FINAL ENVIRONMENTAL IMPACT REPORT

RTI-I Transpacific Fiber-Optic Cables Project

Prepared for

City of Hermosa Beach

Submitted by

Aspen environmental group

February 2024

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FIGURES

LIST OF ACRONYMS

AA	Antiquities Act
AB	Assembly Bill
AC	Alternating current
ADOE	Archaeological Determinations of Eligibility
ADT	average daily traffic
AFY	acre-feet per year
AGR	Agricultural Supply
AIS	Automatic Identification Systems
AMP	Archaeological Monitoring Plan
AMS	Applied Marine Sciences
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ASA	Abandoned Shipwreck Act
ASBS	Areas of Special Biological Significance
AUV	autonomous underwater vehicle
AWOIS	Automated Wreck and Obstructions Information System
BMPs	best management practices
BOEM	Bureau of Ocean Energy Management
CAA	Clean Air Act
CAAP	Clean Air Action Plan
Cal/EPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCA	California Coastal Act
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCP	Caulerpa Control Policy
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal development permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CINMS	Channel Islands National Marine Sanctuary
CLUP	Coastal Land Use Plan
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
COP	California Ocean Plan
CPS	Coastal Pelagic Species
CRWQCB	California Regional Water Quality Control Board
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted sound level

DC	direct current
DDT	dichlorodiphenyltrichloroethane
DPH	Department of Public Health
DPM	diesel particulate matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EFH	Essential Fish Habitat
EFHCAs	EFH Conservation Areas
EIR	Environmental Impact Report
EMF	Electric and magnetic fields
ESA	Endangered Species Act
ESHA	Environmentally sensitive habitat areas
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
FMCs	Fishery Management Councils
FMMP	Farmland Mapping and Monitoring Program
FMP	Fishery Management Plan
GHG	greenhouse gas
GPS	Global Positioning System
HAPC	Habitat Areas of Particular Concern
HDD	Horizontal directional drilling
HMS	Highly Migratory Species
HPD	Historic Property Directory
HPDE	high-density polyethylene
HR	Hydrologic Region
HSC	Health and Safety Code
I-405	Interstate 405
ICU	Intersection capacity utilization
IMO	International Maritime Organization
IND	Industrial Service Supply
LARWQCB	Los Angeles Regional Water Quality Control Board
LAX	Los Angeles International Airport
lbs/day	pounds per day
Leq	equivalent noise level
LCP	Local Coastal Program
LID	low-impact development
LIP	Local Implementation Program
Lmax	maximum noise level
LMH	landing manhole
Lmin	minimum noise level
Ln	percentile noise level
LNM	Local Notice to Mariners
LOS	level of service
Lpk	Peak of the sound pressure wave
LST	Local Significance Threshold
LUST	Leaking underground storage tank
MARPOL	International Convention for the Prevention of Pollution from Ships
MBTA	Migratory Bird Treaty Act

MCLs	maximum contaminant levels
MEP	maximum extent practicable
MHHW	mean higher high water level
MHW	mean high water
MHWM	mean high water mark
MLD	Most Likely Descendant
MLLW	Mean Lower Low Water
MLPA	Marine Life Protection Act of 1999
MM	Mitigation Measure
MMPA	Marine Mammal Protection Act
MMRP	Mitigation Monitoring and Reporting Program
MMS	Minerals Management Service
MOU	Memorandum of Understanding
MPAs	Marine Protected Areas
MS4	municipal separate storm sewer system
MSFCMA	Sustainable Fisheries Act of 1996 (Public Laws 104-267 and 104-297)
MUN	Municipal and Domestic Supply
NAGPRA	Native American Graves and Protection and Repatriation Act
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NHMLAC	Natural History Museum of Los Angeles County
NHPA	National Historic Preservation Act of 1966 as Amended
NISA	National Invasive Species Act
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O^3	ozone
OCSLA	Outer Continental Shelf Lands Act
OGB	Ocean Ground Bed
OGV	Ocean-going vessels
OHP	Office of Historic Preservation
ONMS	Office of National Marine Sanctuaries
OSHA	Occupational Safety and Health Administration
OSPR	Office of Spill Prevention and Response
PCBs	polychlorinated biphenyls
PCG	Pacific Coast Groundfish
PCS	Pacific Coast Salmon
PERP	Portable Equipment Registration Program
PFE	power feed equipment

PFMC	Pacific FMC
PM	particulate matter
PM10	respirable particulate matter (less than 10 microns in diameter)
PM2.5	fine particulate matter (less than 2.5 microns in diameter)
PMSA	Pacific Merchant Shipping Association
PPV	peak particle velocity
PRC	Public Resources Code
PROC	Industrial Process Supply
PVC	polyvinyl chloride
ROG	reactive organic gases
ROV	remotely operated vehicle
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCB	Southern California Bight
SCCIC	South-Central Coastal Information Center
SCEMP	Southern California Eelgrass Mitigation Policy
SLF	Sacred Lands File
SMCA	State Marine Conservation Area
SO_2	sulfur dioxide
SOC	Statement of Overriding Considerations
SOPEPs	Shipboard Oil Pollution Emergency Plans
SO_x	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasure
SPCP	Spill Prevention and Contingency Plan
SRA	source receptor area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDS	total dissolved solids
TGN	Tyco Global Network
TIS	Traffic Impact Studies
TMDL	total maximum daily load
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	United States Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
V/C	volume to the overall capacity
VMT	vehicle miles traveled
VTS	Vessel Traffic Services
WDR	Waste Discharge Requirements
WMA	Watershed Management Area

EXECUTIVE SUMMARY

ES1. Introduction

This ~~Draft~~Final Environmental Impact Report (EIR) has been prepared to analyze and disclose potentially significant environmental effects associated with the installation, operation, and decommissioning of the Transpacific Fiber-Optic Cables Project (Project) proposed by RTI Infrastructure, Inc. (RTI-I), formerly known as MC Global BP4, Inc. and currently doing business as HMB IX (Applicant). This EIR provides the primary source of environmental information for the lead, responsible, and trustee agencies to consider when exercising permitting or approval authority related to implementation of the proposed Project.

The City of Hermosa Beach (City) is the California Environmental Quality Act (CEQA) Lead Agency for the proposed Project and is responsible for the preparation of this EIR.

In reviewing the application provided by the Applicant, the City determined that the proposed Project has the potential to cause significant adverse effects on the environment and, therefore, determined that the preparation of an EIR would be needed. In August 2019, the City filed a Notice of Preparation (NOP) with the California State Clearinghouse in the Office of Planning and Research to indicate that a Draft EIR would be prepared for the Project. The filing of the NOP initiated a 30-day period during which public and agency input is solicited on the scope of issues that should be addressed in the EIR. As part of the scoping process, a public meeting was conducted on August 26, 2019, to present information on the proposed Project and receive public input on environmental issues. Relevant comments received from agencies and members of the public in response to the NOP were considered in preparation of the Draft EIR, as appropriate.

In accordance with CEQA, the EIR must be completed before the Lead Agency makes any decision to approve the proposed Project. The Draft EIR for the proposed Project ~~will be~~was distributed for public review and comment in accordance with CEQA procedures (State CEQA Guidelines, Section 15087). The Draft EIR ~~will be~~was available for review at https://www.hermosabeach.gov/our-community/quick-links/city-projects/development-projects.

Copies of the Draft EIR ~~will also be~~were submitted to the California State Clearinghouse, as well as responsible, trustee, and cooperating agencies as defined by CEQA. A Notice of Availability (NOA) of the Draft EIR ~~will be~~was published in local newspapers (*The Easy Reader* and *The Beach Reporter* on Thursday, September 14, 2023) and with the county clerk (State CEQA Guidelines, Section 15087). These notices are included in Appendix E. Publishing the NOA ~~will initiate~~initiated a 45-day public review period for the Draft EIR. All comments regarding the Draft EIR ~~must~~were required to be received by the Lead Agency before the end of the 45-day period to be considered in the Final EIR. Hard copies of the NOA were also mailed to approximately 70 agencies and stakeholders (see Appendix F for the NOA mailing list).

Pursuant to State CEQA Guidelines, Section 15090, before the City can act on the proposed Project, the City must consider and certify the Final EIR, and must, pursuant to State CEQA Guidelines, Section 15091, make a finding for each significant effect identified in the EIR.

This Final EIR contains the entire text of the Draft EIR, as revised, including changes to the text of the Draft EIR in response to comments received or for reasons that include: to update information; to refine discussions and resolve internal inconsistencies; and to make minor format changes. Appendix C has been added to the Final EIR, which includes the comments received during the 45-day public review period, along with responses to the comments received. This Final EIR also includes Appendix D, the Mitigation Monitoring and Reporting Program (MMRP). The MMRP is presented in ~~table format~~table format and identifies mitigation measures for the proposed Project, the party responsible for implementing the mitigation measures, the timing of implementing the mitigation measures, and the monitoring and reporting procedures for each mitigation measure.

This EIR is organized as follows:

- **Chapter 1, Introduction.** A brief overview of the proposed Project, Project location, and CEQA environmental review process are presented.
- **Chapter 2, Project Description.** A detailed description of the proposed Project is presented, including the objectives of the Project.
- **Chapter 3, Environmental Setting and Analysis.** Descriptions of existing environmental conditions in the Project area and a summary of relevant laws and regulations are presented for each technical issue area. The description of existing conditions serves as the base environmental conditions against which environmental effects of the Project are evaluated. Each technical issue area section provides an analysis of the proposed Project's direct, indirect, and cumulative impacts, along with a conclusion regarding the significance of each identified impact. Mitigation measures are proposed to help reduce or avoid significant impacts anticipated to result from Project implementation. Sections 3.1 through 3.11 address the following topics:

3.1	Introduction	3.7	Hazards and Hazardous Materials
3.2	Aesthetics	3.8	Hydrology and Water Quality
3.3	Air Quality	3.9	Land Use and Recreation
3.4	Biological Resources	3.10	Noise and Vibration
3.5	Cultural and Tribal Cultural Resources	3.11	Transportation and Traffic
3.6	Geology and Soils		

- **Chapter 4, Alternatives.** This chapter describes the process for the selection of Project alternatives and the rationale used to exclude certain alternatives from further analysis. The impacts of the alternatives carried forward for analysis are described, but in less detail than the impacts of the proposed Project.
- **Chapter 5, Other Required CEQA Topics.** This chapter discusses certain long-term implications associated with Project implementation, including growth-inducing impacts.
- **Chapter 6, List of Preparers.** This chapter lists the preparers of the EIR and their roles.
- **Appendices.** Technical background information used in preparation of the EIR is included in Appendix A, along with the ~~appendices~~NOP and the Initial Study in Appendix B. Comments received during the 45-day public review period are included in Appendix C, along with responses to the comments received. The MMRP is provided in Appendix D, and public notices for the Draft EIR are provided in Appendix E. The NOA mailing list is provided in Appendix F.

ES2. Overview of the Proposed Project

RTI Infrastructure, Inc. (RTI-I), formerly known as MC Global BP4, Inc. and currently doing business as HMB IX (Applicant), proposes to install and operate up to two transpacific subsea cable systems with United States landings in Hermosa Beach, California. Each cable system would entail installation of a marine fiber-optic cable system on the sea floor across the Pacific Ocean, landing in Hermosa Beach at either 6th Street (Option A) or 10th Street (Option B), and then connecting to the Applicant's existing power feed equipment (PFE) facility located in the Hermosa Pavilion at 1601 Pacific Coast Highway, Hermosa Beach.

The two cable systems would connect the United States to Guam and locations on the western Pacific Rim,~~ at locations~~ such as ~~Guam,~~ Southeast Asia, China, Australia, or Japan. The Applicant previously received approval for the installation of four transpacific subsea cables as part of the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project,[1] and desires to expand these facilities by installing two additional subsea cables. The existing facilities were authorized under City of Hermosa Beach Precise Development ~~Permit~~ Plan 14-11 and PDP Amendment 16-28 in 2016. The components of the two phases of the proposed Project are described in detail in Chapter 2, Project Description.

ES3. Project Phases

The proposed Project would be implemented in two phases. Phase 1 includes construction of the terrestrial facilities shared by both of the Project's two fiber-optic cable systems and the installation and operation of one of the systems (the subsea cable to Guam). Phase 2 includes construction of the remaining terrestrial facilities and installation and operation of the second subsea cable system (to the western Pacific Rim). The two construction phases are proposed to be completed approximately 2 years apart, in 2024 and 2026, respectively.

Following completion of Phase 2, the fully operational phase is expected to have a project life of approximately 25 years. During the Project's operational lifetime, no routine maintenance activities are planned for the fiber-optic cable systems other than inspection and maintenance of the equipment in the PFE facility to ensure the equipment is in proper working order. At the end of the Project's operational lifetime, the system and its facilities would either be removed and/or abandoned in place, as determined by the California Coastal Commission (see detailed discussion in Section 2.7). Sections 2.4 and 2.5 below provide more detailed information about the Project's terrestrial and marine components and the proposed construction methods.

ES4. Project Location and Setting

The Project would be developed in two phases that each include terrestrial and marine components. The marine cable alignments would traverse the California continental shelf and the Pacific Ocean from Hermosa Beach to Guam and locations on the western Pacific Rim. Each marine cable would terminate at a cable landing site within the incorporated limits of Hermosa Beach, as described above. The terrestrial components of the proposed Project include the cable landing site, ocean ground bed, landing pipes that extend from the cable landing site out past the surf zone, and the terrestrial cables and conduit systems that extend from the landing manhole to the PFE facility location. The terrestrial conduit systems provide the connections to the main telecommunication interconnection points and provide power to the system as supplied from the PFE facility. A PFE facility already exists that can be modified to accommodate both phases of the Project. The PFE Facility's location, as well as the existing and proposed terrestrial facilities, are shown in Figure 1-1~~Figure 1-1~~.

A landing manhole (LMH) would be installed at either 6th Street (Option A) or 10th Street (Option B) and would provide access to the landing pipe and buried conduit system. The two options for the location of cable landing site (Option A and Option B) are shown in Figure 1-2~~Figure 1-2~~. A terrestrial conduit system would be installed to connect the fiber-optic cable from the cable landing site to the PFE facility. The fiber-optic cable could be installed in the street rights-of-way (ROWs), as well as within the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ between Valley Drive and Ardmore Avenue (see Figure 1-1~~Figure 1-1~~). The

[1] The MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project was ~~A~~approved by the City of Hermosa Beach ~~Planning Commission~~City Council in ~~April~~ 2016. Of the Applicant's four previously approved subsea cable systems, three have been installed and are currently in operation. The fourth is expected to be installed in 2024~~As the date of preparation of this EIR, both approved cables have been installed~~.

