, and liquefaction, the potential for damage in the Project area from these events is considered low. The scale and type of HDD for steel landing pipes and trenchless boring that would be used for the underground conduit system, and the standard construction practice of backfilling and compacting open trenches immediately after underground conduit installation would lessen the potential risks associated with lateral spread and subsidence.

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.

All Project Components

According to the 2019 geotechnical investigation prepared by Geocon Consultants, Inc. for the proposed Oceano Dunes SVRA Lifeguard Tower Project, site soils are predominantly granular and non-plastic, and therefore are non-expansive when subjected to moisture variations. Mitigation and specific design and construction measures with respect to expansive soil were determined not to be necessary (Geocon Consultants 2019). Therefore, this impact would be less than significant.

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.

All Project Components

The Project would not include the use of septic tanks or alternative wastewater disposal systems, such as leach fields. Therefore, there would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact.

All Project Components

Excavation during Project construction could damage paleontological resources by physically disturbing or damaging (e.g., crushing) them or by 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. Because Project area soils are young and trenching for the underground conduit is relatively shallow, the potential for impacts on paleontological resources is considered less than significant; and no mitigation measures are required.

3.8.4 Mitigation Summary

The Project would have no significant impacts to geology, soils, or paleontological resources; therefore, no mitigation is required.

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?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.9.1 Environmental Setting

A *greenhouse gas* is defined as any gas that absorbs infrared radiation in the atmosphere. These gases include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. 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 CO_2 measured at Mauna Loa, Hawaii in May 2019 was 414.66 parts per million (ppm) (NOAA 2019a) compared to the pre-industrial levels of 280 ppm +/- 20 ppm (IPCC 2007). The NOAA Mauna Loa data also show that the mean annual CO_2 concentration growth rate is accelerating. In the 1960s, it was about 0.9 ppm per year; in the first decade of the 2000s, the average annual concentration was 2 ppm per year; and in the last 3 years (2015 to 2018), the average annual concentration was 2.5 ppm (NOAA 2019b). 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 not only must be stabilized but also must be substantially reduced. The impact on climate change from the increase in ambient concentrations of GHGs differs from criteria pollutants (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 that 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.[25] 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, uncertainty remains 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 *CO_2 equivalent* (CO_2e). The CO_2e is the amount of GHG emitted multiplied by the GWP. The GWP of CO_2, as the reference GHG, is 1. Methane has a GWP of 25; therefore, 1 pound of methane equates to 25 pounds of CO_2e. 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_2O)	298	114
Hydrofluorocarbons	124 to 14,800	1 to 270
Perfluorocarbons	7,390 to 12,200	3,200 to 50,000
Sulfur hexafluoride	22,800	3,200

Source: CARB 2018b

[25] 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 sinks[26] within a selected physical or economic boundary. Table 3.9-2 outlines the most recent global, national, statewide, and local GHG inventories to provide context for the magnitude of Project emissions.

Table 3.9-2. Global, National, State, and Local Greenhouse Gas Emissions Inventories

Emissions Inventory	CO_2e (metric tons)
2010 Intergovernmental Panel on Climate Change global GHG emissions inventory	52,000,000,000
2017 U.S. Environmental Protection Agency national GHG emissions inventory	6,456,700,000
2016 California Air Resources Board state GHG emissions inventory	429,400,000
2005 Grover Beach GHG emissions inventory	48,169

Sources: IPCC 2014; EPA 2019d; CARB 2018b; City of Grover Beach 2014b
Terms:
CO_2e = carbon dioxide equivalent
GHG = greenhouse gas

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 57 percent of the total U.S. emissions in 2017 (transportation representing 29 percent of total emissions, and electricity 28 percent), with CO_2 being the primary GHG (82 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 (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, gross GHG emissions in California 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.

[26] A *GHG sink* is a process, activity, or mechanism that removes a GHG from the atmosphere.

However, since its peak in 2004, California has reduced its total annual emissions by 13 percent, and transportation sector emissions are 10 percent lower (CARB 2018b).

Even though California is aggressively moving to reduce its annual GHG emissions, it is already experiencing the effects of GHG-related climate change, which is a relevant aspect of the environmental setting. A 2018 report entitled *Indicators of Climate Change in California* (OEHHA 2018) concludes that the changes occurring in California are largely consistent with those observed globally. These climate change indicators show the following.

- Annual average temperatures in California are on the rise, including increases in daily minimum and maximum temperatures.
- Extreme events, including wildfire and heat waves, are more frequent.
- Spring runoff volumes are declining as a result of a diminished snowpack.
- The number of "winter chill hours" crucial for the production of high-value fruit and nut crops, are declining.
- Species are on the move, showing up at different times and locations than previously recorded, including both flora and fauna at higher elevations.

3.9.1.4 Local Inventory

The Grover Beach community emitted 48,169 metric tons CO_2e in 2005, which is approximately 0.01 percent of the 2016 statewide inventory. The electricity and natural gas consumption in residential and commercial buildings was the largest contributor of emissions (46 percent), followed by the transportation sector (39 percent). Emissions from off-road vehicles, equipment, and solid waste represented approximately 15 percent of total emissions in 2005 (City of Grover Beach 2014b).

3.9.2 Regulatory Setting

Currently, no overarching federal law specifically relates to climate change or the reduction of GHG emissions. During the Obama administration, the EPA developed regulations under the CAA and adopted the Clean Power Plan. However, on February 9, 2016, the Supreme Court issued a stay of prior regulations, pending litigation. In addition, former EPA Administrator Scott Pruitt signed a measure to repeal the Clean Power Plan. The fate of federal GHG regulations is uncertain, given the current federal administration and the pending deliberations in federal courts.

California has adopted statewide legislation to address various aspects of climate change and mitigation for GHG emissions. Much of this legislation establishes a broad framework for long-term reduction of the state's GHG emissions and for the climate change adaptation program. Of importance are AB 32 and SB 32, which outline the state's GHG

emissions reduction goals (i.e., 1990 emissions levels by 2020 and 40 percent below 1990 emissions levels by 2030).

In 2008, CARB adopted the initial AB 32 Scoping Plan that described its approach to meeting the AB 32 goal (CARB 2008). The First Update to the Climate Change Scoping Plan was approved in 2014 and builds on the initial Scoping Plan with new strategies and recommendations (CARB 2014). With enactment of SB 32, CARB prepared a 2017 Climate Change Scoping Plan Update (CARB 2017). In addition to the Scoping Plan Update, CARB maintains an online inventory of GHG emissions in California. The most recent inventory, released on June 6, 2017, includes emissions from 2000 to 2015. This inventory is an important companion to the Scoping Plan because it documents the historical emission trends and progress toward meeting the 2020 and 2030 targets, which are 431 million metric tons (MMT) CO_2e and 260 $MMTCO_2e$, respectively.

To monitor progress in emissions reduction, the 2017 Scoping Plan Update includes a modeled reference scenario, or "business as usual" (BAU) projection that estimates future emissions based on current emissions; expected regulatory implementation; and other technological, social, economic, and behavioral patterns. Prior BAU emissions estimates assisted CARB in demonstrating progress toward meeting the 2020 goal of 431 $MMTCO_2e$. The 2030 BAU reference scenario was modeled for the 2017 Scoping Plan Update, representing forecasted state GHG emissions with existing policies and programs but without additional action beyond that to reduce GHGs. This modeling indicates that California is expected to achieve the 2020 target but that a significant increase in the rate of GHG reductions is needed to meet the 2030 and 2050 targets (CARB 2017).

At the regional level, the SLOAPCD has developed recommended thresholds to determine the significance and appropriate mitigation level for GHG emissions from land use development (i.e., residential and commercial projects) and stationary source projects. For land use development projects, the thresholds are (1) compliance with a qualified GHG reduction plan; (2) 1,150 metric tons CO_2e per year (operation and amortized construction); or (3) 4.9 metric tons CO_2e per year per service population (operation and amortized construction). The stationary source threshold is 10,000 metric tons CO_2e per year (SLOAPCD 2012).

The City of Grover Beach adopted a climate action plan (CAP) in September 2014. The CAP establishes a communitywide GHG reduction target of 15 percent below 2005 levels by 2020, consistent with the state's larger reduction goal under AB 32. Based on the city's 2005 emissions inventory (Table 3.9-2), it needs to reduce its communitywide emissions by 5,715 metric tons CO_2e to meet its 2020 reduction target (City of Grover Beach 2014b). The CAP identifies 16 community measures across its primary emission sectors (energy, transportation, off-road, and waste) to achieve this goal.

3.9.3 Impact Analysis

The impact analysis includes emissions generated by all terrestrial activity and marine vessels operating within 24 nm offshore. While this distance goes beyond the area typically analyzed in CEQA documents (3 nm as seen in Figure 1-1), CSLC staff has conservatively elected to analyze emissions to 24 nm for consistency with the state's GHG inventory and reduction planning framework (CARB 2019c).

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Less than Significant with Mitigation.

<u>All Project Components</u>

As discussed in Section 3.3, *Air Quality*, construction of the proposed Project would require both terrestrial (e.g., conduit installation) and marine activities. Off-road equipment, on-road vehicles, and marine vessels would emit CO_2, CH_4, and N_2O. Emissions were estimated using the methods described in Appendix B and are summarized in Table 3.9-3. During Phase 1, the majority (62 percent) of emissions would be generated by activities within State waters, with most of those emissions originating from marine vessels within 3 nm offshore (47 percent) and on-road vehicle miles traveled (VMT) (40 percent). The remaining emissions within State waters would be generated by off-road equipment (13 percent). During Phases 2 through 4, the majority (91 percent) of emissions would be generated by marine vessels between operating within 24 nm offshore. Emissions from off-road equipment and on-road vehicles during these later phases would be minor (about 9 percent of total phase emissions).

Table 3.9-3. Estimated Construction Greenhouse Gas Emissions (metric tons)

Phase	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)	Carbon Dioxide Equivalent (CO_2e)
Phase 1 (2020)	984	<1	<1	1,004
Off-road equipment	79	<1	<1	80
On-road vehicles	241	<1	<1	250
Marine within 3 nautical miles (nm)	286	<1	<1	290
Marine between 3 and 24 nm	379	<1	<1	384
Phase 2 (2021)	569	<1	<1	578
Off-road equipment	2	<1	<1	2
On-road vehicles	47	<1	<1	49
Marine within 3 nm	141	<1	<1	143
Marine between 3 and 24 nm	379	<1	<1	384
Phase 3 (2023)	565	<1	<1	574
Off-road equipment	2	<1	<1	2
On-road vehicles	44	<1	<1	45
Marine within 3 nm	141	<1	<1	143
Marine between 3 and 24 nm	379	<1	<1	384
Phase 4 (2025)	564	<1	<1	573
Off-road equipment	2	<1	<1	2
On-road vehicles	42	<1	<1	44
Marine within 3 nm	141	<1	<1	143
Marine between 3 and 24 nm	379	<1	<1	384
Total	**2,682**	**<1**	**<1**	**2,729**

As discussed above, the SLOAPCD recommends that construction emissions be amortized and included in the analysis of operational emissions. The District has adopted operational GHG thresholds for land use development projects and stationary sources. The proposed Project is neither a land use development project nor a stationary source. Accordingly, SLOAPCD's GHG thresholds are not expressly applicable to the Project. The CSLC has conservatively determined that, because construction is the primary emission source associated with the Project, for the purposes of this analysis, any substantial increase in construction-related GHG emissions above net zero would result in a significant impact.

Construction of the Project would generate 2,729 metric tons CO_2e (Table 3.9-3). These emissions would occur only 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 completely offset GHG emissions during construction to net zero (2,729 metric tons CO_2e), the impact would be less than significant.

MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions. The Applicant shall purchase carbon offsets equivalent to the Project's projected GHG emissions (2,729 metric tons CO_2e) to achieve a net zero increase in GHG emissions during the construction phase for emissions within 24 nm (required only for 3 within 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 the California Action Reserve Voluntary Offset Registry, American Carbon Registry, and Verified Carbon Standard. The Applicant shall purchase all offsets prior to groundbreaking and provide copies of the offset retirement verification to the CSLC.

Operations

Less than Significant Impact.

All Project Components

The Project's normal operation consists of monthly inspections, requiring a vehicle trip.[27] Electricity also would be consumed at the existing CLS. Annual GHG emissions from these sources were quantified using the methods described in Appendix B. Table 3.9-4 summarizes the results of the analysis.

Table 3.9-4. Estimated Operations Greenhouse Gas Emissions (metric tons per year)

Source	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)	Carbon Dioxide Equivalent (CO_2e)
Inspection trips	<1	<1	<1	<1
Electricity consumption	27	<1	<1	27
Total	**28**	**<1**	**<1**	**28**

Most operations emissions (98.9 percent) would be generated by electricity consumption. Vehicle trips from monthly inspections would contribute nominal amounts of GHGs (less than 1 metric ton CO_2e per year). Total operations emissions are estimated at 28 metric tons CO_2e during the first year of operation in 2026. These emissions would decrease annually due to implementation of State programs (e.g., SB 100, vehicle standards) that will reduce the carbon intensity of the statewide transportation and electric power sectors.

[27] 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 quantified or included in the analysis.

The California Supreme Court recognizes that there are multiple, acceptable pathways for evaluating project-level GHG emissions under CEQA. In *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company,* the Court suggested four potential approaches—tiering from a qualified CAP, CEQA streamlining, quantitative thresholds, and compliance with regulatory programs. While Grover Beach has a CAP, it is qualified for CEQA tiering only to 2020 and therefore the CAP cannot be used to evaluate emissions beyond the 2020 planning horizon. Similarly, the Project is not eligible for CEQA streamlining under SB 375 because it is not a mixed-use or transit priority project. As discussed above, the SLOAPCD has adopted numeric GHG thresholds, but these are not applicable to the Project because it is neither a land use development project nor a stationary source. Consequently, this analysis evaluates operational emissions based on compliance with regulatory programs.

Operation of the Project would generate both electricity- and transportation-related GHG emissions. Electricity is a type of indirect emission that results in GHGs emitted offsite during the generation of electricity from combusted fossil fuels. Electricity would be supplied by PG&E, which in 2017 generated approximately 33 percent of its power from eligible renewable resources (PG&E 2018). As required by SB 100, PG&E will be obligated to supply 60 percent and 100 percent carbon-free electricity by 2030 and 2045, respectively. Accordingly, electricity-related emissions generated by the Project, which represent 98.9 percent of the operational inventory in 2026, would decline annually, eventually reaching zero emissions by 2045. Recognizing the State's commitment to carbon-free electricity emissions, the Governor's Office of Planning and Research (OPR) (2018a) indicates that a project that uses no natural gas or other fossil fuels may have a less than significant operational energy impact. The Project does not include any new stationary sources of fossil-fuel energy consumption and would not conflict with the State's ability to implement SB 100.

Both the CARB (2019c) and OPR (2018a) acknowledge the nexus between the State's climate change planning goals and VMT. One of the criteria under SB 743 for determining the significance of transportation impacts of a project is whether a project reduces GHG emissions. The OPR has developed screening thresholds to evaluate whether a project would result in a less than significant transportation impact related to SB 743. The advisory states, "absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant transportation impact" (OPR 2018b). The Project would generate a maximum of 12 trips per year from employee travel, which is well below OPR's screening threshold of 110 daily trips. Furthermore, emissions from employee vehicles would decrease annually in future years from existing and planned statewide programs, including the increase of electric/zero-emission vehicles, vehicle emission standards, and the Low Carbon Fuel Standard.

Based on the above analysis, the minor amount of GHG emissions generated during Project operation (28 metric tons CO_2e) would decrease over time and are compliant with the State's GHG reduction and planning framework. The Project does not entail any features or elements that would obstruct implementation of State programs. This impact is considered less than significant, and no mitigation is required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact.

All Project Components

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 potential impact. Many of the measures included in the Grover Beach CAP will continue to be implemented and achieve emissions reductions beyond 2020. Therefore, the analysis also evaluates consistency with the Grover Beach CAP.