Applicant would outfit an additional room within the existing PFE facility to accommodate two additional sets of telecommunication equipment.

If the 6th Street location is used, the terrestrial conduit system would be installed in 6th Street between the LMH and the Greenbelt and would then follow the Greenbelt in a northerly direction to 16th Street. If the 10th Street location is used, the terrestrial conduit system would be installed in 10th Street from the LMH to Loma Drive, and would then turn northerly to 11th Street, easterly to the Greenbelt, and would then follow the Greenbelt northerly to 16th Street.

ES5. Areas of Known Controversy and Issues to be Resolved

Evaluation of the proposed Project under CEQA was initiated in August 2019. As of the publication of this ~~Draft~~Final EIR, no areas of controversy or issues in need of resolution have been communicated to the City of Hermosa Beach Community Development Department. Additionally, no remaining technical Project Description issues or environmental review issues are left to be resolved.

ES6. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Analysis was performed as part of the Initial Study prior to the preparation of this EIR to determine potential significant environmental effects resulting from the proposed Project. The Initial Study addressed all criteria from Appendix G (Environmental Checklist Form) of the updated State CEQA Guidelines (effective December 28, 2018), per State CEQA Guidelines, Section 15007(d). Some environmental topics are not addressed in the EIR because the Project clearly has no potential to result in significant environmental impacts related to those topics. See the Initial Study in Appendix A for a discussion of topics for which no significant environmental impacts are anticipated and the reasoning for these conclusions.

To provide a systematic evaluation of potential environmental impacts, a classification system has been applied to the impacts of the proposed Project. These classifications indicate whether an identified impact is significant and whether mitigation measures can reduce the severity of the impact to a level that is not significant. The following classifications were uniformly applied to each adverse impact:

- **Class I: Significant impact; cannot be mitigated to a level that is not significant**. Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant impact; can be mitigated to a level that is not significant**. A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
- **Class III: Adverse; less than significant**. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact**. Class IV impacts represent beneficial effects that would result from Project implementation.

Table ES-1.1 summarizes the potential environmental impacts, mitigation measures, and significance conclusions for the proposed Project as identified in Chapter 3 of this EIR. As shown in Table ES-1.1, the following impacts would be significant and unavoidable after implementation of mitigation measures (Class I):

Impact AQ-1: Project construction emissions would exceed South Coast Air Quality Management

District (SCAQMD) regional criteria pollutant emissions thresholds.

Impact AQ-3: Project construction would expose local receptors to substantial pollutant emissions.

Impact N-2: Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed thresholds at the property line of nearby residences. (Cable Landing Site and Directional Bores)

Impact T-11: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.

Cumulative Effects: The Project's contribution would be cumulatively considerable for Air Quality and Noise.

All other impacts were determined to be less than significant (Class III), less than significant with mitigation (Class II), or not cumulatively considerable, as listed in Table ES-1.1.

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Aesthetics		
Threshold A-1: Have a substantial adverse effect on a scenic vista.		
Impact A-1: Construction activities would temporarily obstruct or modify scenic vistas in coastal and beach areas in the City.	None required	Class III
Threshold A-2: Substantially degrade the existing visual character or quality of public views of the site and its surroundings.		
Impact A-2: Construction activities would temporarily degrade visual character and quality of public views of the site and its surroundings.	None required	Class III
Threshold A-3: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.		
Impact A-3: The Project has the potential to introduce night lighting during construction that could adversely affect neighboring residences.	A-1 Nighttime Lighting Guidelines	Class II
Cumulative Effects	A-1 Nighttime Lighting Guidelines	Not Cumulatively Considerable
Air Quality		
Threshold AQ-1: Be inconsistent with the applicable adopted Air Quality Management Plan (AQMP).		
No Impact	None required	No Impact
Threshold AQ-2: Generate emissions of criteria air pollutants that would exceed South Coast Air Quality Management District (SCAQMD) regional significance thresholds.		
Impact AQ-1: Project construction emissions would exceed SCAQMD regional criteria pollutant emissions thresholds.	AQ-1 Vessel Emissions Reduction	Class I

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Impact AQ-2: Project operation or decommissioning would exceed SCAQMD regional criteria pollutant emissions thresholds.	None required	Class III
Threshold AQ-3: Generate emissions of criteria air pollutants that would exceed SCAQMD localized significance thresholds.		
Impact AQ-3: Project construction would expose local receptors to substantial pollutant emissions.	AQ-1 Vessel Emissions Reduction	Class I
Impact AQ-4: Project operation would expose local receptors to substantial pollutant emissions.	None required	Class III
Threshold AQ-4: Generate emissions of toxic or hazardous air pollutants that exceed SCAQMD significance thresholds.		
Impact AQ-5: Project construction, operation, and decommissioning emissions would generate air toxic pollutant emissions.	None required	Class III
Threshold AQ-5: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.		
Impact AQ-6: Project construction, operation, and decommissioning would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None required	Class III
Cumulative Effects	AQ-1 Vessel Emissions Reduction	Cumulatively Considerable (Impacts AQ-1 and AQ-3)
Biological Resources		
Threshold BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish & Wildlife Service (USFWS).		
Impact BIO-1: Project construction/ installation and decommissioning may adversely affect western snowy plover and California least tern.	BIO-1 Avoidance of Roosting Western Snowy Plovers or California Least Terns	Class II
Impact BIO-2: Project construction/ installation and decommissioning may adversely affect nesting birds.	BIO-2 Preconstruction Surveys for Nesting Raptors and Other Birds	Class II

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Impact BIO-3: Marine mammals may be disturbed by vessel activities or noise.	BIO-3 Marine Mammal and Sea Turtle Monitoring During All Vessel Activities BIO-4 Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present BIO-5 Collision Reporting	Class II (Vessel Activities)
	None required	Class III (Noise)
Threshold BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW, USFWS, or National Marine Fisheries Service (NMFS). Sensitive natural communities are vegetated communities that are listed in the California Natural Diversity Database (CNDDB) due to the rarity of the community in the State or throughout its entire range (globally) (CDFW, 2020).		
Refer to Impact BIO-6 below.	BIO-6 Minimized Crossing of Hard-Bottom Substrate Communities BIO-7 Compensation to Hard Bottom Mitigation Fund	Class II
Threshold BIO-3: Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.		
Impact BIO-4: U.S. Coastal Waters would be disturbed by marine cable installation and repair.	None required	Class III
Threshold BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.		
Impact BIO-5: Migrating Gray whales could be disturbed by vessel activities or collision with the cable.	BIO-3 Marine Mammal and Sea Turtle Monitoring During All Vessel Activities BIO-4 Modification of Vessel Operations When Marine Mammals and Sea Turtles Are Present BIO-5 Collision Reporting	Class II (Vessel Activities)
	None required	Class III (Entanglement with Suspended Cables)
Impact BIO-6: Pacific Groundfish Essential Fish Habitat (EFH) would be disturbed due to marine cable installation and repair.	BIO-6 Minimized Crossing of Hard-Bottom Substrate Communities BIO-7 Compensation to Hard Bottom Mitigation Fund	Class II (Rocky Reef EFH)
	None required	Class III (Soft Sediment EFH)

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Threshold BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy/ordinance.		
Impact BIO-7: Project construction/ installation and decommissioning may conflict with local policies protecting biological resources.	BIO-1 through BIO-7 (see above)	Class II (Construction/ Installation)
	None required	Class III (Decommissioning)
Cumulative Effects	BIO-1 through BIO-7 (see above)	Not Cumulatively Considerable
Cultural and Tribal Cultural Resources		
Threshold CULT-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines. **Threshold CULT-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.		
Impact CULT-1: Project-related ground-disturbing activities have the potential to disturb or destroy previously unknown or inaccurately recorded submerged prehistoric archaeological resources or historic shipwrecks along the marine cable routes.	CULT-1 Cultural Resources Avoidance Plan	Class II
Impact CULT-2: Unknown and potentially significant buried archaeological or ethnographic historical resources could be inadvertently encountered during ground-disturbing activities associated with Project construction in the terrestrial portion of the Project area.	CULT-2 Construction Crew Training CULT-3 Archaeological Monitoring Plan CULT-4 Cultural Resource Monitor	Class II
Threshold CULT-3: Disturb any human remains, including those interred outside of formal cemeteries.		
Impact CULT-3: Project ground-disturbing activities could result in the disturbance or destruction of human remains.	CULT-5 Treatment of Human Remains	Class II
Threshold CULT-4: 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: (1) 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(k), or (2) 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.		
Impact CULT-4: Project ground-disturbing activities could result in the disturbance or destruction of Tribal Cultural Resources.	CULT-6 Treatment of Tribal Cultural Resources	Class II
Cumulative Effects	CULT-1 through CULT-6 (see above)	Not Cumulatively Considerable

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Geology and Soils		
Threshold GEO-1: 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, or based on other substantial evidence of a known fault (Refer to DM&G Pub. 42); or, (ii) strong seismic ground shaking; or, (iii) seismic-related ground failure, including liquefaction; or, (iv) landslides.		
Impact GEO-1: The proposed Project would be subject to strong seismic ground shaking and seismic-related ground failure, including liquefaction and landslides.	None required GEO-1 Geotechnical Study Prior to Construction	Class III (Terrestrial) Class II (Marine)
Threshold GEO-2: Result in substantial soil erosion or the loss of topsoil.		
Impact GEO-2: The terrestrial boring procedures could result in soil erosion or loss of topsoil.	None required	Class III
Threshold GEO-3: 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.		
Impact GEO-3: The marine cable-laying components would traverse areas of the seafloor that are potentially unstable.	GEO-1 Geotechnical Study Prior to Construction	Class II
Threshold GEO-4: Be located on expansive soil, as defined in Table 18-1-B of the 1994 UBC, creating substantial direct or indirect risks to life or property.		
Impact GEO-4: Expansive soils may damage terrestrial Project components, causing direct or indirect risks to life or property.	None required	Class III
Threshold GEO-5: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.		
Impact GEO-5: The terrestrial boring and excavation activities could disturb potentially important paleontological resources.	GEO-2 Evaluation and Treatment of Incidentally Discovered Paleontological Resources GEO-3 Monitoring for Paleontological Resources	Class II
Cumulative Effects	GEO-1 through GEO-3 (see above)	Not Cumulatively Considerable
Hazards and Hazardous Materials		
Threshold HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.		
Impact HAZ-1: The transport, use, or disposal of hazardous materials could result in spills and expose the public and the environment to these hazardous materials.	HAZ-1 Spill Prevention and Contingency Plan HAZ-2 Worker Training HAZ-3 Maintenance of Equipment	Class II

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures		Significance Conclusion
Threshold HAZ-2: 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.			
Impact HAZ-2: The use of engines during construction and refueling of the diesel generators during operations could result in the accidental release of gasoline or diesel fuel into the environment.	HAZ-1 HAZ-2 HAZ-3 HAZ-4	Spill Prevention and Contingency Plan Worker Training Maintenance of Equipment Refueling Practices	Class II
Threshold HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.			
Impact HAZ-3: Cable installation activities would temporarily release toxic emissions within one-quarter mile of existing schools.	None required		Class III
Threshold HAZ-4: Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.			
Impact HAZ-4: Temporary barriers installed during construction would restrict emergency access and movement at the Project site.	T-1	Construction Traffic Control Plan	Class II
Threshold HAZ-5: Pose electrocution hazards to people in the marine environment.			
No Impact	None required		No Impact
Cumulative Effects	HAZ-1 through HAZ-4 (see above)		Not Cumulatively Considerable
Hydrology and Water Quality			
Threshold HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.			
Impact HWQ-1: Construction activities would temporarily release potentially hazardous substances into the environment and could violate water quality standards or waste discharge requirements.	HWQ-1	Frac-out Contingency Plan[2]	Class II
Threshold HWQ-2: Degrade water quality through the inadvertent release of pollutants into the marine environment.			
Impact HWQ-2: Marine construction vessels and equipment would potentially inadvertently release fuel, fluids, bilge water, sewage waste, debris, or ballast water into the marine environment.	HWQ-2 HWQ-3 HWQ-4	Marine Spill Prevention Plan Vessel Waste Management Plan Shipboard Oil Pollution Emergency Plan	Class II

[2] Boring activities require the use of a non-toxic bentonite clay to lubricate the drill and carry cuttings, sand, and small rocks from the bore path. During boring operations, fractures in the soils may result in the inadvertent release of bentonite clay into the environment. This event is described as a "frac-out" and typically occurs in highly fractured soils or if the bore path is extremely shallow.

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Threshold HWQ-3: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.		
Impact HWQ-3: The Project would potentially conflict with the Los Angeles Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan for the Los Angeles Region (Basin Plan).	None required	Class III
Threshold HWQ-4: Dispose of dredged sediments such that substantial adverse changes could occur related to ocean water or sediment quality, toxicity, or bioaccumulation of contaminants in aquatic biota, or declines in marine wildlife habitat.		
Impact HWQ-4: The proposed marine dredging activities would degrade ocean water and sediment quality.	None required	Class III
Cumulative Effects	HWQ-1 through HWQ-4 (see above)	Not Cumulatively Considerable
Land Use and Recreation		
Threshold LU-1: Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.		
Impact LU-1: The Project could conflict with certain California Coastal Act and PLAN Hermosa policies intended to reduce or avoid adverse environmental effects.	LU-1 Notice of Marine Construction Activities Provided to Appropriate Agencies and Personnel LU-2 As-Laid Specifications Provided to Appropriate Agencies and Personnel LU-3 Disclosure of Marine Cable Locations LU-4 Coordination with City on Right-of-way (ROW) Restoration See Section 3.9.3.4 for the full list of mitigation measures	Class II
Threshold LU-2: Contribute to the long-term loss or degradation of the recreational value of an established, designated, or planned recreational use area.		
Impact LU-2: Terrestrial construction activities would disrupt recreational activities.	LU-5 Construction Schedule Coordinated with Sports Programs T-1 Construction Traffic Control Plan	Class II
Impact LU-3: Marine construction activities could temporarily preclude or disrupt recreation.	LU-3 Disclosure of Marine Cable Locations	Class II
Cumulative Effects	See mitigation measures listed above	Not Cumulatively Considerable

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Noise and Vibration		
Threshold N-1: Result in construction or operational activity that would occur outside the permissible hours identified within the Hermosa Beach Municipal Code, Chapter 8.24.050 (Noise Control - Construction).		
Impact N-1: Noise would be generated from construction activities outside of the hours allowed by the Hermosa Beach Municipal Code.	N-1 Construction Work Hours Authorization	Class II
Threshold N-2: Result in construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9:00 a.m. and 5:00 p.m. on Saturday (with no work allowed on Sundays and legal holidays) that exceed: - An L50 noise level of 65 dBA or a Lmax of 85 dBA at a property line zoned R-1 (single-family residential). - An L50 noise level of 70 dBA or a Lmax of 90 dBA at a property line zoned R-2 and R-3 (multi-family residential). - An L50 noise level of 75 dBA or a Lmax of 95 dBA at a property line zoned C-1, C-2, and C-3 (commercial).		
Impact N-2: Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed an L50 noise level of 65 or Lmax of 85 at the property line of nearby residences.	None required	Class III (Terrestrial Conduit System and Construction Traffic)
	N-2 Employment of Noise-Reducing Construction Practices N-3 Construction Noise and Vibration Complaint Program	Class I (Cable Landing Site and Directional Bores)
Threshold N-3: Cause vibration levels at the property line of any neighboring use that exceeds 0.1 inches/second over the frequency range 1 - 100 Hz.		
Impact N-3: Construction activity could result in vibration levels that could potentially cause annoyance.	None required	Class III
Cumulative Effects	N-1 through N-3 (see above)	Cumulatively Considerable (Noise) Not Cumulatively Considerable (Vibration)
Transportation		
Terrestrial Transportation		
Threshold T-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.		
Impact T-1: Project-related temporary road or travel lane closures could affect traffic flow and create congestion, thus reducing the planned effectiveness of the Hermosa Beach transportation system.	None required	Class III
Threshold T-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), thereby resulting in a substantial and sustained increase in vehicle miles traveled compared to regional averages.		
Impact T-2: Construction trips would result in a short-term increase in traffic volumes and a temporary increase in vehicle miles traveled.	None required	Class III

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Threshold T-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).		
Impact T-3: Construction activities and temporary road or travel lane closures could create hazards to motorists, pedestrians, and bicyclists.	T-1 Construction Traffic Control Plan	Class II
Threshold T-4: Result in inadequate emergency access.		
Impact T-4: Project activities requiring temporary road or travel lane closures could affect emergency vehicle response.	T-1 Construction Traffic Control Plan	Class II
Threshold T-5: Permanently or temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access.		
Impact T-5: Project activities requiring temporary road or travel lane closures would affect beach access and access to adjacent residential and business properties.	None required	Class III
Threshold T-6: Temporarily disrupt transit service such that there would be no suitable alternative routes or stops.		
Impact T-6: Project activities requiring temporary road or travel ~~land~~ lane closures could affect bus transit service.	None required	Class III
Threshold T-7: Impede pedestrian/bicycle movements such that there would be no suitable alternative pedestrian/bicycle routes.		
Impact T-7: Project activities requiring temporary road or travel lane closures would affect pedestrian/bicycle routes.	T-1 Construction Traffic Control Plan	Class II
Marine Navigation		
Threshold T-8: Restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.		
Impact T-8: Cable-laying activities could inadvertently restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.	None required	Class III

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Threshold T-9: Create a navigational hazard to marine traffic due to Project vessels operating in the marine area.		
Impact T-9: The marine boring operation could create a temporary hazard for marine traffic.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bore T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	Class II
Impact T-10: The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	Class II
Impact T-11: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores. T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	Class I
Threshold T-10: Require a change in regional Vessel Traffic Services, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation.		
No Impact	None required	No Impact
Threshold T-11: Result in a condition that presents a long-term impediment to marine traffic after construction.		
No Impact	None required	No Impact

Table ES-1.1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions

Impact	Mitigation Measures	Significance Conclusion
Threshold T-12: Cause an increase in the risk of vessels in the Project area running aground or striking floating or submerged debris resulting from either the construction or permanent works.		
Impact T-12: The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.	T-5 Removal of Construction-Related Equipment and Debris	Class II
Cumulative Effects	T-1 through T-5 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

ES7. Alternatives to the Proposed Project

ES7.1. No Project Alternative

Under the No Project Alternative, the proposed Project would not be implemented. Therefore, this alternative would not result in the impacts associated with the construction and operation of the Project. As a result, existing conditions in the Project area would persist, subject to changes over time associated with local and regional growth, including new development projects currently proposed and others not yet known. See Section 3.1.5 for a list of proposed, approved, or recently constructed projects in the Project vicinity.

If the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. The details, including location~~,~~ of such a project cannot be known at this time, but would likely entail a proposal similar to the proposed Project to install fiber-optic cables across the Pacific Ocean. Such a future project would likely involve impacts similar to those described for the proposed Project, including significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation), as discussed in Chapter 3. The adverse impacts of such a project could be more or less severe than those of the proposed Project, depending on the characteristics of the locations of the marine cable alignments, landing site, and terrestrial cable alignments.

ES7.2. 10th Street Cable Route Alternative

Figure 4-1~~Figure 4-1~~ illustrates the location of this route alternative. This alternative cable route is most ~~S~~similar to the proposed Option B (10th Street) route~~,~~ in that the alternative ~~cable~~ route would begin at the 10th Street landing site and would be installed in 10th Street from the landing manhole to Loma Drive. However, unlike the proposed Option B (10th Street) route that turns north along Loma Drive and then east along 11th Street, ~~T~~th~~e~~is alternative route would turn northerly and continue along Loma Drive to a pedestrian passage that extends east from Loma Drive along the northern edge of Clark Field to the Hermosa Valley Greenbelt ~~(Veterans Parkway).~~. At the Greenbelt, the alternative route would turn north and follow the proposed Option B route to the PFE facility. The purpose of this alternative cable route would be to avoid construction within 11th Street by installing the route along the northern edge of Clark Field.

The 10th Street Cable Route Alternative would also result in significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation), which is the same as the proposed Project. However, this alternative would directly affect Clark Field during construction; therefore, temporary construction impacts (disruption of recreational uses, aesthetics, and noise) from the 10th Street Cable Route Alternative would be more severe for this recreational facility when compared to the proposed Project.

ES8. Environmentally Superior Alternative

Impacts from the proposed Project would be similar to those from the No Project Alternative, as discussed above, including significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation). In addition, the proposed Project and the 10th Street Cable Route Alternative would also result in the same impact conclusions. However, under the proposed Project, while temporary construction impacts (disruption of recreational uses, aesthetics, and noise) could indirectly affect Clark Field because of the proximity of Project activities near the field, the Project would not directly affect Clark Field because construction would be completed within 11th Street and not within the field as proposed under the 10th Street Cable Route Alternative. Therefore, impacts from Project construction would be less severe for recreational users at this facility compared to the 10th Street Cable Route Alternative. For this reason, the proposed Project has been determined to be the environmentally superior alternative.

1. INTRODUCTION

This ~~Draft~~Final Environmental Impact Report (EIR) has been prepared to analyze and disclose potentially significant environmental effects associated with the installation, operation, and decommissioning of the Transpacific Fiber-Optic Cables Project (Project) proposed by RTI Infrastructure, Inc. (RTI-I), formerly known as MC Global BP4, Inc. and currently doing business as HMB IX (Applicant). This EIR provides the primary source of environmental information for the lead, responsible, and trustee agencies to consider when exercising permitting or approval authority related to implementation of the proposed Project.

The City of Hermosa Beach (City) is the California Environmental Quality Act (CEQA) Lead Agency for the proposed Project and is responsible for the preparation of this EIR.

Pursuant to State CEQA Guidelines, Section 15090, before the City can act on the proposed Project, the City must consider and certify the Final EIR, and must, pursuant to State CEQA Guidelines, Section 15091, make a finding for each significant effect identified in the EIR.

The contents of a Final EIR are specified in Section 15132 of the CEQA Guidelines, as follows:

1. The Draft EIR or a revision of the draft.
2. Comments and recommendations received on the Draft EIR either verbatim or in summary.
3. A list of persons, organizations, and public agencies commenting on the Draft EIR.
4. The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
5. Any other information added by the Lead Agency.

This Final EIR replaces the September 2023 Draft EIR. In accordance with the above-listed requirements, the Final EIR contains the entire text of the Draft EIR, as revised, including changes to the text of the Draft EIR in response to comments received or for reasons that include: to update information; to refine discussions and resolve internal inconsistencies; and to make minor format changes. Except for minor format changes, all revisions to the Draft EIR are shown as follows:

- Additions to the text of the Draft EIR are underlined
- Deletions of the text of the Draft EIR are shown as ~~strikeout~~

A list of persons, organizations, and public agencies commenting on the Draft EIR is provided in Table 1-1~~Table 1-1~~ in Section 1.5.2. Appendix C has been added to the Final EIR, which includes the comments received during the 45-day public review period, along with responses to the comments received. This Final EIR also includes Appendix D, the Mitigation Monitoring and Reporting Program (MMRP). The MMRP is presented in table format and identifies mitigation measures for the proposed Project, the party responsible for implementing the mitigation measures, the timing of implementing the mitigation measures, and the monitoring and reporting procedures for each mitigation measure.

This Final EIR is available for review on the City's website: https://www.hermosabeach.gov/our-community/quick-links/city-projects/development-projects

1.1. Overview of the Proposed Project

RTI Infrastructure, Inc. (RTI-I), formerly known as MC Global BP4, Inc. and currently doing business as HMB IX (Applicant), proposes to install and operate up to two transpacific subsea cable systems with United States landings in Hermosa Beach, California. The proposed Project would be implemented in two phases. Each cable system would entail installation of a marine fiber-optic cable system on the sea floor across the Pacific Ocean, landing in Hermosa Beach at either 6th Street (Option A) or 10th Street (Option B), and then connecting to the Applicant's existing power feed equipment (PFE) facility located in the Hermosa Pavilion at 1601 Pacific Coast Highway, Hermosa Beach.

The two cable systems would connect the United States to Guam and locations on the western Pacific Rim, ~~at locations~~ such as ~~Guam,~~ Southeast Asia, China, Australia, or Japan. The Applicant previously received approval for the installation of four transpacific subsea cables as part of the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project,[3] and desires to expand these facilities by installing two additional subsea cables. The existing facilities were authorized under City of Hermosa Beach Precise Development ~~Permit~~ Plan 14-11 and PDP Amendment 16-28 in 2016. The components of the two phases of the proposed Project are described in detail in Chapter 2, Project Description.

1.2. Project Location and Setting

The Project would be developed in two phases, each composed of a terrestrial and a marine component. The marine cable alignments would traverse the California continental shelf and the Pacific Ocean from Hermosa Beach to Guam and locations on the western Pacific Rim. Each marine cable alignment would terminate at a cable landing site within the incorporated limits of Hermosa Beach. The terrestrial components of the proposed Project include the cable landing site, ocean ground bed, landing pipes that extend from the cable landing site out past the surf zone, and the terrestrial cables and conduit systems that extend from the landing manhole to the PFE facility location. The terrestrial conduit systems provide the connections to the main telecommunication interconnection points and provide power to the system as supplied from the PFE facility. A PFE facility already exists that can be modified to accommodate both phases of the Project. The PFE Facility's location as well as the existing and proposed terrestrial facilities are shown in Figure 1-1~~Figure 1-1~~.

A landing manhole would be installed at either 6th Street (Option A) or 10th Street (Option B) and would provide access to the landing pipe and buried conduit system. The two options for the location of cable landing site (Option A and Option B) are shown in Figure 1-2~~Figure 1-2~~. A terrestrial conduit system would be installed to connect the fiber-optic cable from the cable landing site to the PFE facility. The fiber-optic cable could be installed in the street rights-of-way (ROWs), as well as within the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ between Valley Drive and Ardmore Avenue (see Figure 1-1~~Figure 1-1~~). The Applicant would outfit an additional room within the existing PFE facility to accommodate two additional sets of telecommunication equipment.

[3] The MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project was ~~A~~approved by the City of Hermosa Beach ~~Planning Commission~~City Council in ~~April~~ 2016. Of the Applicant's four previously approved subsea cable systems, three have been installed and are currently in operation. The fourth is expected to be installed in 2024~~As the date of preparation of this EIR, both approved cables have been installed~~~~As the date of preparation of this EIR, one of the two approved cables had been installed with the second cable installed in late 2019~~.