AB 32 codifies the State's GHG emissions reduction targets for 2020. The CARB adopted the 2008 Scoping Plan and 2014 first update as a framework for achieving AB 32 (CARB 2008, 2014). The 2008 scoping plan and 2014 first update outlined a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. In November 2017, CARB adopted the 2017 Climate Change Scoping Plan as a framework for achieving the 2030 GHG emissions reduction goal described in SB 32 (CARB 2017).

The 2008 and 2014 Scoping Plans indicate that 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 (CARB 2017) 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. The Grover Beach CAP (City of Grover Beach 2014b) includes local reduction strategies like those in the State's scoping plans. The majority of measures target energy and transportation emissions from commercial and residential development and therefore are not directly

applicable to the Project. Local measures that expand the transit network and support electric vehicles may reduce emissions from the monthly employee trip to the Project site.

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 (28 metric tons CO_2e per year, decreasing annually to less than 1 metric ton CO_2e by 2045). The majority (27 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 carbon-free electricity by 2045. Short-term construction emissions also would be offset to net zero through implementing **MM GHG-1**. Therefore, the Project would not conflict with achieving the State's adopted GHG reduction goals under AB 32 and SB 32, or its long-term emissions reduction trajectory (as articulated under Executive Order B-55-18[28]). This impact is considered less than significant, and no mitigation is required.

3.9.4 Mitigation Summary

Implementation of the following mitigation measure would reduce the potential for Project-related GHG impacts to less than significant.

- MM GHG-1: Purchase GHG Carbon Offsets for Construction Emissions

[28] 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?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 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?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

3.10.1 Environmental Setting

3.10.1.1 Project Location and Surroundings

The Project area is located on a coastal plain within and offshore of the incorporated community of Grover Beach, along California's central coast. The closest school to the Project site (0.20 mile), Grover Beach Elementary School, is located at 365 South 10th Street, three blocks east of South 7th Street. The closest airport is the public use Oceano County Airport, approximately 0.6 mile south of the CLS. Fire suppression services in the Project vicinity are provided by the Five Cities Fire Authority (Five Cities Fire Authority 2019).

3.10.1.2 Online Review

The California Environmental Protection Agency's Cortese List Data Resources website was searched on May 24, 2019. No listings pertaining to the Project area were found during the online review of the California Department of Toxic Substances Control Envirostor database (DTSC 2019a). The SWRCB Geotracker site did not identify any cleanup sites in Grover Beach, Pismo Beach, or Oceano (SWRCB 2015, 2019). No sites in San Luis Obispo County were identified on the SWRCB's Sites Identified with Waste Constituents above Hazardous Waste Levels Outside the Waste Management Unit (SWRCB 2018a). No sites were listed in Grover Beach for SWRCB's Cease and Desist Orders and Cleanup and Abatement Orders list (SWRCB 2018b). Additionally, no sites in San Luis Obispo 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 the California Department of Toxic Substances Control (DTSC 2019b).

3.10.2 Regulatory Setting

The term *hazardous material* is defined by the State of California, Health and Safety Code, Chapter 6.95, section 25501(o) as "any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment." Federal and state laws and regulations pertaining to hazards and hazardous materials that are relevant to the Project are identified in Appendix A. At the local level, the following policy from the Safety Element is most applicable to the Project (City of Grover Beach 2000).

- **Policy 5.2 Hazardous Materials:** Reduce the potential for exposure to humans and the environment by hazardous substances.

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?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

(a to c) Less than Significant with Mitigation.

All Project Components

The Project would involve routine transport, storage, use, and disposal of small quantities of hazardous materials during construction such as gasoline, diesel, lubricants, and solvents. The use, handling, transportation, storage, and disposal of these hazardous materials (necessary for Project-related work) would be regulated by existing laws and regulations. The Project would not create a health hazard (Figure 3.1-2), as stated in questions a), b), and c) above. Safe handling of hazardous materials would be considered during all phases of the Project construction (terrestrial and marine) to protect the public, school children, Project personnel, and the environment. The closest school is Grover Beach Elementary School at 356 South 10th street that would be 0.20 miles away from the Project-related activities (three blocks east of South 7th Street) and outside of the 1,000-foot buffer (Figure 3.1-2). The underground conduit system would be installed three blocks west of the school in the road right-of-way within South 7th Street. Project-related work for the underground conduit system would not affect Grover Beach Elementary School. The Project is not anticipated to emit any hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The emergency generators and associated diesel tanks would be installed in accordance with the California Building Standards Code. Project work vehicles would be refueled off site. The HDD machine would be refueled by a mobile fuel truck in a designated fueling area (**MM BIO-3**). At the end of construction, all disturbed areas would be returned to their natural state, leaving no potential health hazard.

The offshore vessels and both the offshore and onshore equipment may accidentally release hazardous materials (possible environmental and human exposure) from accidental petroleum (including diesel fuel) spills. Implementing **MM HAZ-1** would avoid potential impacts associated with the accidental release of hazardous substances or reduce them to a less than significant level.

MM HAZ-1 Develop and Implement Spill Contingency and Hazardous Materials Management Plans. Prior to construction, the Applicant shall develop and implement Spill Contingency and Hazardous Materials Management Plans (Plans) for onshore and offshore operations. They shall include, but not be limited to, procedures to be implemented, specific designation of the on-site person who will have responsibility for implementing the plans, on-site spill response materials/tools/equipment, and spill notification protocol and procedures. These Plans shall be submitted to the CSLC for review and approval 30 days before construction starts.

A. Terrestrial Work: Measures for terrestrial operations shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, a daily equipment inspection schedule, and spill response procedures including maintaining spill response supplies onsite.

The terrestrial Plan will identify the actions and notifications to occur if evidence of soil contamination is encountered during onshore excavation. The Applicant shall notify the County of San Luis Obispo County Environmental Health Services Division within 24 hours of discovery of contaminated materials encountered during Project construction activities. Work in the area suspected of contamination shall stop until the notified agencies, together with the Applicant, have determined the next steps.

The Plans will identify, at a minimum, implementing the following BMPs related to using hazardous substances:

- Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction
- Avoid overtopping construction equipment fuel gas tanks
- During routine maintenance of construction equipment, properly contain and remove grease and oils
- Conduct all fueling of equipment at least 100 feet from wetlands and other waterbodies
- Properly dispose of discarded containers of fuels and other chemicals
- Maintain a complete list of agencies to be notified (with their telephone number), including but not limited to, the CSLC's 24-hour emergency notification number (562) 590-5201 and the California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550.

B. Offshore Work: For offshore activities involving work vessels, the primary work vessel (dive support 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 a small powered vessel for rapid deployment to contain and clean up any small spill or sheen on the water surface. The Plans shall provide for the immediate call out of additional spill containment and clean-up resources in the event of an incident that exceeds the rapid clean-up capability of the on-site work force.

Spill response training, including the locations of spill response supplies, would be required as part of the environmental awareness training for personnel in **MM BIO-1**. **MM BIO-3** would require equipment staging and fueling areas to be delineated before construction begins to protect environmentally sensitive areas and resources. Potential impacts stemming from an inadvertent return of drilling fluid (consisting of bentonite and water) and associated mitigation measures are discussed in Section 3.4, *Biological Resources* (**MM BIO-5** and **MM BIO-6**).

Operations

During operations, no aspect of the Project would create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials; therefore, no impact would occur.

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?

No Impact.

All Project Components

As noted in Section 3.10.1, *Environmental Setting,* the California Environmental Protection Agency's Cortese List Data Resources website was searched on May 24, 2019, for potential hazardous materials and leaking underground storage tank sites in the Project area. No active hazardous materials sites were identified within the Project area during the online review for each of the databases. Because the Project is not located on a site with known hazardous materials, there would be no impact. **MM HAZ-1** identifies actions to be taken if previously unidentified, potentially hazardous materials are encountered during the Project.

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?

No Impact.

All Project Components

The closest airport to the Project area is the public use Oceano County Airport, approximately 0.6 mile south of the CLS. The Oceano County Airport has an adopted land use plan. The Oceano County Airport Land Use Plan was adopted in February 1976 and amended on May 16, 2007 (San Luis Obispo County 2007). The Project is just outside of the airport land use planning areas of the land use plan. There would be no impact because no aspect of the proposed Project would create a safety hazard or excessive noise for people residing or working in the Project area. The Project does not include any structures for human occupation. This question does not apply to the offshore Project components. No impact would occur.

***f*) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

No Impact.

All Project Components

The Project would be located within the public road right-of-way along Le Sage Drive and under Highway 1 to the east, continuing east along Brighton Avenue, then south along South 6th Street, east on Trouville Avenue, and south on South 7th Street to the CLS on the east side of Barca Street, south of Farroll Road and on private lands. The proposed construction activities would not impair implementation of, or physically interfere with, the San Luis Obispo County Emergency Operations Plan (San Luis Obispo County 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?**

No Impact.

All Project Components

Public Resources Code sections 4201–4204 direct the California Department of Forestry and Fire Protection to map fire hazards within State Responsibility Areas (SRAs), based on relevant factors such as fuels, terrain, and weather. The Project area is in the incorporated community of Grover Beach, which is not a high fire hazard severity zone (CAL FIRE 2009). Fire suppression services in the Project vicinity are provided by the Five Cities Fire Authority (Five Cities Fire Authority 2019). Most of the terrestrial Project activity would take place within the rights-of way of Le Sage Drive, Brighton Avenue, South 6th Street, Trouville Avenue, South 7th Street, and Barca Street and on private land for the CLS (Figure 2-1). These areas are within the developed portion of Grover Beach; 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. The Project would not require the use of ignition sources, except for operation of construction vehicles, and the Project is in an urbanized area. This question does not apply to the offshore Project components. Because neither people nor structures would be exposed to a significant risk of wildland fire, there would be no impact.

3.10.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to hazards and hazardous materials to less than significant.

- MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans
- MM BIO-1: Provide Environmental Awareness Training
- MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources
- MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan

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?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
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:				
i) Result in substantial erosion or siltation on or off site;	☐	☒	☐	☐
ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	☐	☒	☐	☐
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	☐	☐	☐	☒
iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.11.1 Environmental Setting

3.11.1.1 Surface Waters

Terrestrial Components

The surface water resources near the terrestrial Project components include Meadow Creek and wetlands and Oceano Lagoon just west of Highway 1, within the Oceano Dunes Natural Preserve (Figure 2-1). North of the cable landing site is the Pismo Beach Golf Course, which also includes water features. Surface drainage is conveyed by ditches and culverts. The entire Project area is within the Arroyo Grande Creek watershed. Meadow Creek flows south into Arroyo Grande Creek before flowing into the Pacific Ocean. The elevation of Meadow Creek where Le Sage Drive crosses is approximately 15 feet above mean sea level.

Arroyo Grande Creek (below Lopez Lake) is listed (Category 5) as impaired on the State's list for impaired and threatened waters (i.e., Section 303[d] list). Arroyo Grande Creek was first listed in 2010; the total maximum daily load plan to meet water quality standards is to be completed by 2027. Pollutants include (sources unknown): benthic community effects, escherichia coli (*E. coli*), fecal coliform, nickel, nitrate and toxicity (SWRCB 2016).

Marine Components

Offshore, water transport along the central portions of the California coast primarily is driven by the California Current. The California Current generally is characterized as a broad, shallow, slow-moving southward current. During winter, the California Current occasionally is displaced by the northward-moving Davidson Current. The nearshore manifestations of the California Current can vary in both speed and direction as winds, tides, and surf conditions can dramatically alter local conditions.

Along the central coast, northwest winds may blow briefly at any time of year. These winds push the surface waters offshore, allowing cold, nutrient-rich water to rise from the depths, a process called *upwelling*. Upwelling is most intense near points of land that jut out from the coast, such as Point San Luis. Point San Luis is approximately 7.5 miles northwest of the cable landing site.

3.11.1.2 Groundwater

The City of Grover Beach typically pumps approximately 1,100–1,300 acre-feet per year from four wells. The City manages its water supply so that additional groundwater pumping is reserved for years when other water supplies may be in shortfall, keeping groundwater as a local reserve. Wells No. 1, No. 2, and No. 3 are shallow wells drawing water from the Paso Robles formation; well No. 4 is a deep well drawing water from the Careaga formation (City of Grover Beach 2010a). The groundwater from the Paso Robles formation meets all state and federal standards except for nitrate concentration. In 1989, the City completed construction of an ion exchange water treatment plant designed to remove nitrates from the shallow well water. This allows the City to produce water straight from the shallow well into the water mains after it passes through the treatment plant and a chlorination station. (City of Grover Beach 2010a).

3.11.1.3 Flooding

Most of the Project area is within Federal Emergency Management Agency (FEMA) Zone X (unshaded), which is outside the 500-year floodplain and not within a FEMA special flood hazard area. These areas are of minimal flood hazard, outside the 0.2 percent annual chance floodplain. However, the areas where the underground conduit system crosses Meadow Creek and into the cable landing site are within FEMA Zone A (Figure 3.11-1). FEMA Zone A is within the 100-year floodplain zone and is a FEMA

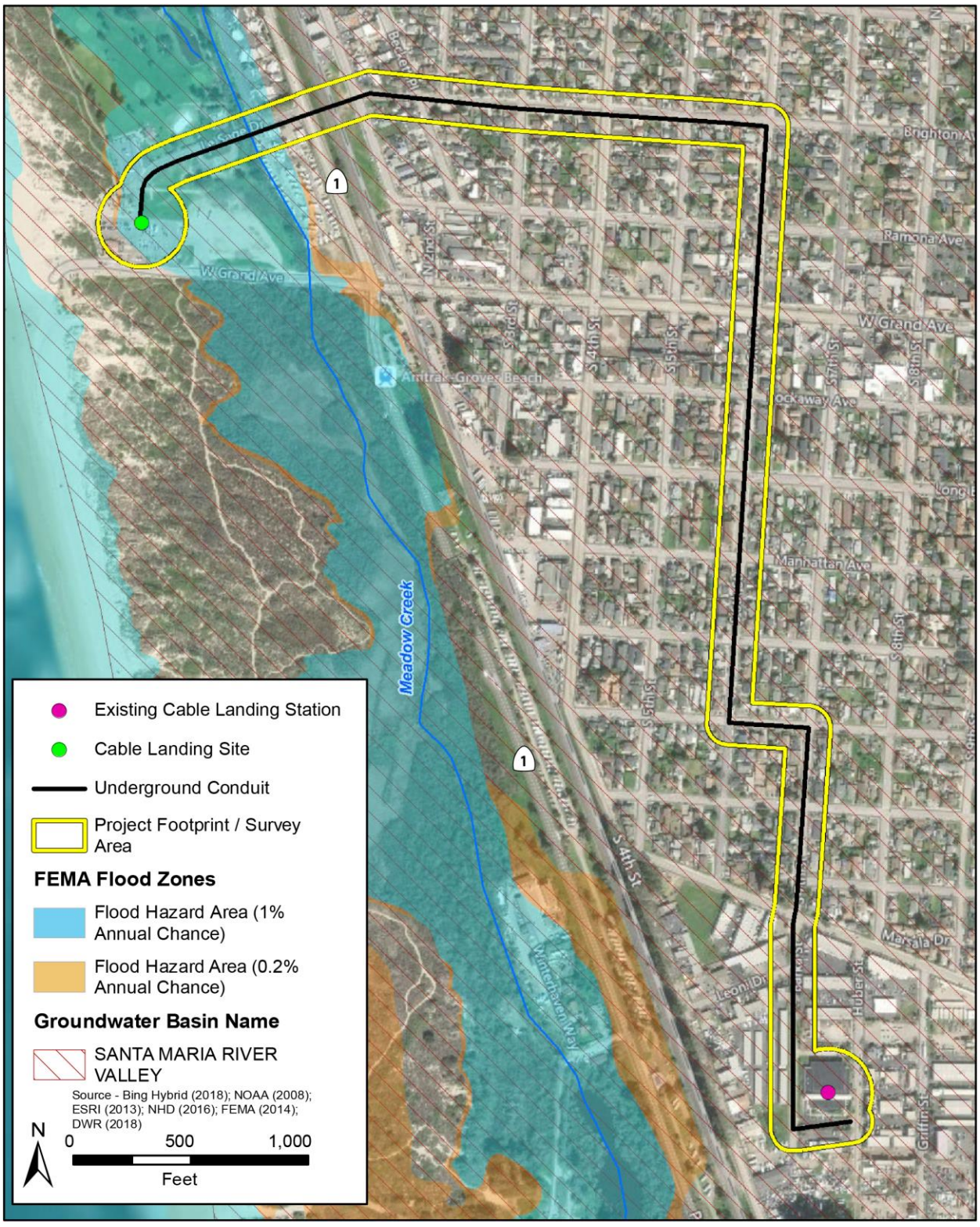
special flood hazard area. In addition, immediately adjacent to the coast is FEMA Zone VE, a 100-year floodplain zone that applies to coastal areas (FEMA 2017).