Figure 1-1. Existing and Proposed Terrestrial Facilities

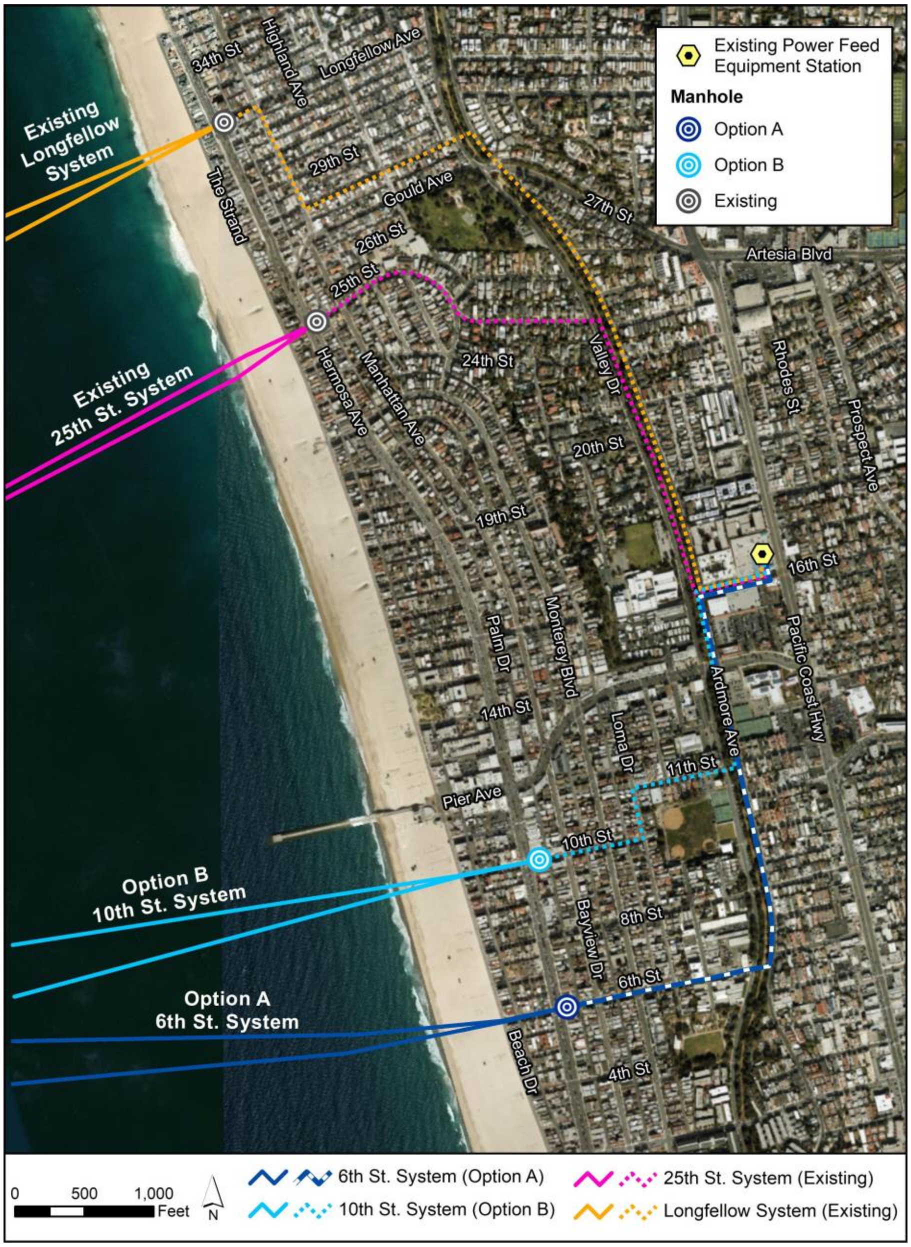
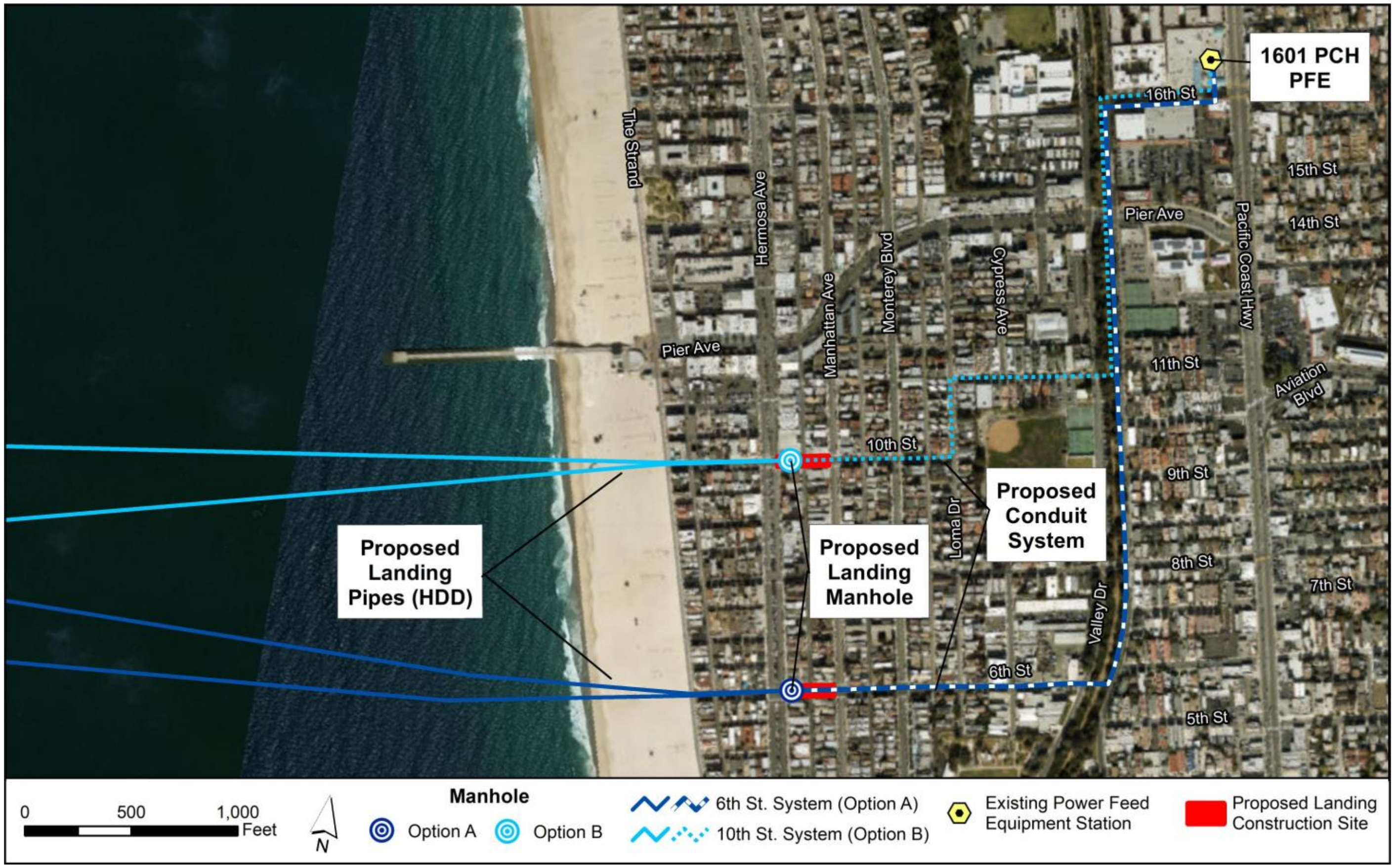


Figure 1-2. Proposed Cable Landing Sites (Options A and B)



1.3. Environmental Review Process

This EIR has been prepared to meet all of the substantive and procedural requirements of CEQA (California Public Resources Code [PRC] § 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR], Title 14, § 15000 et seq). The City of Hermosa Beach is the Lead Agency for the proposed Project, taking primary responsibility for conducting the CEQA environmental review and approving or denying the Project.

In reviewing the application provided by the Applicant, the City determined that the proposed Project has the potential to cause significant adverse effects on the environment and, therefore, determined that the preparation of an EIR would be needed. In August 2019, the City filed a Notice of Preparation (NOP) with the California State Clearinghouse in the Office of Planning and Research to indicate that a Draft EIR would be prepared for the Project. The filing of the NOP initiated a 30-day period during which public and agency input is solicited on the scope of issues that should be addressed in the EIR. As part of the scoping process, a public meeting was conducted on August 26, 2019, to present information on the proposed Project and receive public input on environmental issues. Relevant comments received from agencies and members of the public in response to the NOP were considered in preparation of the Draft EIR, as appropriate.

In accordance with CEQA, the EIR must be completed before the Lead Agency makes any decision to approve the proposed Project. The EIR must disclose the Project's expected impacts on the environment, identify measures to reduce or avoid significant impacts, and analyze a reasonable range of feasible alternatives to the proposed Project. The purpose of this process is to inform the public about the impacts of the proposed Project and to provide information to agency decision makers that could aid them in their decision(s) regarding the Project. The basic contents of an EIR include:

- A description of the proposed Project;
- A statement of objectives;
- A description of existing conditions in the proposed Project area;
- A discussion of the potential significant environmental impacts of the proposed Project;
- Identification of measures that would reduce impacts of the proposed Project; and
- An evaluation of a reasonable range of feasible alternatives to the proposed Project.

The Draft EIR for the proposed Project ~~will be~~was distributed for public review and comment in accordance with CEQA procedures (State CEQA Guidelines, Section 15087). The Draft EIR ~~will be~~was available for review at https~~://~~://www~~.~~.hermosabeach~~.~~.gov~~/~~/our-community~~/~~/quick-links~~/~~/city-projects~~/~~/development-projects.

Copies of the Draft EIR ~~will also be~~were submitted to the California State Clearinghouse, as well as responsible, trustee, and cooperating agencies as defined by CEQA. A Notice of Availability (NOA) of the Draft EIR was~~ill be~~ published in local newspapers (*The Easy Reader* and *The Beach Reporter* on Thursday, September 14, 2023) and with the county clerk (State CEQA Guidelines, Section 15087). These notices are included in Appendix E. Hard copies of the NOA were also mailed to approximately 70 agencies and stakeholders (see Appendix F for the NOA mailing list). Publishing the NOA ~~will initiate~~initiated a 45-day public review period for the Draft EIR. All comments regarding the Draft EIR ~~must~~were required to be received by the Lead Agency before the end of the 45-day period to be considered in the Final EIR.

Responses to substantive comments received on the Draft EIR ~~will be~~were prepared by the Lead Agency and published in this~~e~~ Final EIR (State CEQA Guidelines, Section 15088~~). The~~), as provided in Appendix C. This Final EIR ~~may also~~does not present additional information in response to comments made on the Draft EIR ~~and may~~but does include minor corrections to the Draft EIR.

At the end of the EIR process, in accordance with CEQA requirements (State CEQA Guidelines, Section 15090), the City, as Lead Agency, will review the Final EIR and certify the adequacy of the document prior to taking any action to approve the Project. If the Final EIR concludes that the proposed Project would lead to one or more significant environmental effects that cannot be mitigated to a level of insignificance, the Lead Agency must make specific findings regarding its approval of the Project (State CEQA Guidelines, Section 15091). These findings must either state that alterations have been made to the Project to avoid or substantially reduce each significant impact, or that specific economic, legal, social, technological, or other considerations make mitigation of a significant impact infeasible.

If the City decides to approve the proposed Project or an alternative even with significant unavoidable impacts, the City must prepare and adopt a Statement of Overriding Considerations (SOC) that explains why the significant and unavoidable environmental impacts associated with the Project are acceptable when compared to the benefits of other alternatives (State CEQA Guidelines, Section 15093). If an SOC is required, it must be acted on before action to approve the proposed Project has been taken. The Lead Agency is required to file a Notice of Determination (NOD) with the California State Clearinghouse within 5 working days after approval of a project for which an EIR was prepared (State CEQA Guidelines, Section 15094).

In addition, various other agencies may need to provide approvals prior to initiation of the proposed Project (see Section 2.8, Required Permits and Approvals). These agencies will utilize the information contained in the Final EIR in making their decisions regarding required permits and approvals for the proposed Project.

1.4. Reader's Guide to the EIR

This EIR describes the components of the RTI-I Transpacific Fiber-Optic Cables Project and discusses the significant environmental effects associated with Project construction, operation, maintenance, and decommissioning. The document follows regulations set forth in CEQA (PRC §§ 21000-21189) and State CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3, §§ 15000-15387).

This section discusses some of the primary information sources used in the preparation of the EIR, and also describes the content and organization of the EIR to assist the reader in understanding the document.

1.4.1. Primary Reference Documents

As part of its application to the City for the proposed Project, the Applicant submitted a detailed description of the Project and its methods of construction, which provided the basis for the description of the Project analyzed in this EIR. The Applicant also provided other information used in preparing this EIR, including photographs, copies of permits, and marine studies prepared for the installation of the previous subsea cable project approved by the City in 2016.

The City of Hermosa Beach recently updated its General Plan known as PLAN Hermosa. The new General Plan and the EIR prepared for the plan were utilized in preparing the EIR for the proposed Project. PLAN Hermosa and its EIR are available at the following web address:

http://www.hermosabch.org/index.aspx?page=885

Information and analysis from the Final EIR for the previously approved MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project was also used in preparing this EIR, as that project had similar components and used installation methods similar to the proposed Project.

The environmental analysis presented in this EIR draws upon information provided in these sources as appropriate. PLAN Hermosa and its EIR and the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project

Final EIR are incorporated by reference into this EIR. Where specific information from these documents is utilized in this EIR, references to these sources are provided, and relevant information is summarized or briefly described as required by State CEQA Guidelines, Section 15150.

All information supplied by the Applicant was critically reviewed by the EIR preparers before being used in the EIR and, in some cases, the EIR preparers independently verified information presented. The Applicant also provided responses to information requests from the EIR preparers to confirm and supplement submitted information, and this information has been used in preparation of the EIR, as appropriate.

Lists of information sources referenced in the EIR are presented at the end of each chapter or, in the case of Chapter 3, at the end of each section, as well as in Chapter 7 (References).

1.4.2. Document Organization

This EIR is organized as follows:

- **Executive Summary.** A summary description of the proposed Project and its anticipated environmental impacts are included. A summary table lists impacts and the associated mitigation measures for each significant impact identified for the proposed Project.
- **Chapter 1, Introduction.** A brief overview of the proposed Project, Project location, and CEQA environmental review process are presented.
- **Chapter 2, Project Description.** A detailed description of the proposed Project is presented, including the objectives of the Project.
- **Chapter 3, Environmental Setting and Analysis.** Descriptions of existing environmental conditions in the Project area and a summary of relevant laws and regulations are presented for each technical issue area. The description of existing conditions serves as the base environmental conditions against which environmental effects of the Project are evaluated. Each technical issue area section provides an analysis of the proposed Project's direct, indirect, and cumulative impacts, along with a conclusion regarding the significance of each identified impact. Mitigation measures are proposed to help reduce or avoid significant impacts anticipated to result from Project implementation. Sections 3.1 through 3.11 address the following topics:

  - 3.1 Introduction
  - 3.2 Aesthetics
  - 3.3 Air Quality
  - 3.4 Biological Resources
  - 3.5 Cultural and Tribal Cultural Resources
  - 3.6 Geology and Soils
  - 3.7 Hazards and Hazardous Materials
  - 3.8 Hydrology and Water Quality
  - 3.9 Land Use and Recreation
  - 3.10 Noise and Vibration
  - 3.11 Transportation and Traffic

Some environmental topics are not addressed in the EIR because the Project clearly has no potential to result in significant environmental impacts related to those topics. See the Initial Study in Appendix A for a discussion of topics for which no significant environmental impacts are anticipated and the reasoning for these conclusions.

- **Chapter 4, Alternatives.** This chapter describes the process for the selection of Project alternatives and the rationale used to exclude certain alternatives from further analysis. The impacts of the alternatives carried forward for analysis are described, but in less detail than the impacts of the proposed Project.

- **Chapter 5, Other Required CEQA Topics.** This chapter discusses certain long-term implications associated with Project implementation, including growth-inducing impacts.
- **Chapter 6, List of Preparers.** This chapter lists the preparers of the EIR and their roles.
- **Appendices.** Technical background information used in preparation of the EIR is included in Appendix A, along with the NOP and the Initial Study in Appendix B. Comments received during the 45-day public review period are included in Appendix C, along with responses to the comments received. The Mitigation Monitoring and Reporting Program (MMRP) is provided in Appendix D, and public notices for the Draft EIR are provided in Appendix E. The NOA mailing list is provided in Appendix F.

1.5. Public Review and Comment

1.5.1. Public Scoping

On August 26, 2019, the City of Hermosa Beach filed a Notice of Preparation (NOP) of a Draft EIR for the proposed Project with the California State Clearinghouse (SCH No. 2019080175). The NOP was sent to various local, State, and federal agencies, and to interested organizations. The NOP provided descriptions of Project activities, objectives, and location, and a preliminary identification of potentially significant impacts to be addressed in the EIR.