3.11.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to hydrology and water quality relevant to the Project. At the local level, the City's General Plan—Land Use, Open Space and Conservation, and Safety Elements—discusses the potential for concerns related to water quality, flooding, and erosion. The Plan includes policies to reduce impairments and safety issues. The following policies regarding hydrology and water quality are applicable to the Project.

- **Policy LU-16.8 Stormwater Quality.** The City shall require new development to protect the quality of water bodies and drainage systems through adaptive site design, stormwater management, and the implementation of best management practices (BMPs). In addition, the City will undertake long-term watershed planning and management activities in coordination with adjoining cities, San Luis Obispo County, and State Parks.
- **Policy 2.1 Flood Hazards.** The City will strictly enforce flood hazard regulations (Flood Plain Ordinance, Flood Plain Combining District, etc.), both current and revised. FEMA regulations and other requirements for the placement of structures in flood plains shall be followed. The City will maintain standards for development in flood-prone and poorly drained areas.

Figure 3.11-1. FEMA Flood Zones and Groundwater Basins



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.

All Project Components

Construction activities associated with the proposed Project include ground-disturbing activities such as HDD, trenching, backfilling, and minor grading. Ground-disturbing activities and runoff from work areas could cause soil erosion and sedimentation, reducing water quality in Meadow Creek (Figure 3.11-1). Potential impacts on water quality are related to sediment and sediment-bound pollutants that may be mobilized into drainage structures or other waterbodies. Additionally, hazardous materials (e.g., gasoline, oils, grease, and lubricants) from construction equipment could be released accidentally during construction. Accidental discharge of hazardous materials to surface waters during construction could temporarily adversely affect water quality or result in a violation of water quality standards. Contaminants from construction vehicles and equipment and sediment from soil erosion could increase the pollutant load in runoff being transported to receiving waters. Implementing **MM BIO-5** and **MM BIO-6** BMPs following best HDD practices, and implementing an inadvertent return contingency plan would reduce these impacts to less than significant levels. Erosion control BMPs would include source control measures such as wetting of dry and dusty surfaces to prevent fugitive dust emissions; preserving existing vegetation; and using 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 would include measures such as installation of fiber rolls and sediment basins to capture and remove particles that already have been dislodged.

Measures for hazardous materials management, such as identification of appropriate fueling and maintenance areas for equipment, are provided in the Develop and Implement Spill Contingency and Hazardous Materials Management Plans (**MM HAZ-1**). If contaminated material is encountered during the Project, the measure to Develop and Implement Spill Contingency and Hazardous Materials Management Plans (**MM HAZ-1**) would be implemented. The plan identifies the actions and notifications to occur if evidence of soil contamination is encountered during onshore excavation.

Excavation for the landing pipes would be 35 feet (minimum) below the beach. Shallow groundwater is likely to occur in the subsurface of the underground conduit system where trenching would be conducted. Construction dewatering in areas of shallow groundwater may be required during excavation activities, which could result in exposure of pollutants from spills or other activities and may contaminate groundwater. For water to be discharged to surface waters, the contractor would need to notify the Central Coast

Regional Water Quality Control Board and comply with the Board's requirements related to the quality of water and discharges. The Construction General Permit includes dewatering activities as authorized non-stormwater discharges, if dischargers prove the quality of water to be adequate and not likely to affect beneficial uses. The permit also includes discharge sampling, monitoring, and reporting requirements. In addition to the requirements outlined in the Construction General Permit, the Project would comply with the Waste Discharge Requirements for Discharges with Low Threat to Water Quality in the Central Coast Region (Order NO. R3-2011-0223, General NPDES NO. CAG993001). If it is found that the groundwater does not meet water quality standards, it must (1) be treated as necessary prior to discharge so that all applicable water quality objectives (as designated in the Water Quality Control Plan for the Central Coast Region [Central Coast RWQCB 2017]) are met; or (2) hauled offsite for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water.

During drilling of the bore hole, a drilling fluid (a non-toxic, inert material, typically a solution of bentonite clay and water) would be circulated. The drilling fluid minimizes fluid losses to permeable rock and soil types. To minimize the potential for release of 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 (those used for drilling from under the cable landing site to offshore, except for those lost to the surrounding subsurface material) and cuttings (natural material that is drilled through as the HDD moves forward) would be collected and disposed of at a permitted landfill. The potential for significant releases of drilling fluids into the terrestrial environment would be minimized through implementing **MM BIO-5** and **MM BIO-6**.

As discussed in Section 3.4, *Biological Resources*, some drilling fluids might inadvertently be released into the sea water. Any drilling fluids released to the marine environment through subsurface fractures likely would be dispersed rapidly by currents and wave-induced turbulence. The potential for significant releases of drilling fluids into the marine environment would be minimized through implementing **MM BIO-5** and **MM BIO-6**.

All Project activities would be subject to existing regulatory requirements. The proposed Project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Water Quality Control Plan for the Central Coast Region (Central Coast RWQCB 2017), to act in accordance with related regulatory agencies guidelines, and to meet the goals and objectives of the City's General Plan. Further, discharge of pollutants from urban runoff would be minimized with implementation of practices required by other CEQA, federal, and state requirements. Because construction and operation activities would not violate water quality standards or waste discharge requirements, impacts on water quality would be less than significant with mitigation.

During operation, no aspect of the Project would impact surface or groundwater because project components would primarily be located underground with no potential to release hazardous materials; therefore, no impact would occur.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact.

All Project Components

The Project area is within the Arroyo Grande Creek Watershed Arroyo Grande Creek groundwater sub-basin (Figure 3.11-1). The Project would add minimal areas of additional impervious surface (e.g., the LMH at the cable landing site). Recharge in the area would continue to occur through infiltration of precipitation. There is no intention to use surface water or groundwater for construction activities or Project operation, and no groundwater pumping is required. The Project's minimal use of water would not deplete or interfere with groundwater supply or recharge or impede sustainable groundwater management of the basin. Therefore, there would be no impact on groundwater supplies or recharge.

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:

i) Result in substantial erosion or siltation on or off site.

ii) Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site.

Less than Significant with Mitigation.

All Project Components

During construction, existing drainage patterns could be altered temporarily through minor grading, potentially resulting in temporary erosion. BMPs would be implemented through mitigation measures **MM BIO-5**, **MM BIO-6**, and **MM HAZ-1.**

Minimal additional impervious surface would be added as part of the Project. The Project site would remain like its existing configuration. The Project would not substantially alter the existing drainage pattern. Most construction activities would occur on paved surfaces or in the compacted soil parking lot (LMH staging area). If any trenching is used during construction, trenches would be backfilled and compacted immediately after conduit installation, and topsoil would be managed as described in Section 2.3.8.5, *Restore Terrestrial Surfaces*. In addition, standard erosion and sediment control measures and

other housekeeping best management practices (BMPs) would be implemented. As a result, surface runoff, excess soil disturbance, and soil erosion and siltation impacts would be reduced.

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

iv) Impede or redirect flood flows?

No Impact.

All Project Components

During construction, the drainage pattern of the site or area may be altered temporarily. Construction equipment would be located to minimize any potential for flood risks. The Project would install communication cables below ground. The Project would not 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. The Project would not impede or redirect flood flows. There would be no impact.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact.

All Project Components

The Project site is not located in a seiche zone. The only portion of the Project alignment within the tsunami zone is the area generally west of Highway 1 on Le Sage Drive and south of Farroll Road on Barca Street (California Emergency Management Agency et al. 2009). Most of the Project area is within FEMA Zone X (unshaded), which is outside the 500-year floodplain and not within the FEMA special flood hazard area. The underground conduit system would cross the 100-year flood hazard area where the system crosses Meadow Creek and into the cable landing site. A manhole may be placed within the 100-year floodplain; however, the underground conduit system and manhole would not store pollutants. Therefore, if Project components were inundated, pollutants would not be released. No impact would occur.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact.

All Project Components

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, implementing 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 that stormwater discharges not 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 the appropriate General Plan policies would require protection of groundwater recharge areas and groundwater resources, as required by a sustainable groundwater management plan.

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 BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities
- MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan
- MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Environmental Setting

The Project area is within and offshore of the incorporated community of Grover Beach in San Luis Obispo County. The terrestrial components of the Project west of South 5th Street are in the coastal zone according to the City of Grover Beach Official Zoning Map (City of Grover Beach 2018). The terrestrial components east of South 5th Street and along South 7th Street are not in the coastal zone.

The Project alignment and facilities would be within the following City zoning districts: Coastal Visitor Serving (CVS), Central Business Open (CBO), Central Business (CB), Public Facility (PF), High Density Residential (R3), Medium Density Residential (R2), Low Density Residential (R1), Industrial (I), and Coastal Industrial (CI).

Oceano Dunes Natural Preserve is located north and south of the CLS between Highway 1 and the Pacific Ocean; the preserve offers hiking, camping, surfing, swimming, and off-highway vehicle use (State Parks 2019b). Access to the Oceano Dunes Natural Preserve is from West Grand Avenue.

The cable landing site would be located on a private parcel (APN 060-381-010) occupied by Fin's Seafood Restaurant & Bar and parking area. Lands adjacent to the cable landing site include the Pismo Beach Golf Course and residences to the north, Highway 1, residential and commercial uses to the east, Oceano Dunes Natural Preserve to the south, and the preserve and Pacific Ocean to the west.

The 1.5-mile long underground conduit system would be within the previously disturbed rights-of-way of these roadways. Other utilities already exist within these areas, and the proposed telecommunication facilities would be built entirely underground within existing rights-of-way. Land use along the underground conduit system includes open space, commercial, residential, and industrial uses.

The privately owned existing CLS is located off Barca Street, south of Leoni Drive. Access to the site is via Barca Street from the north. Land use surrounding the CLS includes automotive, storage, telecommunication, and other commercial uses.

3.12.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to land use and planning relevant to the Project. At the local level, the Project area is under the jurisdiction of the City's General Plan and LCP. No general plan or LCP policies are specifically applicable to the Project with respect to land use and planning.

3.12.3 Impact Analysis

a) Physically divide an established community?

No Impact.

All Project Components

As described in Section 2, *Project Description*, because the terrestrial alignment would be mainly within public road rights-of-way (Le Sage Drive, Brighton Avenue, South 6th Street, Trouville Avenue, South 7th Street, and Barca Street) (Figures 2-1 and 2-3), the Project would not physically divide the community of Grover Beach.

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.

All Project Components

The Project would install communication cables below ground. The aboveground land uses would not change. The Project alignment would be co-located within existing utility rights-of-way and would not change the land use in the rights-of-way. There would be no impact. Because there would be no change in land use along the Project route, there would be no conflict with local land use policies in those locations. The Project is not within any habitat conservation plan or natural community conservation plan area.

3.12.4 Mitigation Summary

The Project would have no impacts related to land use and planning; therefore, no mitigation is required.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.13.1 Environmental Setting

There are no mineral resource areas of value to the region or residents of the state, or of local importance near the Project (Division of Mine Reclamation 2018). The closest active quarry (specialty sand) is the Oceano Sand Company (south of the Oceano Airport).

3.13.2 Regulatory Setting

Appendix A would contain federal and state laws and regulations pertaining to mineral resources relevant to the Project. At the local level, the Project area is under the jurisdiction of the City's General Plan and LCP. No General Plan or LCP policies are specifically applicable to the Project with respect to mineral resources.

3.13.3 Impact Analysis

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

(a and b) No Impact.

All Project Components

No known mineral resources exist in or near the Project area, and neither construction nor operation of the Project would hinder access to a mineral resource zone.

3.13.4 Mitigation Summary

The Project would have no impacts on mineral resource areas of regional, state, or local importance; therefore, no mitigation is required.

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?	☐	☒	☐	☐
b) Generate excessive ground-borne vibration or ground-borne noise levels?	☐	☒	☐	☐
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?	☐	☐	☐	☒

3.14.1 Environmental Setting

3.14.1.1 Existing Land Uses

Noise-sensitive land uses generally are defined as locations where people reside, or the presence of unwanted sound could adversely affect use of the land. Noise-sensitive land uses typically include single- and multi-family residential areas, health care facilities, lodging facilities, and schools. Recreational areas where quiet is an important part of the environment also can be considered sensitive to noise. Some commercial areas may be considered noise sensitive as well, such as outdoor restaurant seating areas.

Noise-sensitive land uses in the vicinity of the Project area include multiple types of residential uses and an outdoor commercial area. Near the cable landing site, the nearest noise-sensitive land uses include an outdoor dining area at Fin's Seafood Restaurant & Bar, a mobile home park, and a residential recreational vehicle park. The dining area is approximately 200 feet away from the location of the cable landing site; the recreational vehicle and mobile home parks are located approximately 600 and 750 feet from the cable landing site, respectively. The outdoor dining area at Fin's Seafood Restaurant & Bar is surrounded by a transparent, glass wall, which partially shields occupants in the dining area from external noise.

Noise-sensitive land uses near the proposed terrestrial conduit construction activities include numerous single-family residences and multi-family residences on Brighton Avenue, 6th Street, Trouvile Avenue, and 7th Street. In this area of approximately 1.5 miles of linear construction, noise-sensitive land uses are located as close as 50 feet from where construction activities will occur, and single- and multi-family residences are located throughout nearly the entire alignment.

Near the CLS, residential uses, including single-family homes, are more than 500 feet to the south, and a mobile home park is approximately 400 feet to the west.

Although Oceano Dunes SVRA is a recreational area, it is not considered noise sensitive. This recreational area frequently is used by all-terrain vehicles traveling on West Grand Avenue and then onto the sand at the beach. Because the ambient noise environment at the beach area currently is characterized by noise from relatively loud vehicles, in addition to the constant sound of waves breaking on the beach, it is not considered a noise-sensitive land use.

3.14.1.1 Existing Ambient Noise Levels

The ambient noise environment in the Project area and in the vicinity is characteristic of a suburban environment (e.g., local traffic, aircraft overflights, and residential and commercial noise sources). Vehicle traffic on local roadways and Highway 1, train noise, and aircraft overflight noise are the dominant noise sources in the area. Natural noise sources, such as bird vocalizations, leaves rustling in the wind, and waves breaking at the shoreline, also are audible in the Project area. A noise measurement survey consisting of four long-term (24-hour) and four short-term (15- to 30-minute) ambient noise measurements was conducted to quantify the existing ambient noise levels in the vicinity of the Project area. At the measurement location near the LMH, construction noise would occur for a few weeks; a longer short-term measurement was conducted at this location (30 minutes) to ensure a highly representative ambient noise measurement sample. At other locations, construction noise would occur for a much shorter duration, and measurements at these locations were conducted for 15 minutes, consistent with standard practice. The noise measurement locations included in the noise survey are shown in Figure 3.14-1. Tables 3.14-1 and 3.14-2 summarize the results of the long-term and short-term noise measurements, respectively.

Figure 3.1-2 shows the location of noise-sensitive receptors in the vicinity of the Project area. Section 3.4, *Biological Resources*, addresses noise associated with offshore work.