On August 26, 2019, a public scoping meeting was held in the City of Hermosa Beach to provide an opportunity for agencies and the public to comment on the scope of the EIR, including potential impacts, mitigation measures, and alternatives to be considered. The meeting was conducted in the City Council Chambers at City Hall. A summary of scoping comments received is provided in ~~Table 1-1~~ Table 1-2~~Table 1-2~~ below.

1.5.2. Public Comments on the Draft EIR

This Draft EIR ~~has been~~was distributed for public review and comment in accordance with procedures specified in CEQA. A Notice of Completion, along with copies of the Draft EIR, ~~have been~~were filed with the California State Clearinghouse, which initiated a 45-day public review period for the Draft EIR. A Notice of Availability (NOA) of the Draft EIR was published in local newspapers (*The Easy Reader* and *The Beach Reporter* on Thursday, September 14, 2023) and with the county clerk (State CEQA Guidelines, Section 15087). These notices are included in Appendix E. Hard copies of the NOA were also mailed to approximately 70 agencies and stakeholders (see Appendix F for the NOA mailing list).

The Draft EIR was available for review on the City's website: https://www.hermosabeach.gov/our-community/quick-links/city-projects/development-projects

Hard copies were also available at the following facilities, which were open during the hours below but closed on legal holidays:

- **City of Hermosa Beach, Community Development Department**, 1315 Valley Drive, Hermosa Beach, CA 90254, Hours: Monday to Thursday, 7 a.m. to 6 p.m.
- **Hermosa Beach Library**, 550 Pier Avenue, Hermosa Beach, CA 90254, Hours: Tuesday and Wednesday, 12 p.m. to 8 p.m.; Thursday to Saturday, 10 a.m. to 6 p.m.

Comments ~~may be~~were submitted on the Draft EIR during this public review period. Comments received during the 45-day public review period ~~will be~~are included in ~~an appendix in the~~Appendix C of this Final EIR, along with responses to the comments received. All comments on the Draft EIR ~~must~~were required to be received by the City before the end of the 45-day period to be considered in the Final EIR.

Written comments on the Draft EIR ~~may~~could be submitted to the following mailing address:

Daniel Hortert, Senior Planner
Community Development Department
1315 Valley Drive
Hermosa Beach, CA 90254

Comments ~~may~~could also be submitted via the following e-mail address: fiberopticDEIR@hermosabeach.gov

~~Please~~ The public was asked to focus ~~your~~ comments on topics related to impacts on the physical environment. A log of comments received on the Draft EIR is included in Table 1-1~~Table 1-1~~. See Appendix C for responses to these comments.

Table 1-1. Log of Comments Received on the Draft EIR

Comment Number	Date	From	Summary of Comment
A001	10/18/2023	California Department of Transportation	Encroachment permit requirements and recommendations for oversized transport vehicles
A002	10/23/2023	California Department of Fish and Wildlife	Recommendations to address biological impacts
B001	9/13/2023	Gifford Nowland	Suggested cable alignment on 16th Street
B002	9/20/2023	Mike Flaherty	Information regarding utilities and the Hermosa Valley Greenbelt

1.6. Issues Addressed in the Environmental Impact Analysis

The environmental issues, resources, and topics addressed in this EIR include those identified by the City, as well as relevant concerns raised by other agencies and the public during the scoping process. CEQA requires the EIR to focus on significant adverse impacts and, therefore, the City has evaluated the comments and questions received during the scoping period in light of their relevance to the identification and analysis of significant impacts. Generally, the issues evaluated in this EIR include adverse effects on the physical, biological, cultural, and other resources expected to result from activities related to the proposed Project. Relevant issues raised during the scoping period are listed in Table 1-2~~Table 1-2~~ below.

Table 1-2. Summary of Scoping Comments

Issue or Resource Area	Comments or Concerns	Where Addressed in EIR
Air Quality	CalEEMod land use emissions software should be used to calculate air pollution emissions.	Section 3.3, Air Quality
	Criteria pollutant emission should be compared to the South Coast Air Quality Management District's (AQMD) regional pollutant emissions thresholds.	Section 3.3, Air Quality
	Localized air quality impacts should be calculated and compared to the South Coast AQMD's localized significance thresholds.	Section 3.3, Air Quality

Issue or Resource Area	Comments or Concerns	Where Addressed in EIR
	Air quality impacts should be considered for all project phases.	Section 3.3, Air Quality
Hazards	Would the undersea cable present an electrical hazard?	Section 3.7, Hazards and Hazardous Materials
Land Use and Planning	Would the project further any of the goals or policies of PLAN Hermosa?	Section 3.9, Land Use and Recreation
Vibration and Noise	What impacts would be caused by vibrations from boring operations?	Section 3.10, Noise and Vibration
	Would noise levels increase?	Section 3.10, Noise and Vibration
Water Quality	Would there be long-term adverse effects on water quality?	Section 3.8, Hydrology and Water Quality

Please note that CEQA does not permit social or economic effects to be treated as significant impacts and, therefore, no significance conclusions are presented in this EIR for such effects (State CEQA Guidelines, Section 15131).

Other topics addressed in this EIR include compliance with applicable laws and regulations (addressed throughout Chapter 3), growth-inducing impacts (Section 5.2) and significant irreversible environmental changes (Section 5.4).

The City has endeavored to address a broad range of issues, resources, and topics in the EIR, including concerns raised during the scoping comment period. However, for various reasons, not all comments received during the scoping process may be addressed. Any comments that did not pertain to the proposed Project have not been addressed. Examples include comments on other projects or on actions by government agencies that are not relevant to the proposed Project. Any comments that were not substantive have not been addressed because they did not present information that is meaningful to the environmental analysis. Examples of non-substantive comments include expressions of opposition to or support for the proposed Project, statement of disagreement with adopted public policies, or comments that are vague or open ended (e.g., “put the project somewhere else” or “the project will harm the area”). Such non-substantive comments are not required to be addressed in the EIR.

1.7. Post-EIR Project Changes

The information about the proposed Project that serves as the basis for the impact analysis in this EIR is derived from application materials, peer-reviewed technical studies submitted by the Applicant, and information provided by the Applicant in response to information requests from the EIR preparers. While this information is detailed, it does not represent final engineering data, as construction-level plans have not yet been prepared for the Project. Therefore, if the Project is approved, some changes in Project details are expected after the EIR is finalized and approvals are granted. Although the full scope of possibilities must be analyzed in this EIR, unanticipated changes in the Project design might involve minor alignment changes, changes in the type of materials used, minor changes in material quantities, and other details that would not be finalized until construction plans are completed. These types of changes are normal and expected for almost any type of project because, typically, the information available for CEQA analysis is at a preliminary project design stage rather than final design. Such project changes do not invalidate the analysis in the EIR or necessarily trigger the need for supplemental environmental analysis. Supplemental analysis is generally only needed when a project, or the circumstances under which a project will be undertaken, substantially changes, such that adverse impacts would be substantially more severe than described in the original EIR (see State CEQA Guidelines, Section 15162).

CEQA recognizes that detailed project information, such as construction plans, is not required for preparation of an EIR. Section 15124 of the State CEQA Guidelines states that an EIR should contain a "general description" of a project's characteristics and "should not supply extensive detail beyond that needed for evaluation and review of the environmental impact." Further, State CEQA Guidelines, Section 15004(b), states that an EIR "should be prepared as early as feasible in the planning process to enable environmental considerations to influence project … design."

1.8. Areas of Known Controversy and Issues to be Resolved

Evaluation of the proposed Project under CEQA was initiated in August 2019. As of the publication of this Draft EIR, no areas of controversy or issues in need of resolution have been communicated to the City of Hermosa Beach Community Development Department. Additionally, no remaining technical Project Description issues or environmental review issues are left to be resolved.

1.9. Requirements for Recirculation

An EIR is required to be recirculated when significant new information is added to the EIR after public notice but before certification. New information is not significant unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponents have declined to implement. Recirculation is not required when the new information clarifies or amplifies or makes insignificant modifications in an adequate EIR. While the EIR has been revised where appropriate to respond to public comments, no significant new information has been added to it that would deprive the public of a meaningful opportunity to comment upon a substantial adverse environmental effect or a feasible way to mitigate or avoid such an effect. As discussed in this section, the changes to the Draft EIR do not meet the threshold for significant new information.

2. PROJECT DESCRIPTION

RTI Infrastructure, Inc. (RTI-I), formerly known as MC Global BP4, Inc. and currently doing business as HMB IX (Applicant), proposes to install and operate up to two subsea cable systems connecting the United States to Guam and ~~countries~~ locations on the western Pacific Rim, such as ~~Guam,~~ Southeast Asia, China, Australia, or Japan. The Applicant has already installed terrestrial systems to support four subsea cables as part of the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project,[4] and desires to expand these facilities by adding two additional subsea cables. The existing facilities were authorized under City of Hermosa Beach Precise Development ~~Permit~~ Plan number 14-11 and PDP Amendment 16-28 in 2016. The proposed facilities would require discretionary approvals from the City of Hermosa Beach in the form of a ~~Planned Development Permit and a~~ Precise Development P~~ermit~~lan, as well as discretionary permits from other agencies. The full list of anticipated approvals and permits are presented in Table 2-5 at the end of this chapter. Figure 1-1~~Figure 1-1~~ shows the existing facilities and the proposed new facilities (see Section 1.2, Project Location and Setting).

Of the Applicant's four previously approved subsea cable systems, three have been installed and are currently in operation. The fourth is expected to be installed in 2024. Additionally, two other subsea cable systems were installed in Hermosa Beach in the early 2000-2001, which were installed as part of the Tycom Global Network. Those cables are still in operation and are known as the TGN and UNITY Cables Project.

The proposed Project would be implemented in two phases, which are described in Section 2.2 below. Each cable system would entail installing a marine fiber-optic cable on the seafloor across the Pacific Ocean, an onshore landing site with either a 6th Street (Option A) or 10th Street (Option B) in Hermosa Beach, and then connecting to the Applicant's existing power feed equipment (PFE) facility located in the Hermosa Pavilion at 1601 Pacific Coast Highway, Hermosa Beach. A buried terrestrial conduit system would be installed using trenchless construction (i.e., boring) within public street rights-of-way (ROWs) to connect landing facilities at either 6th Street or 10th Street to the existing PFE facility. Figure 1-2~~Figure 1-2~~ shows the proposed facilities to be installed at either 6th Street or 10th Street (see Section 1.2, Project Location and Setting). The Applicant's preferred landing site is 6th Street.

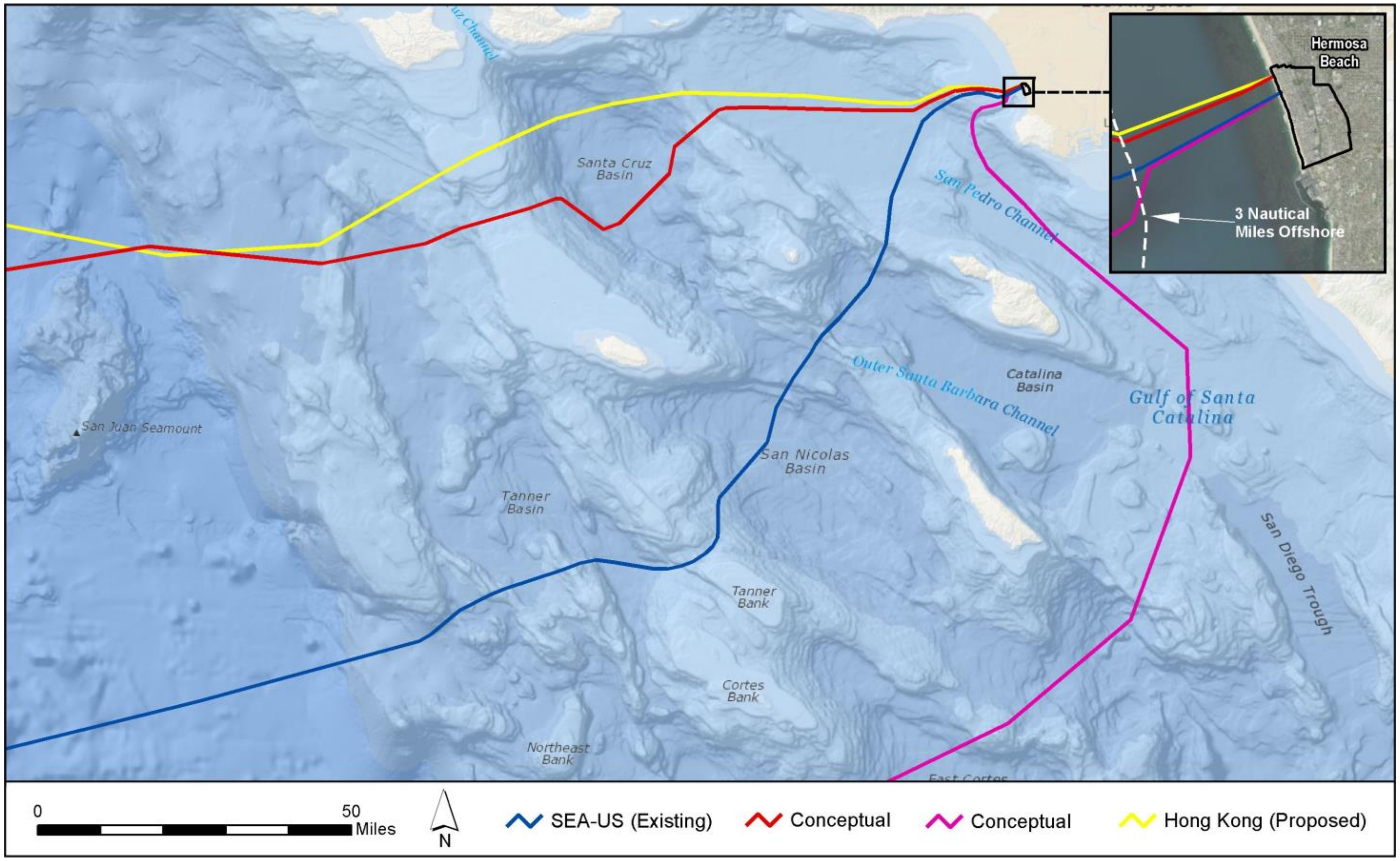
The marine cable systems would generally follow the ocean corridors evaluated in the previous EIR for the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project. Figure 2-1~~Figure 2-1~~ shows these corridors.

All components of the proposed Project are analyzed in this EIR, including optional components. Both phases are included in the analysis, even though specific dates for implementation of Phase 2 have not been established. Supplemental CEQA review of Phase 2 may be needed depending on the environmental conditions that exist at that time and whether any components of those phases differ substantially from those analyzed in this EIR.

The EIR focuses on effects within Hermosa Beach and nearby jurisdictions, including marine areas within the City's jurisdiction that extend 3 nautical miles (3.5 statute miles or 5.6 kilometers) seaward from the mean high tide line, as shown in Figure 2-1~~Figure 2-1~~ (the City was granted sovereign tide and submerged lands in trust by the State of California). Effects within marine areas under federal jurisdiction are also discussed, which includes areas on the continental shelf where the submarine cables would be buried to the extent feasible. The continental shelf generally includes areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters) and extends about 151 nautical miles (174 statute miles or 280 kilometers) offshore. Figure 2-1~~Figure 2-1~~ shows the extent of the Project area within the continental shelf.

[4] The MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project was approved by the Hermosa Beach City Council in 2016.

Figure 2-1. Offshore Conceptual Marine Cable Alignments



The territorial sea of the United States extends out 12 nautical miles (13.8 statute miles or 22.2 kilometers) from shore, and the country's exclusive economic zone encompasses ocean areas extending out 200 nautical miles (230.2 statute miles or 370.4 kilometers) from shore. Potential effects associated with laying the submarine cables in deeper water, beyond the jurisdiction of the United States, are only discussed in a general way as these effects are outside the purview of both State and federal regulations. In these deep waters, the cables would be laid directly on the ocean floor and would not be buried.

2.1. Project Objectives

The basic objective of the proposed Project is to install two fiber-optic telecommunication cables across the Pacific Ocean to provide additional telecommunications capacity and redundancy between the Los Angeles Basin and Asian and other Pacific Rim countries. The Applicant intends to install the cables in two separate phases, which would allow the Applicant to identify optimal cross-Pacific connection points based on demand. The Project has been designed to achieve the following objectives:

- Provide a direct telecommunications link to Guam and Asia;
- Provide for increased telecommunications reliability between the United States and Pacific Rim cities and countries by avoiding historically seismically unstable zones;
- Provide for increased diversity of telecommunications pathways between the United States and Pacific Rim cities and countries;
- Provide for increased data transmittal speeds;
- Provide for a more streamlined ability for telecommunications connectivity between the Los Angeles basin and Pacific Rim cities and countries; and
- Respond to Asia's increasing demand for connectivity to the United States.

2.2. Project Phases

The Project would be constructed in two phases as depicted in Table 2-1. Phase 1 includes construction of the terrestrial facilities shared by both of the Project's two fiber-optic cable systems and the installation and operation of one of the systems (the subsea cable to Guam). Phase 2 includes construction of the remaining terrestrial facilities and installation and operation of the second subsea cable system (to the western Pacific Rim). The two construction phases are proposed to be completed approximately 2 years apart, in 2024 and 2026, respectively.

Following completion of Phase 2, the fully operational phase is expected to have a project life of approximately 25 years. During the Project's operational lifetime, no routine maintenance activities are planned for the fiber-optic cable systems other than inspection and maintenance of the equipment in the PFE facility to ensure the equipment is in proper working order. At the end of the Project's operational lifetime, the system and its facilities would either be removed and/or abandoned in place, as determined by the California Coastal Commission (see detailed discussion in Section 2.7). Sections 2.4 and 2.5 below provide more detailed information about the Project's terrestrial and marine components and the proposed construction methods.

2.3. Proposed Construction Schedule

The construction schedules for the terrestrial and marine components of the Project are described below, and the anticipated implementation schedules for each of the two phases of the Project are shown in Table 2-1.

Table 2-1. Anticipated Construction Schedules by Phase and Activity

Phase and Component	Target Start Date	Proposed Hours	Duration
Phase 1			
Terrestrial conduit installation	Fall/Winter 2024/2025	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	2 months
Manhole installation	Fall/Winter 2024/2025	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	2 days/site
Directional bores – marine	Fall/Winter 2024/2025	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	5-6 weeks
Pump Circulation	Fall/Winter 2024/2025	Sun, 30 minutes, twice a day	4-5 weeks
OGB and LMH	Fall/Winter 2024/2025	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	5 days
Terrestrial cable pulling	Summer/Fall 2025	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	1 to 3 days
PFE facility (construction and testing)	Summer/Fall 2025	Daylight, 6 days per week	3 months
Pre-lay grapnel run	Summer/Fall 2025	24 hours per day, 7 days per week	3 days
Marine cable landing	Summer/Fall 2025	24 hours per day once commenced	3 days
Marine cable lay	Summer/Fall 2025	24 hours per day, 7 days per week	4 weeks
Marine cable burial (diver-assisted)	Summer/Fall 2025	Daylight, 7 days per week	3 weeks
Marine cable burial (ROV-assisted)	Summer/Fall 2025	24 hours per day, 7 days per week	1 week
Phase 2			
OGB installation	Fall 2027	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	5 days
Terrestrial conduit installation (if needed for minor adjustments)	Fall 2027	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	1 week
Terrestrial cable pulling	Fall 2027	M-F 8:00 a.m. to 6:00 p.m., Sat 9:00 a.m. to 5:00 p.m.	1 week
PFE facility (construction and testing)	Fall 2027	Daylight, 6 days per week	3 months
Pre-lay grapnel run	Fall 2027	24 hours per day, 7 days per week	1 week
Marine cable landing	Fall 2027	24 hours per day once commenced	3 days
Marine cable lay	Fall 2027	24 hours per day, 7 days per week	4 weeks
Marine cable burial (diver-assisted)	Fall 2027	Daylight, 7 days per week	3 weeks
Marine cable burial (ROV-assisted)	Fall 2027	24 hours per day, 7 days per week	1 week

Notes: OGB = ocean ground bed; LMH = landing manhole; PFE = power feed equipment; ROV = remotely operated vehicle; M-F = Monday through Friday; Sat = Saturday; Sun = Sunday

2.3.1. Terrestrial Facility Installation

The components of the terrestrial cable systems include all facilities located above the mean high water (MHW) line required to support the proposed Project. These features include:

- Landing pipes installed by directional boring;
- Landing manhole (LMH);
- Ocean ground bed (OGB);
- Buried terrestrial conduits, innerducts, fiber-optic, power, ground cables, and intermediate manholes; and
- Power feed equipment (PFE) facility.

The terrestrial components of the Project are described in Section 2.4 below.

The landing pipes, described in Section 2.4.1.1 below, would be installed through marine directional boring operation at the cable landing site. These activities would take 5 to 6 weeks to complete, as follows:

- 1 week for site set up,
- 3 to 4 weeks for directional boring and installation of the landing pipes, and
- 1 week for installation of the LMH and site cleanup.

Terrestrial conduit installation in City streets and the Hermosa Valley Greenbelt ~~(Veterans Parkway),~~, described in Section 2.4.1.4 below, would take approximately 2 months to complete. Terrestrial cable pulling through the conduits would take about 1 to 3 days to complete.

The installation of the terrestrial facilities, including the marine directional bores and underground conduit placement, would be completed between the hours of 8:00 a.m. and 6:00 p.m., Mondays through Fridays; and between the hours of 9:00 a.m. and 5:00 p.m. on Saturdays. The only construction activity planned on Sundays and legal holidays would be circulation of the marine directional bore pump for 30 minutes, two times per day. No other work on Sundays or legal holidays is proposed. Work after hours during the evening may be required as the bore pump could require circulation if the contractor believes that the bore pipe is at risk of seizing.

Construction of the Phase 1 cable, which will utilize the terrestrial facilities, is expected to begin in either the first or second quarter 2025, with the cable landing anticipated in the third quarter of 2025. The Phase 2 cable landing is expected to be completed sometime in 2027.

2.3.2. Marine Cable Pulling

After the landing pipes are installed from the shore, the marine cable would be pulled to the shore through the landing pipe. The pulling of the marine cable through the landing pipe typically takes 1 day. However, once commenced, these activities cannot be stopped. Therefore, the work hours for the marine cable pulling would begin at about 8:00 a.m. on the landing day and would continue for 24 hours per day, 7 days per week, until completed. This work is expected to take about 3 days for each cable, including 1 day for set up, 1 day for cable landing, and 1 day for splicing. Work on Sunday may be required, although this would be avoided to the extent possible.

2.4. Terrestrial Components and Construction

The terrestrial components of the cable systems refer to system components located above the MHW line and include landing pipes, a landing manhole, ocean ground bed, buried terrestrial conduits and cables, and a PFE facility. These components and their installation are described in Section 2.4.1 below. The terrestrial components would be located completely within the City of Hermosa Beach (see Figure 1-2~~Figure 1-2~~). The marine components of the Project are discussed in Section 2.5.

2.4.1. Terrestrial Components

2.4.1.1. Landing Pipes

The landing pipes are 6-inch-diameter steel pipes that would be installed underground from the landing site out to the ocean. The landing pipes would be located under city streets, the beach, and nearshore areas of the ocean before emerging on the ocean floor approximately 3,000 feet (914 meters) from the landing site. The subsea cables would be pulled through these pipes to connect the marine and terrestrial components of the cable systems.

The two landing pipes are proposed to be installed using horizontal directional bore methods, also known as directional boring or horizontal directional drilling, from either the 6th Street landing site (Option A) or the 10th Street landing site (Option B) into the ocean up to a distance of approximately 3,000 feet (914 meters) offshore. The Option A landing site is located on 6th Street between Hermosa Avenue and Manhattan Avenue, and the Option B landing site is located on 10th Street between Hermosa Avenue and Manhattan Avenue. See Figure 2-2~~Figure 2-2~~ and Figure 2-3~~Figure 2-3~~ for the locations of the Option A and Option B landing sites. Figure 2-4~~Figure 2-4~~ shows a typical site plan for the cable landing site. The directional boring methods are described in Section 2.4.2.1, Directional Bores.

2.4.1.2. Landing Manhole

After the two directional bores are completed, they would be connected to a subsurface manhole, referred to as the LMH. The LMH would provide access to the directional bores for marine cable pulling. The LMH would contain the splice where the terrestrial cable and the subsea cable connect. The LMH would be connected to the PFE facility by a terrestrial conduit system described below in Section 2.4.1.4. The LMHs would be approximately 8 feet (2 meters) wide, 12 feet (3.7 meters) long, and 9 feet (2.7 meters) deep, and would be buried with a cast-iron manhole cover that is 36 inches (91 centimeters) in diameter appearing at grade level when constructed in the street. The manhole covers would be marked with appropriate identification and would be secured (i.e., locked and bolted), as required by the City.

In addition to the LMH, a separate surface access vault would be placed on the landward side of the LMH. The surface access vault would consist of a deep concrete box with the dimensions of 4 feet (1.2 meters) wide, 5 feet (1.5 meters) long, and 2.5 feet (0.7 meter), with a steel traffic lid. The surface access vault would allow for the subsea cable installation without additional surface disturbance.

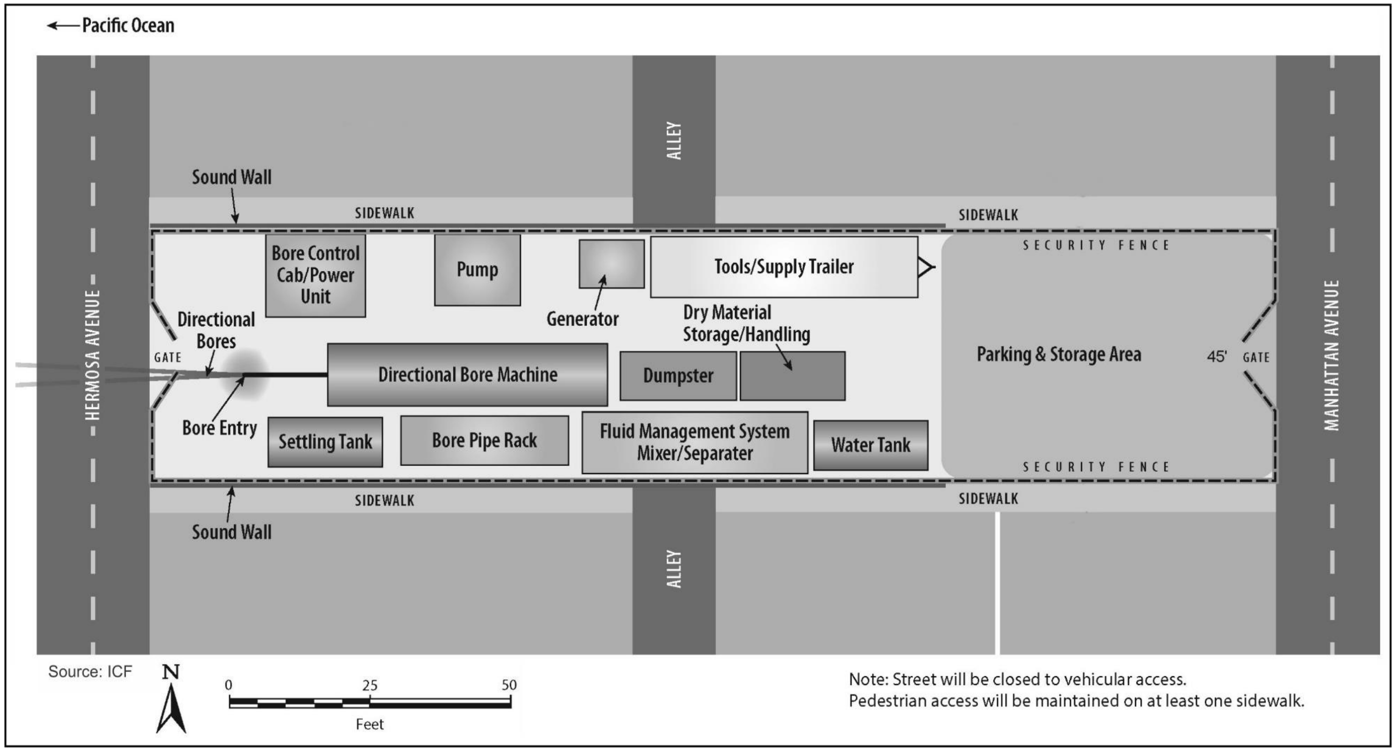
2.4.1.3. Ocean Ground Bed Installation

The OGB is an anode array consisting of metal rods that would be installed vertically under either the beach, under the Greenbelt, or under the ocean floor seaward of the existing horizontal directional drilling (HDD) pipe. An anode is a type of electrode that serves as the electrical earth/ground for the cable system. The direct current (DC) electrical system that provides power for the subsea cables would be connected to the OGB. The OGB functions as the electrical earth allowing the DC circuit to be completed. The location would be selected by the cable engineer at the time of construction.