Figure 3.14-1. Noise Monitoring Locations

Table 3.14-1. Long-Term Noise Level Measurements in the Project Area Collected on April 30 and May 1, 2019 (24-hour measurements)

Long Term (LT) Measurement Number	Measurement Location	Measured L_{dn}
LT-1	330 Front Street, 120 feet north of Brighton Avenue	65.8
LT-2	Across from 249 6th Street (between Rockaway Avenue and Longbranch Avenue)	55.5
LT-3	441 6th Street (between Manhattan Avenue and Seabright Avenue)	60.6
LT-4	589 6th Street (between Seabright Avenue and Trouvile Avenue)	58.9

Term:
d = Day/night average sound level (the average sound level for a 24-hour period)

Table 3.14-2. Short-Term Noise Level Measurements in the Project Area Collected on May 1, 2019 (15- to 30-minute measurements)

Short-Term (ST) Measurement Number	Measurement Location	Time of Day	Primary Observed Noise Sources	Measured Noise Level (dBA)		
				L_{eq}	L_{max}	L_{min}
ST-1[a]	Fin's Seafood Restaurant & Bar (105-1 West Grand Avenue)	2:08 p.m.	Cars parking and idling, voices, bird vocalizations, leaves rustling, train noise	54.2	73.8	46.7
ST-2	223 6th Street	1:26 p.m.	Bird vocalizations, vehicle road noise, voices, distant aircraft	55.0	71.5	44.2
ST-3	744 7th Street	12:50 p.m.	Bird vocalizations, vehicle road noise, leaves rustling, distant aircraft	50.5	72.3	40.3
ST-4	Le Sage Riviera RV Park	3:02 p.m.	Vehicle road noise (Highway 1), ocean waves crashing, train noise, distant aircraft	58.1	51.1	45.9

Terms:
dBA = A weighted decibels
L_{eq} = equivalent sound level
L_{max} = maximum sound level
L_{min} = minimum sound level
Note:
[a] The duration of this measurement was 30 minutes due to its proximity to the landing manhole. The duration of all other measurements was 15 minutes.

3.14.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to noise relevant to the Project. At the local level, the City has adopted several provisions pertaining to noise standards in Article III of the City's municipal code. The noise standards govern noise-generating activity for the construction of buildings and projects and limit the maximum noise levels from construction equipment that are permitted at residential and commercial properties. The municipal code also limits the noise generated from stationary sources used on an ongoing basis (i.e., more than 10 days) and the level of vibration from equipment. Tables 3.14-3 and 3.14-4 indicate the municipal code noise restrictions for construction and stationary equipment, respectively.

3.14.2.1 City of Grover Beach Municipal Code

Sec. 3120.1 Noise: Construction of Buildings and Projects. It is unlawful within a residential zone, or within a radius of five hundred (500) feet therefrom, for any person to operate equipment or perform any outside construction or repair work on buildings, structures, or other projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device, other than between the hours of 7:00 a.m. and 7:00 p.m., Mondays through Fridays inclusive, or between the hours of 8:00 a.m. through 5:00 p.m., Saturdays and Sundays, unless a permit shall first be obtained from the Community Development Director or his or her designee. The permit shall be issued by the Community Development Director or his or her designee only if it is determined that the operation during hours not otherwise permitted hereunder is necessary and will not result in unreasonable disturbance to surrounding residents. The provisions of this section shall not apply to repairs or improvements performed by a person to property owned or leased by him as long as the provisions of Section 3120 of this chapter are complied with. (Ord. 73-1, Am. Ord. 04-07)

Sec. 3120.10 Prohibited Acts. (A) Noise Disturbances Prohibited. No person shall make, cause to be made, permit, or allow to be made any noise disturbance in such a manner as to be plainly audible at a distance of fifty (50) feet from the noisemaker.

(B) Specific Prohibitions. The acts, as set forth in subsections B 1 through B 8 of Section 3120.10, and the causing or permitting thereof, are declared to be in violation of this chapter.

(4) Construction/Demolition.

(a) Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of 10:00 p.m. and 7:00 a.m. daily therefrom creates a noise disturbance in

the City limits except for emergency work of public service utilities or by exception issued by the noise control officer.

(b) Noise Restrictions at Affected Properties. Where technically and economically feasible, construction activities shall be conducted in such a manner that the maximum noise levels at affected properties will not exceed those listed in the following schedule.

(c) Mobile Equipment. Maximum noise levels for non-scheduled, intermittent, short-term operation (less than ten days at a time) of mobile equipment:

Table 3.14-3. Construction Noise Restrictions at Affected Properties from the City of Grover Beach Municipal Code, Article III

Daily	Residential	Commercial
7:00 a.m. until 10:00 p.m.[29]	75 dBA	85 dBA
10:00 p.m. until 7:00 a.m.	Exception Permit	Exception Permit

Term:
dBA = A-weighted decibel (a measurement that accounts for the relative loudness perceived by the human ear)

(6) Stationary Equipment. Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of ten (10) days or more) of stationary equipment.

Table 3.14-4. Stationary Equipment Noise Restrictions at Affected Properties from the City of Grover Beach Municipal Code, Article III

Daily	Single-Family Residential	Multi-Family Residential	Mixed Residential/ Commercial
7:00 a.m. until 10:00 p.m.	60 dBA	65 dBA	70 dBA
10:00 p.m. until 7:00 a.m.	Exception Permit	Exception Permit	Exception Permit

Term:
dBA = A-weighted decibel (a measurement that accounts for the relative loudness perceived by the human ear)

(7) Vibration. Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty (150) feet or forty-six (46) meters from the source if on a public space or public right-of-way.

[29] As discussed above, between 7 a.m. and 7 p.m., it is unlawfulness of use construction equipment within 500 feet of a residential zone without a permit. With a permit, between 7 a.m. and 10 p.m., construction may occur, but noise shall not exceed 75 dBA in residential areas and 85 dBA in commercial areas, as shown in this table

3.14.3 Impact Analysis

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?

Construction

Less than Significant with Mitigation.

Marine Components

The Project would involve the use of marine equipment that would increase the level of noise above existing conditions. The marine-based activities would take place in the ocean, and equipment for laying cable (24 hours per day) would not be used near any human noise-sensitive land uses that could be affected. Thus, marine-based activities would not result in noise impacts on human noise-sensitive land uses. The noise impacts of marine-based activities on aquatic species are discussed in Section 3.4, *Biological Resources*; these impacts would be reduced through implementing a marine mammal monitoring program (**MM BIO-10**).

Terrestrial Components

Terrestrial construction activities would occur during day-time hours and involve noise-generating equipment (Appendix B for a list of equipment). The equipment used at the cable landing site (LMH installation, marine directional bores, OGB system installation, and marine cable pulling) would be used at the private parcel occupied by Fin's Seafood Restaurant & Bar and parking area. Activities at the cable landing site could occur for up to 42 days, which would be the time that the marine directional bore would operate and the OGB and LMH would be installed. During this time, equipment at this location would generate noise ranging from 82 to 83 dBA L_{eq} and from 87 to 88 dBA L_{max} at 50 feet. Because the cable landing site is located on a commercial land use, the City's municipal code noise restriction of 85 dBA would apply. At 50 feet, the commercial noise limit would be exceeded due to construction noise levels reaching 87–88 dBA L_{max}. Although no noise-sensitive land uses are within 50 feet of where construction equipment would operate, the municipal code could be violated, and this impact would be significant.

At 200 feet from construction activities at the cable landing site, where the outdoor dining area is located, noise levels would attenuate to 67–68 dBA L_{eq} and 72–73 dBA L_{max}. At the nearest residential land use, the mobile home park 600 feet from cable landing site construction activities, noise levels would attenuate to 57–58 dBA L_{eq} and 60–61 dBA L_{max}. As shown in Table 3.14-3, the residential and commercial construction noise restrictions are 75 and 85 dBA, respectively, and Project construction at the cable landing site is not predicted to exceed these limits at either the commercial area (i.e., Fin's

Seafood Restaurant & Bar) or at the nearest residential uses. Nevertheless, because the commercial noise limit would be exceeded at 50 feet, **MM NOI-1** would be required. Construction activity at the cable landing site would comply with **MM NOI-1**, which includes noise reduction measures to attenuate noise for compliance with the municipal code. Implementing **MM NOI-1** would reduce this impact to a less than significant level.

MM NOI-1: Construction Noise Control Plan. The Applicant shall ensure that its contractor develops a set of site-specific noise attenuation measures to ensure compliance with applicable City noise limits for the duration of the construction period. Before starting construction activities, the Applicant shall ensure that its contractor submits a Construction Noise Control Plan to the City for review and approval. Noise attenuation measures shall be identified in the Plan and implemented to meet a goal of keeping noise levels below the residential and commercial limits specified in the City's municipal code. Noise measures may include, but are not limited to, the following:

- Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- Prohibit gasoline or diesel engines from having unmuffled exhaust systems.
- Ensure that equipment and trucks for Project construction use the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds) wherever feasible. Acoustically attenuating shields would be appropriate for activities at the cable landing site, where construction will be stationary for a few weeks. According to the Federal Highway Administration, the use of shields or barriers around noise sources can reduce noise by 5 to 10 dBA, depending on the type of barrier used.
- Use "quiet" gasoline-powered or electrically powered compressors as well as electric rather than gasoline- or diesel-powered forklifts for small lifting, where feasible.
- Locate stationary noise sources, such as temporary generators, concrete saws, and crushing/processing equipment, as far from nearby receptors as possible. Muffle and enclose noise sources within temporary enclosures and shield with barriers which could reduce construction noise by as much as 5 dB;. Or implement other measures, to the extent feasible.
- Undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, such as in the late morning, the middle of the day, or early afternoon.

- In response to noise complaints received from people in the Project area, monitor the effectiveness of noise attenuation measures by taking noise measurements and adjusting the measures as necessary to reduce complaints.

Underground Conduit System Construction

Construction equipment associated with the terrestrial underground conduit system would be much closer to noise-sensitive land uses, specifically residences on Le Sage Drive, Brighton Avenue, 6th Street, Trouvile Avenue, and 7th Street. Many of these residences are directly adjacent to the roadway—as close as 50 feet or less from where Project construction work would occur. Much of the terrestrial conduit system would involve subterranean activity work, such as HDD that would be attenuated by the ground surface and likely not detectable to receptors on the surface. As discussed in Section 2, *Project Description*, the terrestrial conduit construction would involve installing intermediate manholes, at intervals of approximately 1,200 to 2,500 feet between the LMH and CLS; these manhole locations are where construction noise could affect adjacent noise-sensitive land uses. As noted above, the expected rate of manhole construction is one to two per day; in other words, manhole construction would occur at any single location for approximately one-half to a full workday. The greatest noise would be emitted during asphalt cutting, which would occur for only a few hours. Other activities associated with the conduit installation, such as cable pulling, backfilling, and surface restoration, also would involve construction work that would progress directionally, affecting any given noise-sensitive receptor for a relatively short period. Terrestrial conduit construction activities could generate noise of up to 85 dBA L_{eq} and 92 dBA L_{max} at 50 feet, which would exceed the City's residential noise restriction limits. Maximum noise could exceed the City's residential limit at distances up to 230 feet. As such, construction impacts of the terrestrial conduit would be potentially significant.

Noise impacts from installing underground conduit system would be reduced with implementation **MM NOI-1** by requiring the construction contractor to implement noise control measures to attenuate noise that could affect residents and other land uses. These measures with the temporary nature of construction activities (i.e., activities would occur for 1 day or less), would reduce the impact to a less than significant level.

Cable Landing Station

Because the telecommunications and power equipment would connect with the existing CLS, connection of the terrestrial conduit to the CLS would not require construction of new facilities or any substantial construction activities.

Operations

Less than Significant Impact.

All Project Components

After the construction period of the proposed Project is completed, no operations-related noise would occur in the marine environment. Limited permanent, operational noise would be associated with Project facilities. Back-up generators at the CLS would be used only during power loss, which is not expected to be a common occurrence, and during occasional testing. Existing generators at existing telecommunications buildings would be used for back-up power; thus, the Project would not introduce these new sources of noise. The Project is not anticipated to increase the amount of maintenance or testing activity.

A routine vehicle trip also would be required for maintenance and inspection purposes, but this monthly single trip would not noticeably affect ambient noise levels. 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.

All Project Components

Project construction would occur only during day-time hours. While the Project would require 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 also can generate noticeable ground-borne vibration. Table 3.14-5 shows the ground-borne vibration levels in terms of peak particle velocity (PPV) for equipment that could be used for Project construction activities.

Tables 3.14-6 and 3.14-7 summarize the guidelines developed by Caltrans for damage and annoyance potential from the transient and continuous vibration that usually is associated with construction activity. Activities that typically cause single-impact (transient) or low-rate, repeated impact vibration include drop balls, blasting, and the use of impact pile drivers, “pogo stick” compactors, and crack-and-seat equipment. Activities that typically generate continuous vibration include the use of excavation equipment, static compaction equipment, tracked vehicles, vehicles on a highway, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment (Caltrans 2013).

Table 3.14-5. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Caisson drilling	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Caltrans 2013
Term:
PPV = peak particle velocity

Table 3.14-6. Threshold Criteria Guidelines for Vibration Damage Potential

Structure and Condition	Maximum PPV (inches per second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans 2013
Term:
PPV = peak particle velocity
Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 3.14-7. Criteria Guidelines for Vibration Annoyance Potential

Human Response	Maximum PPV (inches per second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans 2013
Term:
PPV = peak particle velocity
Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

At 25 feet, which likely would be the closest distance from construction activities to a residence, the vibration levels generated by construction equipment would be approximately 0.089 inch per second for the equipment with the greatest potential for ground-borne vibration (e.g., a drill rig used to bore under the ground surface). At 25 feet, vibration would be more than distinctly perceptible but less than strongly perceptible, based on the human response values in Table 3.14-7. Beyond 40 feet, ground-borne vibration would attenuate to levels that are less than distinctly perceptible; and at 80 feet and greater, vibration would not be perceptible. Construction activities within 80 feet of sensitive land uses may result in a violation of the City's municipal code, because the municipal code prohibits the operation of any device that creates a vibration above the perception threshold of an individual at the property line. Implementing **MM NOI-2** to establish a designated complaint coordinator in conjunction with the short time that vibration would affect any single location would reduce the impact to less than significant.

MM NOI-2: Construction Vibration Notification and Disturbance Coordinator. The Applicant will provide advance written notification (via flyer) 15 days prior to the start of proposed construction activities to all residences and other sensitive uses within 80 feet of the construction site. Notification will include a brief overview of the Project and its purpose, proposed construction activities, schedule, and name and contact information of the Project manager or another designee responsible for ensuring that reasonable measures are implemented to address complaints received.

The Applicant shall designate a representative to act as a construction vibration disturbance coordinator responsible for resolving construction vibration concerns. They will be available during regular business hours to monitor and respond to concerns. If construction hours are extended, they also will be available during the extended hours. If a vibration complaint is received, they will be responsible for determining the cause of the complaint and ensuring that all reasonable measures are implemented to address the problem.

Damage to buildings or structures during construction is not anticipated, because no extremely fragile historic buildings, ruins, or ancient monuments are in the Project area. This damage could happen if exposed to vibration levels of 0.089 inch per second. After construction activities are completed, permanent ground-borne vibration would not occur. Occasional use of emergency back-up generators could generate some ground-borne vibration at the CLS facilities; however, the Project would use existing generators, and generator use is expected to be limited to infrequent testing and times of power loss.

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.

All Project Components

No private airstrips are in the vicinity of the Project site. The closest airport to the Project site is Oceano County Airport, located approximately 0.6 mile south of the southern terminus of the Project (and approximately 1.3 miles south of the LMH area). This airport is owned by the County of San Luis Obispo and is the only airport located within 2 miles of the Project footprint. The Project area is not located within the most affected areas from single-event aircraft noise levels, which are those areas within the 65-dB, 75-dB, and 85-dB noise contour lines resulting from airport operations. The Airport Land Use Commission has mapped these noise contour lines in the Airport Land Use Plan (San Luis Obispo County 2007). The Project is located outside of the 65-dB noise contour line and thus would not be substantially affected by single-event noise levels from the airport. Aircraft activity at the airport would not be expected to expose persons to excessive noise levels. No impact would be related to excessive aircraft noise from public airports or private airstrips.

3.14.4 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts associated with noise to less than significant:

- MM NOI-1: Construction Noise Control Plan
- MM NOI-2: Construction Vibration Notification and Disturbance Coordinator
- MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan

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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.15.1 Environmental Setting

The Project would be in the primarily developed portion of Grover Beach with an estimated population of 13,156 in 2010 and 13,524 in 2017 (U.S. Census Bureau 2018).

3.15.2 Regulatory Setting

No federal or state laws relevant to population and housing apply to the Project. Implementing the Project would not involve acquisition of any property or relocation of any existing residents, businesses, or other uses. 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)?

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

(a and b) No Impact.

All Project Components

The Project would not directly or indirectly induce population growth or displace anyone. A maximum of 10 people would be working on Project construction at any one time and staying in the temporary (rental) housing or hotel amenities.

3.15.4 Mitigation Summary

The Project would have no impacts on population and housing; therefore, no mitigation is required.

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?	☐	☐	☒	☐
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.16.1 Environmental Setting

The City would provide most of the services since the Project is in Grove Beach. Fire suppression services would be provided by the Five Cities Fire Authority (Five Cities Fire Authority 2019). The City has a mutual aid agreement with local area fire service providers, which includes Oceano, Arroyo Grande, and Pismo Beach, and with CAL FIRE. The fire station is located at the corner of 7th Street and Rockaway Avenue.

Law enforcement would be provided by the Grover Beach Police Department, located at 711 Rockaway Avenue in Grover Beach. Services include responding to emergency and non-emergency incidents related to crimes, nuisances, traffic, municipal code violations, animal complaints, and various other activities. The Department has a mutual aid agreement with the City of Arroyo Grande and Pismo Beach, as well as with the County Sheriff's Department and California Highway Patrol. These agencies may be called upon for back-up assistance.

The Lucia Mar Unified School District encompasses the Project area and operates three elementary schools in Grover Beach (California Department of Education 2019). The closest school to the Project site, Grover Beach Elementary School, is located at 365 South 10th Street, three blocks east of South 7th Street.

Pismo Beach Golf Course is located north of the CLS on the west side of Sheridan Road. Oceano Dunes Natural Preserve is located north and south of the CLS between Highway 1 and the Pacific Ocean; the preserve offers hiking, camping, surfing, swimming, and off-highway vehicle use (State Parks 2019b). Access to the Oceano Dunes Natural Preserve is from West Grand Avenue. The closest City parks near the Project site include Ramona Garden Park at the northwest corner of Ramona Avenue and South 10th Street and Menton Basin Park at the northeast corner of South 14th Street and Menton Avenue.

3.16.2 Regulatory Setting

Appendix A contains federal and state laws and regulations pertaining to public services relevant to the Project. At the local level, the City's 2000 General Plan Safety Element includes goals and policies regarding fire protection and law enforcement (City of Grover Beach 2000). The City's General Plan Land Use Element includes goals and policies regarding school and public facility needs (City of Grover Beach 2012b). 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 of the public services:

Fire Protection?

Less than Significant Impact.

All Project Components

In the event of an emergency at any of the terrestrial sites, the Five Cities Fire Authority would provide fire protection or other emergency services with a minimal response time. The existing CLS would contain fire suppression equipment in an enclosed structure (Figure 2-5).

Police Protection? Schools? Parks? and Other Public Facilities?

No Impact.

All Project Components

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. Since there the Project would not bring new permanent residents, there would be no demand for schools, parks, and other public facilities.

3.16.4 Mitigation Summary

The Project would not result in significant impacts on public services; therefore, no mitigation is required.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Would the project interfere with existing use of offshore recreational boating opportunities?[30]	☐	☒	☐	☐

3.17.1 Environmental Setting

Refer to Section 3.16.1, *Environmental Setting,* in the Public Services resource area above for information on recreational facilities and resources in the Project vicinity. Clamming is a popular recreational activity along the beach in the Project area and is permitted year-round. The Pismo clam populations inhabiting Pismo State Beach are a significant economic, recreational, and natural resource (City of Grover Beach 2014a).

3.17.2 Regulatory Setting

Appendix A contains federal and state laws and regulations pertaining to recreation relevant to the Project. At the local level, no goals, policies, or regulations related to recreation are applicable to the Project because of its location and the nature.

3.17.3 Impact Analysis

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?

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?

(a and b) No Impact.

[30] The CSLC has chosen to analyze this impact in addition to the impact analyses set forth in CEQA Guidelines Appendix G. Although use of the Appendix G checklist meets the requirements for an initial study, "public agencies are free to devise their own format." (State CEQA Guidelines § 15063, subd. (f).)

All Project Components

No recreational facilities or residential would be used or built. No access to any terrestrial recreational sites would be hindered. Construction workers staying in the area during non-working days could make occasional use of the area's recreational opportunities.

Would the project interfere with existing use of offshore recreational boating opportunities?

Less than Significant with Mitigation.

No aspect of the Project would affect clamming in Grover Beach (clams' normal access depths of less than 20 feet) because none of the Project components would be within the tidal zone or along the beach (Figure 2-2). The Offshore recreational activities (e.g., pleasure boating, recreational fishing, and kayaking) may be impacted for a short period in the immediate offshore area during cable laying activities. The affected area would be minimal, and users would have advance notice by implementing **MM REC-1**.

MM REC-1: Advanced Local Notice to Mariners. All offshore operations shall be described in a Local Notice to Mariners to be submitted to the U.S. Coast Guard (USCG) at least 15 days before offshore cable laying activities or repair activities. A copy of the published notice shall be immediately provided to CSLC. The notice shall include:

- Type of operation (i.e., dredging, diving operations, construction)
- Specific location of operation or repair activities (including whether there is a possibility of exposed cable), including latitude and longitude and geographical position, if applicable
- Estimated schedule of activities (operation or repair), 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

3.17.4 Mitigation Summary

Although the Project would not affect recreational facilities, implementation of the following mitigation measure would reduce the potential for Project-related impacts on offshore recreation to less than significant.

- MM REC-1: Advanced Local Notice to Mariners

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?	☐	☐	☐	☒
b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☐	☒

3.18.1 Environmental Setting

3.18.1.1 Onshore Transportation

The Project is in the incorporated community of Grover Beach (Figure 2-1). San Luis Obispo County generally is served by a multimodal transportation system comprised of a highway system, county roads, local roads, bicycle and pedestrian facilities, rail system, and airport facilities. Highway 1 is a predominately two-lane California highway that runs north-south along the Pacific coast and merges with U.S. Highway 101 several times along the central California coast; Highway 1 serves as a two-lane arterial in the City of Grover Beach. U.S. Highway 101 is a major north-south U.S. Highway; and in Grover Beach, U.S. Highway 101 is a four-lane highway that merges with Highway 1 north of the City. West Grand Avenue is a two-lane road that accesses Pismo State Beach and the Oceano Dunes SVRA. Le Sage Drive, Brighton Avenue, South 6th Street, Trouville Avenue, South 7th Street, and Barca Street are two-lane roadways.

Level of service (LOS) is a ranking used for traffic flow. LOS ranges from A to F, with A indicating very good free-flowing traffic operations and F indicating stop-and-go conditions. The City of Grover Beach General Plan Circulation Element, Policy 1.2, Program 1.2.3 states that “the City shall maintain a minimum traffic operating Level of Service of “C” on all City transportation facilities” (City of Grover Beach 2005). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that lead agencies consult with Caltrans to determine the appropriate target LOS. Traffic Volumes on California State Highways (Caltrans 2016) identifies a LOS of C for Highway 1, for both the base year and the horizon year.

Sidewalks are located along most of the Project alignment from the cable landing site to the CLS. There is no sidewalk on Barca Street or a few parcels along South 6th Street. Highway 1 is designated legislatively as the Pacific Coast Bike Route. Highway 1 has shoulders of ample width for bikes in both directions, and north of the intersection with Le Sage Drive bike lanes are marked. The UPRR runs adjacent to Highway 1 to the east. The closest airport is the public use Oceano County Airport, approximately 0.6 mile south of the CLS. Transit service is provided by the San Luis Obispo Regional Transit Authority with their RTA and SoCo bus routes. Near the Project site, SoCo Routes 21 and 24 are accessed via bus stops at Highway 1 and Le Sage Drive, and SCAT Route 23 serves the Grand Avenue and 4th Street intersection.

3.18.1.2 Offshore Transportation

There are no bays or marinas in the immediate Project vicinity; however, San Luis Obispo Bay is several miles northwest of the Project site. Port San Luis (7.7 miles northwest of the cable landing site) in San Luis Obispo Bay includes vessel launching facilities. Shipping lanes along the California coast are generally 4 to 20 nm offshore. Members of the Western States Petroleum Association voluntarily keep laden vessels a minimum of 50 nm from the shoreline (Oil & Gas Journal 1992).

3.18.2 Regulatory Setting

Appendix A contains federal and state laws and regulations pertaining to transportation relevant to the Project. The City does not include any policies or programs within the Circulation Element associated with short-term construction projects.

3.18.3 Impact Analysis

a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

No Impact.

<u>All Project Components</u>

The Project would not result in changes to the traffic volume on Highway 1, Le Sage Drive, South 6th Street, South 7th Street, or Barca Street and therefore would not conflict with established measures of effectiveness stated in a plan, ordinance, or policy.

b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?

Less than Significant with Mitigation.

Terrestrial Components

CEQA Guidelines section 15064.3(b) indicates that VMT is the most appropriate measure for transportation impacts. In December 2018, the Governor's Office of Planning and Research provided an updated Technical Advisory to evaluate transportation impacts in CEQA. In particular, the advisory suggests that a project generating or attracting fewer than 110 one-way trips per day generally may be assumed to cause a less than significant transportation impact (OPR 2018).

Transportation of workers, materials, and equipment to and from the Project area would generate vehicle trips. Terrestrial and nearshore construction would occur during daylight hours between 7:00 a.m. and 7:00 p.m., Mondays through Fridays inclusive, or between 8:00 a.m. through 5:00 p.m., Saturdays and Sundays. Installing landing pipes and cable pulling would require up to 48 hours of continuous work at the cable landing site. The Applicant would obtain an encroachment permit from Caltrans and coordinate traffic control with Caltrans and the City of Grover Beach. Standard traffic, pedestrian, and bicycle control measures, such as installing signage and using flaggers, would be implemented to minimize disturbance to traffic flow.

Most traffic related to terrestrial activities would travel along Highway 1. Approximately 30 tractor-trailer loads of construction equipment and materials would be delivered directly to the staging areas when starting construction. In addition, one fuel truck would make a daily delivery of fuel. There would be about three deliveries of materials and supplies weekly. Based on conservative worker estimates, the Project would create an estimated total of 10 trips per day from local residences or hotels where construction workers would stay, 5 tractor-trailer trips per day, and 1 fuel and miscellaneous delivery trip per day. This would total 16 trips per day during construction, primarily on Highway 1. This increase in vehicles on local roadways, primarily Highway 1, would not reduce the existing LOS designation. Considering the capacity of Highway 1 and local roads, the estimated numbers of Project trips, and coordination with Caltrans and the City of Grover Beach as needed for traffic control, the Project is not expected to significantly affect local traffic congestion. In addition, the peak trips that would occur in any one day is, significantly below the number identified in the Technical Advisory's guidance.

During operation, it is anticipated that there would be one monthly trip (i.e., 12 trips per year) for inspections; therefore, the impact would be less than significant.

Marine Components

Cable laying and plowing, as described in detail in Section 2, *Project Description*, could interfere with local marine vessel traffic, including commercial and recreational fishing operations (Section 5.2, *Commercial and Recreational Fishing*). To minimize interference and conduct safe marine construction, the work would be conducted in accordance with the Applicant's proposed Marine Anchor Plan (**APM-2**), which would be included with the

Contractor Work Plan. The Applicant would file an advanced local notice (**MM REC-1**) with the USCG to inform local mariners of Project activities since the USCG is responsible for maintaining aids to navigation and safe waterways. The notice would include information such as type, duration, and location of operations and a phone number for a point of contact for the Project. Implementing **APM-2** and **MM REC-1** would minimize impacts on marine vessel traffic to less than significant with mitigation.

APM-2: Marine Anchor Plan. At least 30 days before starting construction, the Applicant will submit a Marine Anchor Plan to CSLC staff for review with the following:

- Map of the proposed acceptable anchor locations and exclusion zones or offshore temporary anchoring or mooring for work vessels.
- 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 ocean bottom is not allowed.
- Coordinates of all dropped anchor points during construction shall be recorded and included on the post construction seafloor survey map.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

d) Result in inadequate emergency access?

(c and d) No Impact.

All Project Components

The Project does not include any design features or introduce incompatible uses that would increase hazards on local roadways. The primary access to the terrestrial facilities and locations would be accomplished from Highway 1 to public roads (Figure 2-1). Traffic would be controlled and coordinated with Caltrans and the City of Grover Beach. Traffic control would conform to the specifications of these jurisdictions. Emergency access along the surface streets would be maintained during Project construction, staging, and access activities (Figure 2-1). 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 less than significant.

- MM REC-1: Advanced Local Notice to Mariners
- APM-2: Marine Anchor Plan

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?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

3.19.1 Environmental Setting

The City of Grover Beach operates, maintains, cleans, and repairs the city's water, sanitary sewer, and stormwater systems. Solid waste collection and disposal are managed by the San Luis Obispo County Integrated Waste Management Association. Garbage and recycling in Grover Beach are collected by South County Sanitary Service, and trash is conveyed to the Cold Canyon Landfill north of Grover Beach. Electricity for the county is provided by PG&E, and natural gas is provided by the Southern California Gas Company.

3.19.2 Regulatory Setting

Appendix A contains the federal and state laws and regulations pertaining to utilities and service systems relevant to the Project. At the local level, the following policy regarding utilities and service systems is applicable to the Project.

- **Policy LU-13.1 Land for Public Facilities:** The City shall designate adequate, appropriately located land for City, County, School District, and health care facilities.

3.19.3 Impact Analysis

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?

No Impact.

All Project Components

The Project does not involve construction of new water or wastewater treatment facilities. The Project would not create any new stormwater sources or require construction of new stormwater drainage, electric power, telecommunication, or natural gas facilities. Therefore, there would be no impact.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

No Impact.

All Project Components

Water would be used during construction for the boring machine, dust suppression, and drinking water. Project activities would occur at onshore staging or work areas as well as onboard Project vessels. Water required for personal consumption and sanitary purposes would be minimal. Supplies would be portable and brought onsite for the duration of 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.

All Project Components

The Project would not generate wastewater that would require treatment by the City's sanitary sewer system. 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.

All Project Components

Waste generated by the Project would include general construction waste, ocean floor 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 South County Sanitary's website, solid waste in Grover Beach is exported for disposal to the Cold Canyon Landfill (South County Sanitary 2019). The Cold Canyon Landfill has a remaining capacity of 14.5 million cubic yards and a cease operations date of December 2040 (California Department of Resources Recycling and Recovery 2019). 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 Project Components

All debris associated with construction and operations 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 Cold Canyon Landfill or diverted to recycling facilities. The impact would be less than significant.

3.19.4 Mitigation Summary

The Project would not result in significant impacts on utilities or service systems; therefore, no mitigation is required.

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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.20.1 Environmental Setting

San Luis Obispo County implements an Emergency Operations Plan (San Luis Obispo County 2016), which addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies within or affecting San Luis Obispo County. The Project area is in the incorporated community of Grover Beach and is not located in a high fire hazard severity zone (CAL FIRE 2009). Fire suppression services in the Project vicinity are provided by the Five Cities Fire Authority (Five Cities Fire Authority 2019).

3.20.2 Regulatory Setting

Appendix A contains the relevant federal and state laws and regulations pertaining to wildfire relevant to the Project. At the local level, the City's 2000 General Plan includes the following goals and policies regarding fire protection (City of Grover Beach 2000):

- **Goal 3 (Safety).** Reduce the threat to life, structures and the environment caused by fire.
- **Policy 3.1 Pre-Fire Management.** New development should be designed and constructed to minimize urban fire hazards, with special attention given to adequate access to fire hydrants.

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?

(a to d) No Impact.

All Project Components

There would be no impact since Project would include buried cable infrastructure and equipment located inside an existing building. The Project area is not classified as a high or very high fire hazard severity zone. Construction would be a temporary activity; an active working crew would control any potential combustible materials though standard Occupational Safety and Health Administration worker protection requirements. 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 back-up generators would be located on concrete pads and operated only during testing; thus, the generators would not cause fire risks. The fiber optic cables would be installed underground and would be grounded, which would prevent the potential for electrical shorts or arcing. Project operations would not hinder any potential emergency response (Section 3.16, *Public Services*) or impair an adopted emergency response plan or emergency evacuation plan.