Figure 2-2. 6th Street Cable Landing Site (Option A)

Figure 2-3. 10th Street Cable Landing Site (Option B)

Figure 2-4. Typical Cable Landing Site Plan



If installed under the beach, the OGB would be located approximately 20 feet west of the existing wall at The Strand and would be installed parallel to the wall. (The Strand is a pedestrian and bicycle boardwalk along the beach.) From this location, a conduit would be placed that connects back to the LMH located in the street near Hermosa Avenue. If installed under the Greenbelt, a location would be selected near a planned manhole and away from existing trees. The OGB would consist of up to six anodes constructed of cast iron and encased in a magnesium canister that is 10 inches (25 centimeters) in diameter and up to 84 inches (2.1 meters) in length (see Figure 2-5~~Figure 2-5~~). The anodes would be placed in a line and spaced at 10-foot (3-meter) intervals. A small well drill rig would be used to drill holes that are approximately 12 inches in diameter and simultaneously install the casing that would hold the anodes. The tops of the anodes would be approximately 10 feet (3 meters) below grade. Ground cable would be buried approximately 6 feet (1.8 meters) below grade and would lead from the OGB to the LMH. The OGBs would be located approximately 250 feet (76 meters) landward of the MHW line.

If a sea anode array is used, the equipment would be installed in the ocean beginning at the seaward end of the landing bore pipe (see Figure 2-5~~Figure 2-5~~). The tubular anodes would be mixed-metal-oxide rods that are approximately 11.8 inches (0.3 meters) in diameter and approximately 4.9 feet (1.5 meters) in length. Three to five anodes would be connected together in a linear or string fashion to create the array assembly. Each anode on the array would be separated by a distance of approximately 9.8 feet (3 meters) and would be connected by an insulated copper conductor. The anode array would be installed by jet burial using a diver in the same operation as the marine cable burial. The sea anode array would be placed beginning at approximately 50 feet (15 meters) beyond the end of the landing pipe and installed alongside the sea cable as it extends away from the landing pipe. The sea cable and the sea anode array would be lashed together and buried as part of the same burial operation. The electrical cable that connects to the anodes and the marine fiber-optic cable would be pulled simultaneously into the landing pipe and connected to terrestrial cables in the LMH.

2.4.1.4. Terrestrial Conduit Systems

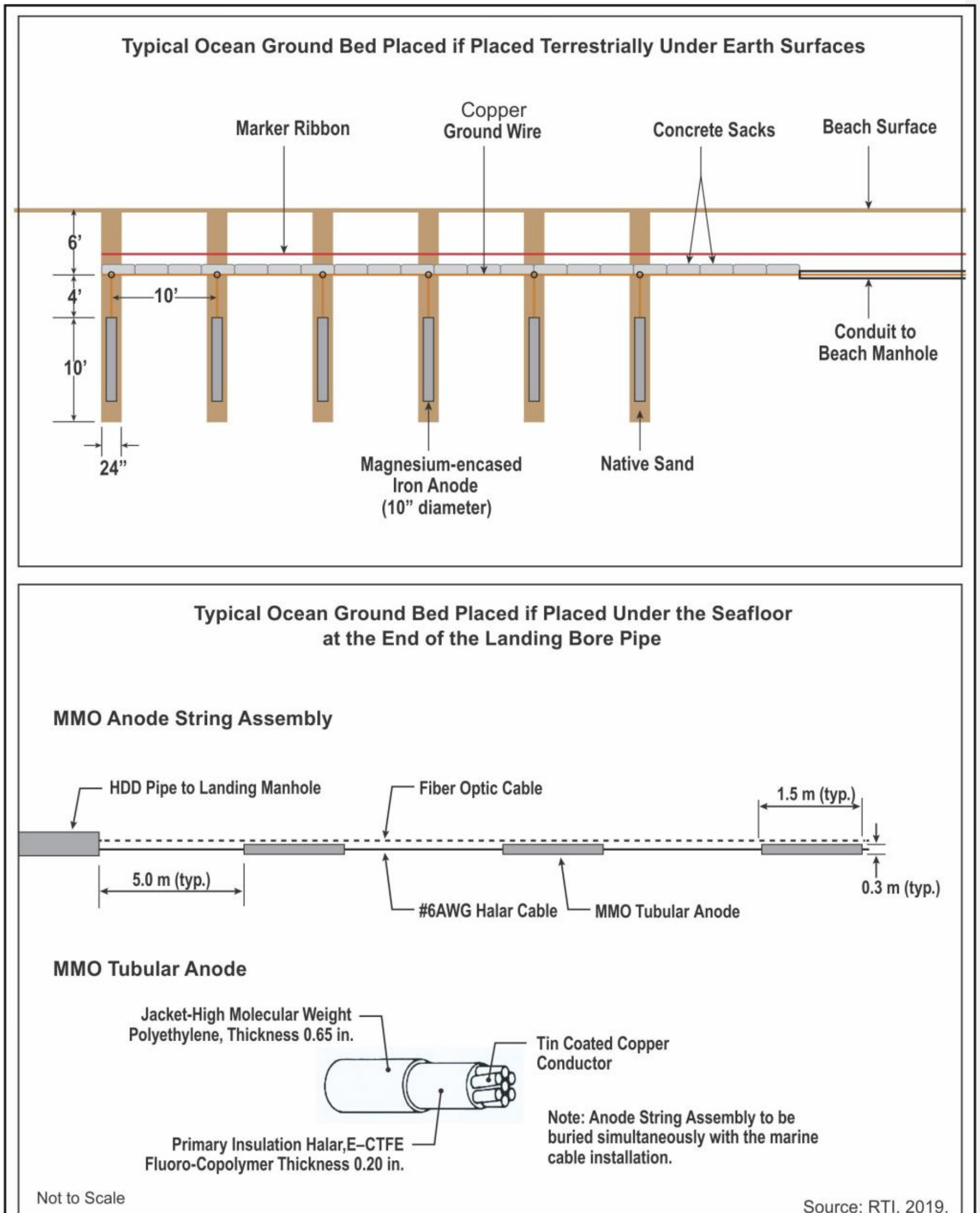
The terrestrial conduit system would provide the link from the LMH, where the subsea cable comes ashore, to the existing PFE facility. The system would follow public rights-of-way (streets and Greenbelt) from the LMH to the PFE facilities, as described in Section 2.4.3, Terrestrial Alignments, and shown in Figure 1-2~~Figure 1-2~~.

Terrestrial Conduit System to Connect PFE Facility to LMH

Seven 1.5-inch or 2.0-inch diameter high-density polyethylene (HPDE) conduits (i.e., pipes) would be installed in a duct bank along the terrestrial route from the PFE facility to the LMH. The seven conduits would accommodate two separate subsea cable systems. Two conduits would house the fiber-optic cables, two conduits would house the necessary power cables, and two could house ground cables. The final conduit would be a spare reserved for possible future maintenance or replacement. This spare conduit would be utilized if circumstances require installation of a replacement cable for some unforeseen reason. If a cable needs to be replaced, the spare conduit would facilitate such replacement without new excavation or interruption to service.

Orange warning tape would be buried approximately 1 foot (0.3 meter) deep (or would be installed using the trenchless installation method described in Section 2.4.2.6) to alert individuals digging above the cable. This warning tape would be buried during installation of the conduit.

Figure 2-5. Typical Ocean Ground Bed



Source: RTI, 2019.

Terrestrial Segment Cables

Each subsea cable system would require three conduits or subducts between the LMH and the PFE facility. The first cable would be a fiber-optic cable used to transmit telecommunications data throughout the system. The second cable would be an insulated copper power cable used to transmit power from the PFE facility to the marine cable. The third cable would be an insulated copper ground cable used as part of the electrical equipment ground system and would connect the PFE facility to the OGB ~~at~~ under either the beach, under the Greenbelt, or under the ocean floor. Each group of three cables (fiber-optic, power, and ground) would constitute one cable system.

Intermediate Manholes

Pre-cast concrete manholes would be placed at intervals of approximately 800 feet (240 meters) along the routes between the LMH and the PFE facility. The manholes are necessary to allow access to the conduit system for cable installation and maintenance. Typically, the manholes would be about 4 square feet (0.4 square meter) and 6 feet (2 meters) deep, with a cast-iron manhole cover measuring 36 inches (91 centimeters) in diameter appearing at grade level. All manhole covers would be marked with appropriate identification and would be secured (i.e., locked and bolted) as required by the City. Depending on the final alignments of the routes, 8 to 12 intermediate manholes are expected for the entire Project.

The three terrestrial conduits described above would enter and exit each intermediate manhole between the LMH and the PFE facility.

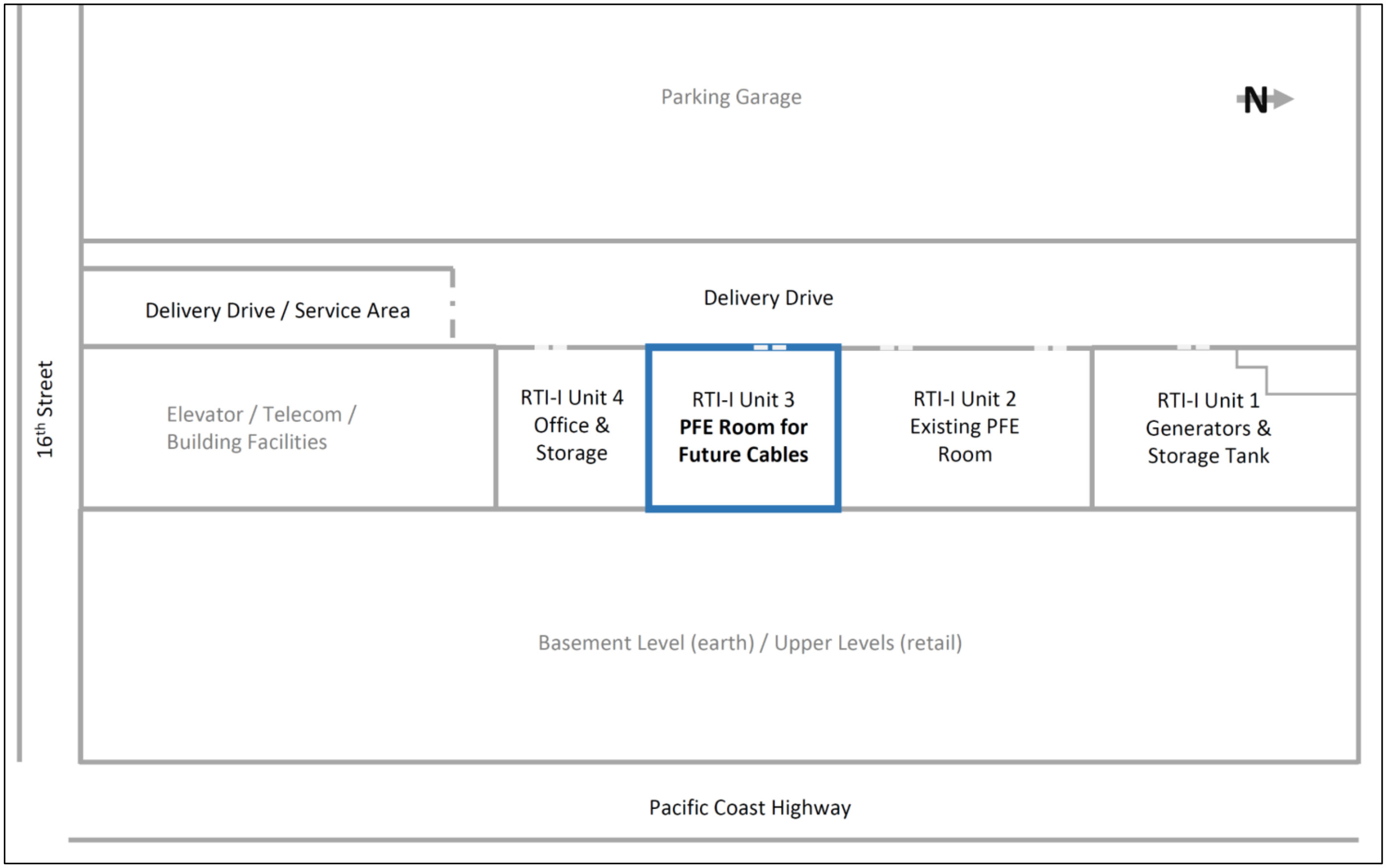
2.4.1.5. Power Feed Equipment Facilities

Each marine cable would contain a copper electrical conductor necessary to regenerate the light signal being transmitted through the fiber-optic cable as it crosses the Pacific Ocean. The electrical power would be supplied by standard commercial sources on the terrestrial end of the cable. The commercial power, which would be alternating current (AC), would be converted to direct current (DC), and the voltage and amperage (amps) would be converted to match the needs of the signal regenerating technology. Once converted, the electrical current would be applied to and carried by the marine fiber-optic cable. The PFE facility would be needed to convert and apply the electrical current to the fiber-optic cable.

The Applicant currently owns and operates an existing PFE facility in a leased space in the basement of 1601 Pacific Coast Highway, Hermosa Beach. This existing space would be renovated to accommodate the additional two sets of PFE equipment needed for the two proposed cables. The Applicant would outfit an additional space of approximately 1,500 square feet, located within their existing leased space and adjacent to their existing PFE room in the building (see Figure 2-6~~Figure 2-6~~).

Each cable system would require approximately 740 square feet (69 square meters) of space and would be powered by commercially delivered electricity. The PFE facility currently contains emergency backup generators in the event of local or regional power outages. To accommodate up to six systems (four already approved plus the two additional proposed), two 300-kilowatt (kW) diesel generators and one 5,000-gallon fuel (diesel) tank would be needed. The Applicant's normal operations at the PFE facility would require approximately 300 kW of 480-volt alternating current (AC) service, or approximately 600 amps. The PFE facility is only staffed as necessary for inspection and maintenance activities. During such periods, the facility is typically occupied during normal working hours (i.e., Monday through Friday) except in emergencies.

Figure 2-6. Existing and Proposed Power Feed Equipment Facility



Source: RTI-I, 2023

2.4.2. Terrestrial Construction

Terrestrial construction entails the installation of the terrestrial cables between the LMH and the PFE facility. Terrestrial construction activities would entail delivery of staging materials and equipment, surface preparation, trenching, polyvinyl chloride (PVC) and steel conduit placement, backfilling, trenchless installation (from the LMH to the PFE facility), directional boring (from the LMH to an offshore exit point beyond the surf zone), manhole installation, innerduct and cable pulling, and surface restoration. These activities are described in the subsections that follow.