3.20.4 Mitigation Summary

The Project does not have the potential to affect adopted emergency response or evacuation plans, or to exacerbate wildfire risks; therefore, no mitigation is required.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where prior to commencement of the environmental analysis, a project proponent agrees to mitigation measures or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effects, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per State CEQA Guidelines, § 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?	☐	☒	☐	☐
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.)	☐	☒	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.21.1 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.

All Project Components

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 implementing **MM BIO-1** through **MM BIO-13**, 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 **MM CUL 1/TCR-1**, **MM CUL-2/ TCR-2**, **MM CUL-3**, **MM CUL-4**, **CUL-5**, and **MM CUL-6/TCR-3** would reduce the potential for Project-related impacts on previously undiscovered cultural 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 with Mitigation.

All Project Components

No past, current, or reasonably foreseeable project in the community of Grover Beach could be individually limited but cumulatively considerable with the addition of the proposed Project. As provided in this MND, the Project has the potential to significantly affect the following environmental disciplines: Biological Resources, Cultural Resources, Cultural Resources – Tribal, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, and Transportation. 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.

All Project Components

The Project's potential to adversely affect human beings is addressed throughout this document. As discussed in sections on Aesthetics (Section 3.1) and Public Services (Section 3.16), the Project would not affect resources used or enjoyed by the public, residents, or others in the Project area. The Project would not affect Agriculture or Forestry Resources (Section 3.2), Energy (Section 3.7), Land Use and Planning (Section 3.12), Mineral Resources (Section 3.13), Population and Housing (Section 3.15), or Utilities and Service Systems (Section 3.20).

Potential Project-related effects on public safety and well-being are discussed in sections on Air Quality (Section 3.3, **MM AQ-1, MM AQ-2**, and **MM AQ-3**); Cultural Resources (Section 3.5, **MM CUL 1/TCR-1**, **MM CUL-2/TCR-2, MM CUL-3**, **MM CUL-4**, **MM CUL-5**, and **MM CUL-6/TCR-3**); Cultural Resources – Tribal (Section 3.6, **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2**, and **MM CUL-6/TCR-3**); Geology, Soils, and Paleontology (Section 3.8); Greenhouse Gas Emissions (Section 3.9, **MM GHG-1**); Hazards and Hazardous Materials (Section 3.10**, MM HAZ-1**, **MM BIO-1**, **MM BIO-3**, **MM BIO-5**, and **MM BIO-6**); Hydrology and Water Quality (Section 3.11, **MM BIO-5**, **MM BIO-6**, and **MM HAZ-1**); Noise (Section 3.14, **MM NOI-1**, **MM NOI-2**, and **MM BIO-10**); Recreation (Section 3.17, **MM REC-1**); Transportation (Section 3.18, **MM REC-1**); Utilities and Service Systems (Section 3.19); and Wildfire (Section 3.20).

None of these analyses identified a potential adverse effect on human beings that could not be avoided or minimized through implementing identified mitigation measures or compliance with standard regulatory requirements. With mitigation in place, all Project impacts on human beings would be less than significant.

4.0 MITIGATION MONITORING PROGRAM

The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the RTI Infrastructure, Inc. Grover Beach Subsea Fiber Optic 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 § 21081.6, subdivision (a) and State CEQA Guidelines §§ 15091, subdivision (d), and 15097.

The Project authorizes RTI Infrastructure, Inc. (Applicant or RTI) to build infrastructure in terrestrial and marine areas in and offshore of Grover Beach in San Luis Obispo County to connect a total of 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 an MMP is to confirm compliance and implementation of MMs; this MMP will 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 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 City of Grover Beach. 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 onsite 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, some 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 Air Quality; Biological Resources; Cultural Resources; Cultural Resources– Tribal; Greenhouse Gas Emissions; Hazards and Hazardous Materials; Hydrology and Water Quality; Noise; Recreation; and Transportation. In addition, applicant proposed measures (**APM-1** and **APM-2**) for commercial fisheries are included in the table. 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 (e.g., before, during, or after construction; during operation)
- Responsible Party (entity responsible to ensure MM compliance)
- Effectiveness Criteria (how the agency can determine whether the measure is effective)

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Air Quality						
Increase of any criteria pollutant for which the Project region is non-attainment	**MM AQ-1: Standard Control Measures for Construction Equipment.** The following SLOAPCD standard air quality MMs shall be implemented during terrestrial construction. Note that measures less stringent than those required by **MM AQ-2** have been removed from the list. • Maintain all construction equipment in proper tune according to manufacturer's specifications. • Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road). • All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and job sites to remind drivers and operators of the 5-minute idling limit. • Diesel idling within 1,000 feet of sensitive receptors is not permitted. • Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors. • Electrify equipment when feasible. • Substitute gasoline-powered in place of diesel-powered equipment, where feasible. • Use alternatively fueled construction equipment onsite where feasible, such as compressed natural gas (CNG),	Terrestrial Project area	Implement SLOAPCD standard air quality MMs during construction	Implementing MM will reduce air quality impacts during construction	Applicant and CSLC	During construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	liquefied natural gas (LNG), propane, or biodiesel.					
Increase of any criteria pollutant for which the Project region is non-attainment (cont.)	**MM AQ-2: Best Available Control Technology.** Diesel construction equipment used during terrestrial construction shall be equipped with Tier 3 or Tier 4 CARB-certified off-road engines and 2010 on-road-compliant engines.	Terrestrial Project area	Construction equipment equipped with BACT	Implementing MM will reduce air quality impacts during construction	Applicant and CSLC	During construction
Increase of any criteria pollutant for which the Project region is non-attainment (cont.)	**MM AQ-3: Fugitive Dust Mitigation.** The following SLOAPCD fugitive dust MMs shall be implemented during terrestrial construction: • Reduce the amount of the disturbed area, where possible. • Use water trucks or sprinkler systems to prevent airborne dust from leaving the site. If wind speeds are more than 15 miles an hour, water more often. Use reclaimed (non-potable) water whenever possible. • Spray all dirt stockpile areas everyday as needed. • Implement permanent dust control measures identified in the approved Project revegetation and landscape plans as soon as possible once soil-disturbing activities are finished. • Exposed ground areas that are planned to be reworked at dates greater than 1 month after initial grading should be sown with a fast-germinating, non-invasive grass seed, and watered until vegetation is established.	Terrestrial Project area	Implement SLOAPCD fugitive dust MMs during construction	Implementing MM will reduce air quality impacts during construction	Applicant and CSLC	During construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD. • All roadways, driveways, and sidewalks to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Do not drive any construction vehicles more than 15 miles per hour on any unpaved surface at the construction site. • Cover or maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) on all trucks hauling dirt, sand, soil, or other loose materials in accordance with California Vehicle Code section 23114. • Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site. • Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible. • Show all of these fugitive dust MMs on grading and building plans. • Designate a person or persons (by the contractor or builder) to monitor the					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	fugitive dust emissions and enhance implementing measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity (cloudiness), and prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork, or demolition.					
Expose sensitive receptors to substantial pollutant concentrations	Implement **MM AQ-1: Standard Control Measures for Construction Equipment** (see above) Implement **MM AQ-2: Best Available Control Technology** (see above) Implement **MM AQ-3: Fugitive Dust Mitigation** (see above)					
Biological Resources						
Impacts on special-status species and habitats	**MM BIO-1: Provide Worker Environmental Awareness Training.** The Applicant shall provide an environmental awareness training before starting construction activities for all construction personnel (including new personnel as they are added to the Project) working on the terrestrial and marine Project components. This training would be given by biological monitors and cultural monitors (approved by CSLC staff) to help the trainees understand the following: • Surrounding common and special-status species and their habitats • Applicable regulatory requirements	Terrestrial Project area	Training materials approved by CSLC staff 30 days before start of construction On-site monitor to submit list of trained personnel and training materials to CSLC after construction	Implementing MM will educate construction workers regarding special-status species and habitat	Applicant and CSLC	Before, during, and after construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• MMs designed to avoid or minimize impacts on sensitive resource areas The training materials shall be developed and approved by the CSLC staff at least 30 days before starting Project activities in the terrestrial and marine work areas. The biological monitors shall maintain a list of all contractors who have been trained and shall submit this list and the final training material to CSLC staff within 30 days after construction starts and after construction is completed. The lead environmental monitor shall be the main contact for reporting any special-status species observed in or near the Project area by any employee or contractor. The Applicant shall provide the contact information for the lead environmental monitor and the biological monitors to on-site construction workers, USFW, CDFW, and CSLC staff before construction starts.					
Impacts on Special-Status Species and Habitats (cont.)	**MM BIO-2: Conduct Biological Surveying and Monitoring.** A biological monitor (typically with a college degree in a field of biology or environmental science, knowledge of species surveying for, and experience with pre-construction and construction monitoring), approved by CSLC staff, shall be present onsite to survey the work area for special-status wildlife species (e.g., California red-legged frog, western pond turtle, northern California legless lizard, Blainville's horned lizard, and two-striped garter snake) and nesting birds (as applicable)	Terrestrial Project area	On-site monitor to verify Submit daily monitoring report for work within CSLC's jurisdiction and weekly report for work outside CSLC's jurisdiction	Implementing MM will reduce the potential for impacts on special-status species and habitat	Applicant and CSLC	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	prior to starting work in the terrestrial work area to minimize potential impacts on any special-status species or other wildlife that may be present during Project construction. The biological monitor shall be onsite at all times during Project construction for all work west of the UPRR in and adjacent to natural habitats and not during work occurring east of the UPRR on city streets in developed areas. 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 biological monitor), the biological monitor 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 protect the special-status species. Construction monitoring reports for work under CSLC's jurisdiction shall be submitted daily and for work outside of the CSLC's jurisdiction shall be submitted weekly.					
Impacts on Special-Status Species and Habitats (cont.)	**MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources.** Natural areas outside the construction work area shall not be disturbed. Before starting Project construction, the following areas shall be staked and flagged by the biological monitor (**MM BIO-2**), in coordination with the CSLC, and inspected throughout	Terrestrial Project area	On-site monitor to verify in coordination with CSLC	Implementing MM will reduce the potential for impacts on special-status species and habitat	Applicant and CSLC	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	construction to ensure that they are visible for construction personnel: • Identify construction work area limits at the cable landing site. • Delineate bore pits and staging area (for equipment and fueling), and site these areas at least 100 feet from Meadow Creek. • Mark areas using stakes and flags to identify environmentally sensitive areas (Meadow Creek and associated wetland and riparian communities) that would remain marked during construction.					
Direct Impacts on Sensitive Biological Resources	**MM BIO-4: Install Metal Covers or Some Kind of Escape Ramps in Open Trenches.** To prevent accidental entrapment of wildlife species during construction, all excavated holes and trenches that will be left open overnight shall have a metal cover or some kind of soil ramp installed, allowing wildlife an opportunity to exit. If escape ramps are installed, a biological monitor or the construction inspector (for work in developed areas east of the UPRR) shall inspect excavations before starting construction each day to confirm that no wildlife species are entrapped or to remove wildlife species that are unable to escape on their own. Any wildlife handling will be conducted under the biological monitor's applicable collection permit or as authorized by the appropriate wildlife agency. If a biological monitor is not present, the lead environmental monitor	Terrestrial Project area	On-site monitor to inspect daily before starting construction	Implementing MM will reduce the potential for impacts on special-status species and habitat	Applicant and CSLC	During construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	for the Project would be contacted immediately to determine the appropriate course of action.					
Impacts from Horizontal Directional Drilling Activities	**MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities.** A. When using the large marine HDD equipment to install landing pipes, the following shall be submitted to CSLC staff for review at least 60 days before starting construction: • Engineering design drawings for construction certified by a California-registered Civil/Structural Engineer. • A site-specific geotechnical report certified (stamped, signed, and dated) by a California-registered Geotechnical Engineer, including boring logs and any geotechnical recommendations (including, but not limited to, identification of reasonably foreseeable risks during HDD installation and proposed risk mitigations) for safe HDD installation. • If HDD is under CSLC jurisdiction, a minimum depth of 35 feet is required unless a shallower depth is recommended by a California-registered Geotechnical Engineer. B. When using small HDD equipment to install the underground conduit system, do the following to reduce possible environmental impacts: • Engineering design drawings for the underground conduit system	Terrestrial Project area	Submit geotechnical report to CSLC 60 days before starting construction On-site monitor to verify BMPs during construction	Implementing MM will reduce the potential for impacts on special-status species and habitat	Applicant and CSLC	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	construction would be certified by a California registered Civil/Structural Engineer. • Prevent the underground conduit from becoming exposed by natural scour of the streambed by boring a minimum of 5 feet below the streambed of Meadow Creek. • Locate drill entry and exit points far enough from the banks of Meadow Creek to minimize impacts on the creek system. • Avoid removal of riparian vegetation along Meadow Creek 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)	**MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan.** A Final Inadvertent Return Contingency Plan for the large and small HDD including the following objectives shall be submitted to CSLC staff for review at least 30 days before starting construction: • Measures to stop work, maintain appropriate control materials onsite, contain and remove drilling mud before demobilization, prevent further migration of drilling mud into the stream or waterbody, and notify all applicable authorities. • Control measures of constructing a dugout/ settling basin at the bore exit site to contain drilling mud to prevent sediment and other deleterious substances from entering waterbodies.	Terrestrial Project area	Submit Plan to CSLC 30 days before start of construction On-site monitor to verify during construction	Implementing MM will reduce the potential for impacts on special-status species and habitat	Applicant and CSLC	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• Workers shall monitor the onshore and offshore to identify signs of an inadvertent release of drilling fluids. • Any abandonment contingency plans in case the HDD operations are forced to be suspended and a partially completed bore hole abandoned. • Complete list of the agencies (with telephone number) to be notified, including but not limited to the CSLC's 24-hour emergency notification number (562) 590-5201, and the California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550.					
Impacts on Nesting Birds	**MM BIO-7: Conduct Pre-Construction Nesting Bird Surveys and Implement Avoidance Measures.** If construction occurs during the nesting season (typically from February 1 to September 1), the following conditions (designed to protect both special-status and non–special-status birds) shall be implemented: • Areas within the terrestrial BSA: No more than 1 week before starting Project-related construction, a biological monitor, approved by CSLC staff, shall survey the non-developed natural areas within the Project area to look for nesting activity. • Areas outside the terrestrial BSA: Areas outside the BSA (but within the line-of-sight from active construction) would be surveyed using binoculars	Terrestrial Project area	If construction occurs during nesting season, conduct surveys 1 week before start of construction On-site monitor to verify; coordination with USFWS/ CDFW	Implementing MM will reduce the potential for impacts on nesting birds	Applicant and CSLC	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	and accessing within the public right-of-way. • If no active nests are detected during these surveys, no additional measures are required. • If an active nest is found, an appropriate avoidance buffer (based on the species as explained below) would be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (generally August 31) or until after biological monitor determines that the young have fledged and moved out of the area (this date varies by species). Suitable buffer distances may vary between species. The extent of these buffers will be determined by the biological monitor in coordination with the applicable wildlife agency (i.e., CDFW and/or USFWS), and will depend on the bird species, level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. No disturbances shall occur within the protective buffer(s) until all young birds have fledged, as confirmed by the biological monitor. • A biological monitor shall be retained by the Applicant (**MM BIO-2**) and shall be onsite during construction activities in non-developed areas of the Project (west of the UPRR).					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Entanglement of Wildlife	**MM BIO-8: 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. • Submit a burial report after each Project phase with detailed descriptions of all buried and unburied sections and justification for any unburied sections.	Marine Project area	Submit burial report after each Project phase	Implementing MM will reduce the potential for impacts on marine species	Applicant and CSLC	During and after construction
Impacts on Marine Wildlife	**MM BIO-9: Cable Entanglements and Gear Retrieval.** If 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 42 days 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 14 days of completing the recovery operation, the Applicant shall submit to CSLC staff a report describing the following: • Nature and location of the entanglement (with a map) • Method used for removing the entangled gear or object, or the method used for minimizing harm to wildlife if gear retrieval proves infeasible.	Marine Project area	Retrieval within 42 days of discovery Submit recovery report within 14 days of recovery completion	Implementing MM will reduce the potential for impacts on marine species	Applicant and CSLC	During and after construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Impacts on Marine Mammals and Sea Turtles	**MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan.** The Applicant shall prepare and implement a Marine Wildlife Monitoring and Contingency Plan (MWMCP) for installing or repairing cables with 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. • Have two qualified shipboard marine mammal observers onboard all cable installation vessels during cable installation activities. The MWMCP shall establish the qualifications of and required equipment for the observers. • In consultation with the National Marine Fisheries Service, 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 stop until the marine mammal or sea turtle has moved beyond. • Project-specific control measures for Project vessels (including support vessels) 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	Marine Project area	Submit Plan 60 days prior to the start of marine installation activities Qualified biologist to provide documentation	Implementing MM will reduce the potential for impacts on marine wildlife	Applicant and CSLC	Before, during, and after construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	contacts made to be reported in the post-installation reports. The MWMCP shall identify the resource agencies to be contacted in case of marine wildlife incidents and to receive reports at the conclusion of Project installation. • The MWMCP shall be submitted to the CSLC and CCC for review at least 60 days before starting marine installation activities.					
Impacts on Hard Substrate Habitat Areas	**MM BIO-11: Minimize Crossing of Hard Bottom Substrate.** At least 30 days before starting construction of Phase 1, a pre-construction seafloor survey shall be conducted and provided to CSLC covering the proposed cable lease area and the temporary construction corridor (including construction vessels anchoring areas and depicting seafloor contours, all significant bottom features, hard bottom areas, sensitive habitats, the presence of any existing wellheads, pipelines, and other existing utilities) to identify any hard bottom habitat, eelgrass, kelp, existing utilities (including but not limited to pipelines), and power cables. The proposed cable routes and anchoring locations shall be set to avoid hard bottom habitat (to the extent feasible), eelgrass, kelp, existing utilities (including but not limited to pipelines), and power cables, as identified in the seafloor survey.	Marine Project area	Submit survey map at least 30 days before start of construction for Phase 1	Implementing MM will reduce the potential for impacts on hard substrate habitat areas	Applicant and CSLC	Before construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Impacts on Hard Substrate Organisms	**MM BIO-12: Contribute Compensation to Hard Substrate Mitigation Fund.** The following would be proposed if slow-growing hard substrate organisms are damaged: • 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 for impacts on 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 affected 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 CCC for review and approval. Both the 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.	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
Impacts on Native Species	**MM BIO-13: Control of Marine Invasive Species**. The 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. Regardless of vessel size, ballast water for all Project vessels must be managed consistent with 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-foot isobath.	Marine Project area	On-site monitor to verify	Implementing MM will reduce the potential for impacts on marine native species	Applicant and CSLC	During construction
Impacts on Wetlands	Implement **MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities** (see above) Implement **MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan** (see above)					
Impacts on Environmentally Sensitive Areas	Implement **MM BIO-1** through **MM BIO-13** (see above)					
Cultural Resources						
Disturbance of shipwrecks, Archaeological Sites, Historic, Cultural, or Tribal Cultural Resources	**MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources.** In the event that potential cultural or tribal resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until an approved archaeologist and tribal monitor, if retained, has evaluated the nature and significance of the discovery. In the event that a potentially significant	Marine and Terrestrial Project areas	Qualified archaeologist, tribal monitor, monitoring plan, and 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
	cultural or tribal cultural resource is discovered, Applicant, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required 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 to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other measures are mutually agreed to by the lead archaeologist and culturally affiliated tribal monitor that would be as or more effective. A treatment plan, if needed to address a find, shall be developed by the archaeologist and, for tribal cultural resources, the culturally affiliated tribal monitor, and submitted to CSLC staff for review and approval prior to implementation of the plan. If the archaeologist or tribe determines that damaging effects on the cultural or tribal cultural resource shall be avoided or minimized, then work in the area may resume.					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Title to all 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 CSLC jurisdiction. The final disposition of shipwrecks, archaeological, historical, and tribal cultural resources recovered on State lands under CSLC jurisdiction must be approved by the CSLC.					
	MM CUL-2/TCR-2: Cultural Resources Monitoring. Prior to Phase 1 ground-disturbing activities, the Applicant shall prepare a Cultural Resources Monitoring Plan subject to CSLC approval. The Plan shall include, but not be limited to, the following measures: • The Applicant shall notify/invite a qualified archeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities in the Project site. • The Applicant shall provide a minimum 5-day notice to the archeologist and tribal monitor prior to all activities requiring monitoring. • The Applicant shall provide the archeologist and tribal monitor safe and reasonable access to the Project site. • Guidance on identification of potential cultural resources that may be encountered. The archeologist and Native American representative shall provide construction					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	personnel with an orientation on the requirements of the Plan, including the probability of exposing cultural resources, guidance on recognizing such resources, and direction on procedures if a find is encountered.					
Disturbance of Marine Archaeological Resources	**MM CUL-3: Conduct a Pre-Construction Offshore Archaeological Resources Survey.** Using results of an acoustic survey (e.g., a CHIRP [compressed high-intensity radiated pulse] system survey) for evidence of erosion/incision of natural channels; the nature of internal channel-fill reflectors; and overall geometry of the seabed, paleochannels, and the surrounding areas will be analyzed for their potential to contain intact remains of the past landscape with the potential to contain prehistoric archaeological deposits. The analysis would include core sampling in various areas, including but not limited to, paleochannels to verify the seismic data analysis. Based on the CHIRP survey and coring data, a Marine Archaeological Resources Assessment Report shall be produced by a qualified maritime archaeologist and reviewed by the California Coastal Commission or the State Historic Preservation Officer and the CSLC to document effects on potentially historic properties.	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	Before 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)	**MM CUL-4: Conduct a Pre-Construction Offshore Historic Shipwreck Survey.** A qualified maritime archaeologist, in consultation with the CSLC, shall conduct an archaeological survey of the proposed cable routes. The archaeological survey and analysis shall be conducted following current CSLC, Bureau of Ocean Energy Management (BOEM), and U.S. Army Corps of Engineers (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). 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 0.5 kilometer on each 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 autonomous underwater vehicle and multibeam data that may have a bearing on identification of anomalies representative of potential historic properties. The analysis shall include evaluation to the extent possible of the potential significance of each anomaly that cannot be avoided within the cable corridor. If sufficient data are not available	Marine Project area	Qualified maritime archaeologist	Implementing MM will reduce potential impacts on marine archaeological resources	Applicant and CSLC	Before construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	to identify the anomaly and make a recommendation of potential significance, the resource(s) shall be considered as potentially eligible for listing in the NRHP and CRHR, and treated as a historic property. If any cultural resources are discovered as the result of the marine remote sensing archaeological survey, the proposed cable route or installation procedures shall be modified to avoid the potentially historic property. BOEM administratively treats identified submerged potentially historic properties as eligible for inclusion in the NRHP under Criterion D, and requires project proponents to avoid them unless the proponent chooses to conduct additional investigations to confirm or refute their qualifying characteristics. BOEM typically determines a buffer (e.g., 50 meters) from the center point of any given find beyond which the project must be moved, in order to ensure that adverse effects on the potential historic property will be avoided during construction.					
Disturbance of Marine Archaeological Resources	**MM CUL-5: Prepare and Implement an Avoidance Plan for Marine Archaeological Resources.** Pursuant to section 30106 and 30115 of the Coastal Act of 1976, “where developments would adversely impact archaeological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required” (Pub. Resources Code, § 30244). An	Marine Project area	Qualified maritime archaeologist	Implementing MM will reduce potential impacts on marine archaeological resources	Applicant and CSLC	Before construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	avoidance plan, therefore, shall be developed and implemented to avoid all documented resources from the Marine Archaeological Resources Assessment Report and the Offshore Historic Shipwreck Survey Report, address discoveries of as yet unidentified resources encountered during the planned marine survey and construction, and provide mitigation monitoring if deemed necessary during construction to ensure compliance.					
Disturbance of Human Remains	**MM CUL-6/TCR-3: 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 both the archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. 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.	Terrestrial Project area	Contact archaeologist and CSLC within 24 hours; archaeologist consults with 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
Cultural Resources – Tribal						
	Implement **MM CUL-1/TCR-1: Discovery of Previously Unknown Cultural or Tribal Cultural Resources** (see above) Implement **MM CUL-2/TCR-2: Cultural Resources Monitoring** (see above) Implement **MM CUL-6/TCR-3: Unanticipated Discovery of Human Remains** (see above)					
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 (2,729 metric tons CO2e) to achieve a net zero increase in GHG emissions during the construction phase for emissions within 24 nm (required only for 3 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 the California Action Reserve Voluntary Offset Registry, American Carbon Registry, and Verified Carbon Standard. The Applicant shall purchase all offsets prior to groundbreaking 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	Before 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: Develop and Implement Spill Contingency and Hazardous Materials Management and Plans.** Prior to construction, the Applicant shall develop and implement Spill Contingency and Hazardous Materials Management Plans (Plans) for onshore and offshore operations. They shall include, but not be limited to, procedures to be implemented, specific designation of the on-site person who will have responsibility for implementing the plans, on-site spill response materials/tools/equipment, and spill notification protocol and procedures. These Plans shall be submitted to CSLC for review and approval 30 days before construction begins. A. Terrestrial Work: Measures for terrestrial operations shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, a daily equipment inspection schedule, and spill response procedures including maintaining spill response supplies onsite. The terrestrial Plan will identify the actions and notifications to occur if evidence of soil contamination is encountered during onshore excavation. The Applicant shall notify the County of San Luis Obispo County Environmental Health Services Division within 24 hours of discovery	Terrestrial and marine Project areas	Submit Plans to CSLC 30 days prior to construction of the offshore and onshore Project components	Implementing MM will reduce potential for release of hazardous materials into the environment	Applicant; Applicant's Contractor	Before and during construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	of contaminated materials encountered during Project construction activities. Work in the area suspected of contamination shall stop until the notified agencies, together with the Applicant, have determined the next steps. The Plans will identify, at a minimum, implementing the following BMPs related to using hazardous substances: • Follow manufacturer's recommendations on use, storage, and disposal of chemical products used in construction • Avoid overtopping construction equipment fuel gas tanks • During routine maintenance of construction equipment, properly contain and remove grease and oils • Conduct all fueling of equipment at least 100 feet from wetlands and other waterbodies • Properly dispose of discarded containers of fuels and other chemicals • Maintain a complete list of the agencies to be notified (with their telephone number), including but not limited to, the CSLC's 24-hour emergency notification number (562) 590-5201 and the California Governor's Office of Emergency Services (Cal OES) contact number (800) 852-7550.					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	B. Offshore Work: For offshore activities involving work vessels, the primary work vessel (dive support 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 a small powered vessel for rapid deployment to contain and clean up any small spill or sheen on the water surface. The Plans shall provide for the immediate call out of additional spill containment and clean-up resources in the event of an incident that exceeds the rapid clean-up capability of the on-site work force.					
	Implement **MM BIO-1: Provide Environmental Awareness Training** (see above) Implement **MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources** (see above) Implement **MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities** (see above) Implement **MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan** (see above)					
Hydrology and Water Quality						
Violation of Water Quality Standards	Implement **MM BIO-3: Delineate Work Limits to Protect Sensitive Biological Resources** (see above) Implement **MM BIO-5: Implement Best Management Practices for Horizontal Directional Drilling Activities** (see above) Implement **MM BIO-6: Prepare and Implement an Inadvertent Return Contingency Plan** (see above) Implement **MM HAZ-1: Develop and Implement Spill Contingency and Hazardous Materials Management Plans** (see above)					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Noise						
Construction Noise	**MM NOI-1 Construction Noise Control Plan.** The Applicant shall ensure that its contractor develop a set of site-specific noise attenuation measures to ensure compliance with applicable City noise limits for the duration of the construction period. Before starting construction activities, the Applicant shall ensure that its contractor submits a Construction Noise Control Plan to the City for review and approval. Noise attenuation measures shall be identified in the Plan and implemented to meet a goal of keeping noise levels below the residential and commercial limits specified in the City's municipal code. Noise measures may include, but are not limited to, the following: • Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation. • Prohibit gasoline or diesel engines from having unmuffled exhaust systems. • Ensure that equipment and trucks for Project construction use the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, acoustically	Terrestrial Project area	Contract specifications	Implementing MM will reduce construction noise impacts on sensitive receptors	Applicant; Applicant's contractor	During construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	attenuating shields or shrouds) wherever feasible. Acoustically attenuating shields would be appropriate for activities at the cable landing site, where construction will be stationary for a few weeks. According to the Federal Highway Administration, the use of shields or barriers around noise sources can reduce noise by 5 to 10 dBA, depending on the type of barrier used. • Use “quiet” gasoline powered or electrically powered compressors as well as electric rather than gasoline or diesel powered forklifts for small lifting, where feasible. • Locate stationary noise sources, such as temporary generators, concrete saws, and crushing/processing equipment, as far from nearby receptors as possible. Muffle and enclose noise sources within temporary enclosures and shield with barriers which could reduce construction noise by as much as 5 dB. Or implement other measures, to the extent feasible. • Undertake the noisiest activities during times of least disturbance to surrounding residents and occupants, such as in the late morning, the middle of the day, or early afternoon. • In response to noise complaints received from people in the Project area, monitor the effectiveness of noise attenuation measures by taking noise measurements and adjusting					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	the measures as necessary to reduce complaints.					
Construction Vibration	**MM NOI 2: Construction Vibration Notification and Disturbance Coordinator.** The Applicant shall provide advance written notification (via flyer) 15 days prior to the start of proposed construction activities to all residences and other sensitive uses within 80 feet of the construction site. Notification will include a brief overview of the Project and its purpose, proposed construction activities, schedule, and name and contact information of the Project manager or another designee responsible for ensuring that reasonable measures are implemented to address complaints received. The Applicant shall designate a representative to act as construction vibration disturbance coordinator responsible for resolving construction vibration concerns. They will be available during regular business hours to monitor and respond to concerns. If construction hours are extended, they also will be available during the extended hours. If a vibration complaint is received, they will be responsible for determining the cause of the complaint and ensuring that all reasonable measures are implemented to address the problem.	Terrestrial Project area	Provide advance written notification 15 days prior to start of activities to residences and other sensitive uses within 80 feet of construction	Implementing MM will reduce construction vibration impacts on sensitive receptors and provide notification	Applicant; Applicant's contractor	Before construction
	Implement **MM BIO-10: Prepare and Implement a Marine Wildlife Monitoring and Contingency Plan** (see above)					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Recreation						
Offshore Recreation	**MM REC-1: Advanced Local Notice to Mariners.** All offshore operations shall be described in a Local Notice to Mariners to be submitted to the U.S. Coast Guard (USCG) at least 15 days before offshore cable laying activities or repair activities. A copy of the published notice shall be immediately provided to the CSLC. The notice shall include: • Type of operation (i.e., dredging, diving operations, construction). • Specific location of operation or repair activities (including whether there is a possibility of exposed cable), including latitude and longitude and geographical position, if applicable • Estimated schedule of activities (operation or repair), 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	Local Notice to Mariners submitted to USCG 15 days before offshore cable laying activities Published notice submitted to CSLC immediately	Implementing MM will reduce project impacts on offshore recreation	Applicant and CSLC	Before construction
Transportation						
Marine Vessel Traffic	Implement **MM REC-1: Advanced Local Notice to Mariners** (see above)					
	Implement **APM-2: Marine Anchor Plan** (see below)					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Commercial Fishing and Marine Anchors						
Disruption of Commercial Fishing	**APM-1: Fishing Agreement.** The Applicant will enact a fishing agreement, or will join an existing 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: • 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: ◦ 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	During 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 before starting construction, the Applicant will submit a Marine Anchor Plan to CSLC staff for review with the following: • Map of the proposed acceptable anchor locations and exclusion zones or offshore temporary anchoring or mooring for work vessels. • 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 ocean bottom is not allowed. • Coordinates of all dropped anchor points during construction shall be recorded and included on the post construction seafloor survey map.	Marine anchoring areas only	Provide Plan to the CSLC 30 days before starting construction	Implementing this APM will ensure safety for anchoring operations	Applicant; Applicant's contractor	Before and during construction

Terms:

APM = Applicant proposed measure
Applicant = RTI Infrastructure, Inc.
AUV = autonomous underwater vehicle
BACT = best available control technology
BMP = best management practice
BOEM = Bureau of Ocean Energy Management
BSA = biological study area
CARB = California Air Resources Board
CCC = California Coastal Commission
CDFW = California Department of Fish and Wildlife
CFR = Code of Federal Regulations
CLP = cable landing parcel
CO_2e = CO_2 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
SLOAPCD = San Luis Obispo Air Pollution Control District
USACE = U.S. Army Corps of Engineers
USCG = U.S. Coast Guard
USFWS = U.S. Fish and Wildlife Service

5.0 OTHER STATE LANDS 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 (CSLC) consideration of the Project. The considerations addressed below are:

- Climate change and sea-level rise
- Commercial and recreational fishing
- Environmental justice
- State tidelands and submerged land possessing significant environmental values

Other considerations may be addressed in the staff report presented at the time of the CSLC'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 affect the Project because none of the permanent infrastructure is proposed in areas subject to flooding (greater than a 1 percent chance, annually) or increased erosion with anticipated sea-level rise. The marine component of the Project would be buried approximately 3.3 feet beneath the ocean floor in State waters starting at 3,600 feet offshore. The offshore Project components would not be impacted by sea-level rise. The cables between the cable landing site and where the landing pipes emerge would be drilled deep (approximately 35 to 50 feet below the beach) and thus would not be subject to increased erosion over time (Figure 2-2). The terrestrial cable would not be in areas subject to increased inland flooding since it would be installed by HDD installation mention going under the coastal streams (Figure 2-1). The following discussion provides background information on climate change and sea-level rise in the Project area.

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. 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 Port San Luis tide was used for the projected sea-level rise scenario. The Project area could see 0.7 foot of sea-level rise by 2030, 1.2 feet by 2040, 1.8 feet by 2050, and 6.7 feet by 2100 (Ocean Protection Council 2018 Update). 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 likely will 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 potentially could erode more quickly than before. However, rivers and creeks also are predicted to experience flashier[31] 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. When funding is available, CSLC implements a program to remove coastal hazards along the California coast (CSLC 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 CSLC staff considered pursuant to this Executive Order; additionally, it will facilitate CSLC's consideration of the Project.

5.2 COMMERCIAL AND RECREATIONAL FISHING

Impacts on commercial and recreational fishing would be less than significant because of the very limited area impacted as well as the short-term nature of Project activities. In the case of clamming, there would be no impact because none of the Project components would be within the tidal zone or along the beach. The coastal waters of central California are used extensively for both commercial and recreational fishing. As explained in Appendix C, more than 80 fish species or groups were commercially landed at Morro Bay

[31] The flashiness of a stream reflects how quickly flow in a river or stream increases and decreases during a storm.

and Port San Luis between 2013 and 2017. Of these 80 fish species, 15 fish species accounted for 94 percent of the landings based on tonnage (Appendix C; AMS 2019; Table 4-2; Figure 3.4-1). Those taxa that accounted individually for more than 0.7 percent of the total landings between 2013 and 2017 include market squid (*Doryteuthis opalescens*); Dungeness crab (*Metacarcinus magister*); sablefish (*Anoplopoma fimbria*); hagfish (*Myxini*); ocean pink shrimp (*Pandalus jordani*); Dover sole (*M. pacificus*); shortspine thornyhead (*Sebastolobus alascanus*); longspine thornyhead (*S. altivelis*); petrale sole (*E. jordani*); lingcod (*O. elongates*); assorted rockfish, including bank (*S. rufus*), brown (*S. auriculatus*), and gopher (*S. carnatus*); and Chinook salmon (*Onchorynchus tshawytscha*). Commercial fishing methods used included trolling, trawling, and trapping (Appendix C).

Recreational fishing, conducted from rocky shores, sandy beaches, docks, private boats, and commercial party boats, landed approximately 100 fish taxa between 2013 and 2017 (Appendix C; AMS 2019; Table 4-3; Figure 3.4-1). However, 19 of these taxa accounted for more than 91 percent of the landings in tonnage or in individual numbers of fish landed. The dominant fish taxa caught by recreational fisherman include lingcod; assorted species of rockfish, including blue (*S. mystinus*), vermillion (*S. miniatus*), yellowtail (*S. flavidus*), gopher, copper (*S. caurinus*), brown, black (*S. malanops*), olive (*S. serranoides*), boccacio (*S. paucispinis*), kelp (*S. astrovirens*), and canary (*S. pinniger*); cabezon (*Scorpaenichthys marmoratus*); barred surfperch (*Amphistichus argenteus*); Dungeness crab; California halibut (*P. californicus*), jacksmelt (*A. californiensis*); Pacific chub mackerel (*Trachurus symmetricus*); and Pacific sanddab (*C. sordidus*) (Appendix C; AMS 2019; Table 4-3; Figure 3.4-1). Clamming is also a popular year-round recreational activity that occurs on the beach in the Project area. See Section 3.17, *Recreation*.

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 landing pipes) for several days and along the cable route at any one location for a matter of a few hours. The limited Project-related work is not anticipated to result in any substantive reductions in fish landings since there would be comparable and immediately adjacent coastal locations for fishing and the work vessels would be present in any one specific location for very limited time. The Applicant is actively involved with regional commercial fishing associations to enhance communication concerning Project construction, maintenance schedules, and work locations to avoid conflicts by entering into an existing Fishing Agreement or enact a new one (**APM-1**) and submit a Marine Anchor Plan (**APM-2**) to minimize impacts on the ocean bottom.

5.2.2 Operations

After Project completion, trawlers would be able to fish over the buried cable. 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 effect, RTI would enact a Fishing Agreement (**APM-1**) or join an existing agreement that would serve to minimize any potential impacts on the viability of the commercial fishing industry. The cable installation methods 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 or recreational fishing during Project operation.

5.3 ENVIRONMENTAL JUSTICE

Environmental justice is defined by California law as "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12, subd. (e)). This definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all people. CSLC adopted an Environmental Justice Policy in December 2018 (Item 75, December 2018) to ensure that environmental justice is an essential consideration in CSLC's processes, decisions, and programs[32]. Through its policy, the CSLC reaffirms its commitment to an informed and open process in which all people are treated equitably and with dignity, and in which its decisions are tempered by environmental justice considerations. Among other goals, the policy commits the CSLC to, "Strive to minimize additional burdens on and increase benefits to marginalized and disadvantaged communities resulting from a proposed project or lease."

5.3.1 U.S. Census Bureau Statistics

Table 5-1 presents income, employment, and race data for the regional and local study area in the Project vicinity, based on the most recently available information from U.S. Census 2013–2017 American Community Survey 5-Year Estimates.[33] The local study area is "Grover Beach city, California," meaning that Grover Beach, California is an incorporated City in San Luis Obispo County.

[32] See https://www.slc.ca.gov/envirojustice/.

[33] U.S. Census 2013–2017 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 here: https://www.census.gov/newsroom/press-kits/2018/acs-5year.html.

5.3.2 Population and Economic Characteristics

From a regional standpoint, the Project area contains below-average income levels ($61,482) compared to San Luis Obispo County ($67,175) and California as a whole ($67,179) (Table 5-1). The median household income in Grover Beach ($61,482) is lower than that of San Luis Obispo County and the State, but the percentage of residents living below the poverty level in Grover Beach and the San Luis Obispo County is lower than in California overall.

By income, 13.8 percent of the 13,524 residents in Grover Beach (about 1,866 people), 13.8 percent of residents in San Luis Obispo County, and 15.1 percent of people in California are living below the poverty level (Table 5-1). Therefore, the population of Grover Beach does not appear to be disproportionately burdened by poverty.

By race, 80 percent of residents of Grover Beach identify as "White," and 31.6 percent identify as "Hispanic or Latino." About 22.2 percent of the County's population and about 38.8 percent of California's population are Hispanic or Latino (Table 5-1). People who identified as "White Only" make up 80 percent of Grover Beach's population (about 10,819 people out of 13,524).[34] If the minority population in Grover Beach was over 50 percent, further analysis would be required by the CEQ. No aspect of the Project would disproportionately affect low-income or minority populations, or Indian tribes.

5.3.3 California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results

According to the California Office of Environmental Health Hazard Assessment (OEHHA 2018) California Communities Environmental Health Screening Tool (CalEnviroScreen) data (June 2018), the Project site (within Census Tract 6079012102) has a score in the 21st to 30th percentile, meaning that 70 to 80 percent of all census tracts in California have greater population vulnerability or environmental burdens (Figure 5.3-1). The existing pollution burden for this tract is in the 41st percentile, with pesticides, drinking water, and clean-up sites as factors with the highest scores. This tract, with a population of 5,947, has a population characteristics (vulnerability) score in the 24th percentile, which represents housing burden, poverty, and education components that could result in increased pollution vulnerability. In addition, the population is 63 percent white/non-minority and has low scores for public health concerns such as cardiovascular disease (i.e., heart attacks) and low birth weight.

[34] Percentages add up to over 100 percent due to survey respondents reporting more than one race

Table 5-1. Environmental Justice Statistics

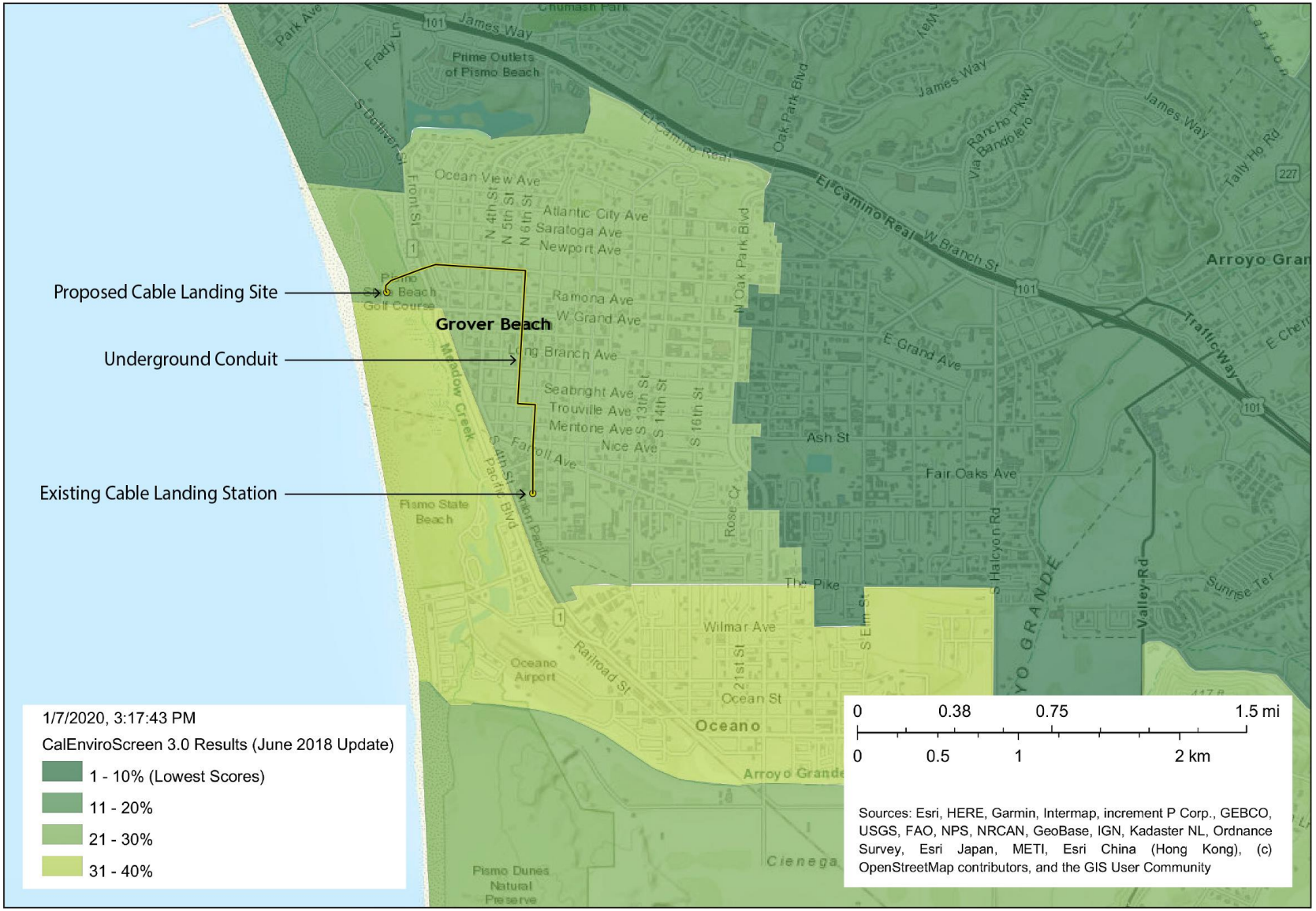
Subject		California	San Luis Obispo County	Grover Beach
Income and Population				
Total population		38,982,847	280,119	13,524
Median household income		$67,179	$67,175	$61,482
Percent below the poverty level[a]		15.1	13.8	13.8
Employment by Industry (by percentage)				
Agriculture, forestry, fishing and hunting, mining		2.3	3.5	0.9
Construction		6.1	7.9	8.3
Manufacturing		9.5	6.8	3.9
Wholesale trade		3.0	2.2	3.7
Retail trade		10.8	11.5	9.1
Transportation and warehousing, and utilities		5.0	4.5	7.0
Information		2.9	1.6	3.1
Finance and insurance, and real estate and rental and leasing		6.2	4.5	4.6
Professional, scientific, and management, and administrative and waste management services		13.2	10.7	12.7
Educational services and health care and social assistance		20.9	23.6	26.2
Arts, entertainment, and recreation, and accommodation and food services		10.4	12.6	12.6
Other services, except public administration		5.3	5.2	3.8
Public administration		4.4	5.5	4.0
Race (by percentage)				
Not Hispanic or Latino	White	37.9	69.4	80.0
	Black	5.8	1.9	2.4
	American Indian	0.7	0.7	2.2
	Asian	14.1	3.7	3.2
	Other	13.7	4.2	8.1
Hispanic or Latino		38.8	22.2	31.6

Source: U.S. Census Bureau 2018

Note:

[a] Poverty threshold as defined in the American Community Survey is not a singular threshold but varies by family size. Census data provide 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 these data.

Figure 5.3-1. CalEnviroScreen Assessment



5.3.4 Conclusion

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, it does not appear that an environmental justice community would be disproportionately affected by this Project. The construction-related Project's impacts on nearby residential communities would be temporary and minor, regardless of their socioeconomic makeup.

5.4 SIGNIFICANT LANDS INVENTORY

The Pacific Ocean from Pismo Beach to the County boundary is land identified as possessing significant environmental values in CSLC's Significant Lands Inventory (parcel number 40-062-021), pursuant to Public Resources Code § 6370 et seq. (CSLC 1975). This parcel includes the tidelands and submerged land in the Pacific Ocean immediately west of the cable landing site. These lands are classified as category Class B, which authorizes limited use. Environmental values identified for these lands are marine and recreational. CDFW identified these lands having an exceptional example of Pismo clams, with national recreational fame. Based on CSLC 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 (CSLC) Division of Environmental Planning and Management (DEPM), with 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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6.3.1 Personal Communications

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Kessler, Thomas. Executive Director, History Center of San Luis Obispo County. March 5, 2020—telephone conversation with ICF.

Kirkhuff, Vince. [a] Air Quality Specialist, San Luis Obispo County Air Pollution Control District. March 2, 2020—telephone conversation with ICF.

Kirkhuff, Vince. [b] Air Quality Specialist, San Luis Obispo County Air Pollution Control District. June 10, 2019—email message to ICF.

Tucker Olivas, Mona. Chairperson, Northern Chumash Tribe - San Luis Obispo County and Region. March 30, 2020—letter to Jennifer Mattox, California State Lands Commission Tribal Liaison.