The Applicant is proposing to work Monday through Friday, 8:00 a.m. to 6:00 p.m. (excluding legal holidays); and on Saturdays from 9:00 a.m. to 5:00 p.m. The only construction activity planned on Sundays and legal holidays would be circulation of the marine directional bore pump for 30 minutes, two times per day. No other work on Sundays or legal holidays is proposed. Work after hours during the evening may be required as the bore pump could require circulation if the contractor believes that the bore pipe is at risk of seizing.

Table 2-2 shows the equipment and personnel likely to be required for terrestrial construction activities.

Terrestrial activities that would require excavations or ground disturbance are associated with boring, trenching, and manhole placement. Table 2-3 presents the estimated ground disturbance expected from these activities. The 6th Street location (Option A) is used in Table 2-3 because this location would require the longest length of terrestrial cable and would have the most disturbance. If the 10th Street location is used, the disturbance would be less.

Prior to construction activities, all known underground utilities along the proposed terrestrial cable routes would be identified. Once the utilities are marked, they would be precisely located using a process called “potholing.” This process uses a water or air jet and a vacuum to excavate a small hole, typically less than 6 inches in diameter, down to the utility. The jet uses high-pressure air or water to erode the soil while the vacuum hose removes the mud or dirt from the pothole. The removed material is stored in an onboard tank and later disposed of at an approved landfill or site.

Table 2-2. Equipment and Personnel Required for Terrestrial Construction Activities

Equipment	Personnel
Trench Construction	
1 concrete/asphalt saw	1 foreperson
1 backhoe, trencher, or excavator	2 operators
1 pickup truck	3 laborers
1 dump truck	1 inspector
1 asphalt truck	
1 pavement roller	
1 equipment and supply trailer	
2 handheld vibratory compactors	
Power Feed Equipment (PFE) Construction and Deliveries	
1 forklift	1 operator
1 equipment truck	3 laborers
1 pickup truck	1 inspector

Equipment	Personnel
Terrestrial (Trenchless) Conduit Installation	
1 bore machine with self-contained water mixing tank	1 foreperson
1 one-ton truck	1 operator
1 pickup truck	3 laborers
1 supply and equipment trailer	1 inspector
1 handheld vibratory compactor	
Manhole Installation	
1 excavator	1 foreperson
1 delivery truck with boom	2 operators
1 dump truck	1 laborer
1 equipment and supply trailer	1 inspector
1 handheld vibratory compactor	
Innerduct and Terrestrial Cable Pulling	
1 cable-pulling truck	1 foreperson
1 pickup truck with cable reel trailer	3 laborers
1 supply and equipment truck	1 inspector
Marine Directional Bores	
1 horizontal directional drilling (HDD) Powerplant	1 foreperson
1 pickup truck	3 operators
1 welder	6 laborers
1 generator	
1 tractor trailer	
1 fluid management system	
1 directional bore machine	
1 control shack	
1 forklift or excavator	
1 equipment and supply trailer	
Ocean Ground Bed (OGB) Installation	
1 backhoe	1 foreperson
1 well-drilling machine	2 operators
1 one-ton truck	2 laborers
1 pickup truck	
1 equipment and supply trailer	
Marine Cable Pulling	
1 backhoe or excavator	3 forepersons
1 pickup truck	2 operators
1 hydraulic winch	2 laborers
1 crane or boom truck	3 inspectors
1 generator	
1 equipment and supply trailer	

Table 2-3. Land Disturbance for Construction Activities (assuming 6th Street location)

Activity	Disturbance					Beach Area		Non-Beach Area		Displacement
	Length (feet)	Width (feet)	Depth (feet)	Area (square feet)	Quantity	Square Feet	Acres	Square Feet	Acres	Cubic Yards
Directional Bore Sites or Pits (LMH – Ocean)										
6th Street [1]	15	10	NA	150	1			150 [2]	0.0034	NA
Landing Manhole										
6th Street	16	12	8	192	1			192	0.0044	56.89
Ocean Ground Bed										
On Beach	60	2	4	120	2	240	0.0055			35.56
Intermediate Manholes (~800-foot intervals)										
In Streets	10	8	8	80	3			240	0.0055	71.11
In Greenbelt	10	8	8	80	3			240	0.0055	71.11
Trenchless Construction (pits at ~200-foot intervals)										
In Streets	8	4	5	32	7			224	0.0051	41.48
In Greenbelt	8	4	5	32	13			416	0.0096	77.04
Trenching (for tie-ins and miscellaneous)										
In Streets	1	1.5	4	1.5	100			150	0.0034	22.22
In Greenbelt	1	1.5	4	1.5	200			300	0.0069	44.44
Total (maximum case)						**240**	**.0055**	**1,912**	**0.0439**	**419.85**

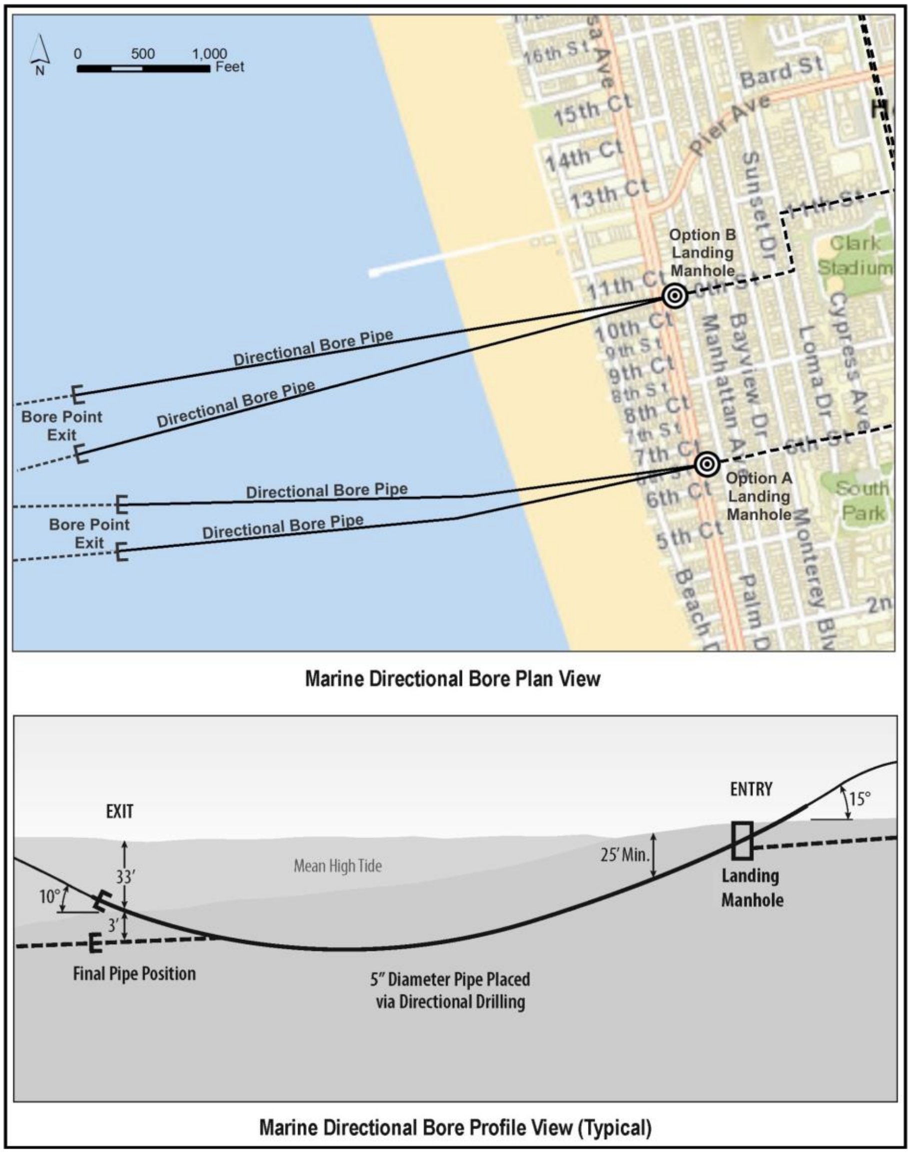
Notes: LMH = landing manhole; NA = not applicable; ~ = approximately
1. Disturbance on street would be only the pit. The pit area is included in the Landing manhole dimension.
2. Excluded from total because this data is already included in the Landing Manhole.

2.4.2.1. Directional Bores

Two 6-inch-diameter steel pipes are required to connect the LMH on shore to a point beyond the surf zone, approximately 3,000 feet (914 meters) offshore. These pipes would be installed from the cable landing site (6th Street or 10th Street) using directional bores. The use of directional bores would allow the pipes to be installed without disruption of the beach or the seafloor within the surf zone. The pipes would be buried between 25 and 50 feet (9.1 and 15.2 meters) below the beach and the ocean floor. A conceptual plan for the two directional bores is shown in Figure 2-7~~Figure 2-7~~.

Directional bores are guided by a drill head fitted with a steering tool using magnetometers and inertial devices to track the direction of advance (horizontal and vertical) and the absolute location. The steel conduit would be advanced in 30-foot (9.3-meter) sections through the boreholes as they are created. Surveys would be conducted in 15- and 30-foot (4.6- and 9.3-meter) increments to verify the drill position and path. The directional bore machine occupies the bore entry site and drills steel casing into the ground at an angle. Once the bore casing reaches the desired depth, it is leveled out as the drilling continues to push the pipe horizontally through the ground. Once it reaches the appropriate distance offshore, the drill head is guided to the surface, and the bore is complete. This operation would be repeated a total of two times for the Project and completed during Phase 1.

Figure 2-7. Marine Directional Bore Plan



2.4.2.2. Land Survey and Bore Design

Prior to directional bore operations, a detailed engineering plan and profile drawing would be produced. This drawing would depict the horizontal and vertical alignments that would best fit the landing site conditions based on previous surveys of the land and seafloor. In addition, a soil boring sample would be taken to determine the subsurface geology; this information would be used to select the correct depths, mud mixes, and drilling head types. The sub-bottom profile of the ocean floor and the proposed bore path alignment would also be used to verify that the depths provided are correct and to establish a true running line and elevation for the drill path. At the proposed exit point (i.e., where the bore operation proposes to "daylight" on the seabed offshore), a marine support crew would set a buoy at the exit, and this distance would be measured and verified. The depth of the bore path is also intended to hinder the release of drilling mud to the surface while remaining above unknown subterranean formations at greater depths.

2.4.2.3. Bore Site Preparation and Set-up

The boring operation would be completed at the cable landing site at either 6th Street (Option A) or 10th Street (Option B). The bore site would encompass approximately 8,000 square feet (744 square meters) and would measure approximately 40 feet (12.2 meters) by 200 feet (61 meters). The entry pit for the bores would measure approximately 10 feet (3 meters) wide by 12 feet (3.7 meters) long and 4 feet (1.2 meters) deep. The entry pit would also serve as the fluid return pit, which would collect the drilling fluid that returns to the bore site. The pits are sufficiently sized to allow the drilling fluid returns from the drilling operations to be collected and recycled. Due to the non-toxic inert nature of the drilling fluid, no lining would be necessary.

2.4.2.4. Boring Procedures

After mobilization and preparation of the drill rig, support equipment, and verification of relevant permit requirements, directional bore operations would begin. The bore rig would operate on a carriage assembly that travels by hydraulic power along the frame of the bore rig. The bore would proceed downward from the surface at an angle until the desired depth is achieved. At this point, the angle would be gradually reduced, and the drill would remain relatively horizontal as it is guided to the proposed exit point. The bore pipe would be advanced along the pre-determined drill path while drilling fluid would be pumped down the inside of the bore pipe and exited through the drill head. As each section of pipe is installed, the steel conduit that houses the fiber-optic and power cables would be advanced through the bore hole as it is created. Drilling fluid would then return to the entry point through the annulus between the outside of the drill pipe and the formation being bored.

Two types of drill heads could be used, depending on geologic conditions: a spud jet or an in-hole mud motor. Spud jets would force the drilling fluid through the jet bit to erode the earth material and create the bore hole into which the conduit would be inserted. This type of drill head would be used in soft soils, such as sands, silts, and clays – the expected composition of material to be encountered during Project construction. An in-hole mud motor would use drilling fluids to rotate a drill head through hard rock, such as limestone, sandstone, and granite; this type of head would be used if these conditions were encountered during Project construction.

As discussed above, a drilling fluid (a solution of bentonite clay and water) would be circulated into the bore hole to prevent it from caving in and to coat the wall of the bore hole to minimize fluid losses to permeable rock and soil types. Drilling fluid would also serve as a lubricant for the drill head and would carry the cuttings (pieces of drilled rock) back to the entry pit, where the cuttings would be removed. Clean drilling fluids would then be recirculated into the bore hole. The drilling fluid – a non-toxic, inert material – would be used for drilling all but the final approximately 30 feet (9 meters) of the bore hole. To minimize the potential for release of silty material into the marine environment, the last section of the bore hole would be drilled using potable water as a drilling fluid. Spent drilling fluids (except for those lost to the surrounding subsurface material) and cuttings would be collected and disposed of at a permitted landfill.

Given the variety of geologic conditions that may be encountered, some of the drilling fluids may be absorbed in fractures within the surrounding subsurface material. In cases where the fracture is lateral and subterranean, lost fluids would never surface. In other cases, drilling fluids may reach the surface (e.g., the fracture comes close enough to the surface that the pressure causes the release of drilling fluid above ground), referred to as a “frac-out.” A frac-out results when the drilling fluids reach the surface, usually through fractures in the surrounding rock or sand.

Prior to drilling, the geologic characteristics of the substrate would be evaluated so that the most appropriate route for the conduit installation can be determined. 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 by 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. If a release is discovered, the driller would take feasible measures to reduce the quantity of fluid released by lowering drilling fluid pressures and/or thickening the drilling fluid. However, both are dependent on geologic conditions. Any surface releases above the high-tide line would be contained by excavating a small pit over the release point or by placing straw bales, sandbags, or other suitable materials around the release point. Any drilling fluid that comes to the surface would be contained and removed once the bore is complete. Containment and collection are impractical for releases below the MHW line; consequently, some drilling fluids might dissipate in the sea water.

Bentonite (sodium montmorillonite) is natural clay that is a major ingredient of most water-based drilling fluids. This substance is considered inert and non-toxic and has been approved for use by the United States (U.S.) Environmental Protection Agency (USEPA).

2.4.2.5. Site Clean-Up

Once the bores are complete the LMH would be installed over the ends of the bores and the temporary pull-line installed. The pipe would be capped and the LMH backfilled, the bore site would be restored, and the equipment would be de-mobilized. De-mobilization of the site would involve removal of the equipment, construction materials, and all other associated items from the work area. The work area would be returned to its original condition as described in Section 2.4.2.12, Surface Restoration. Excess drilling fluid and sediment excavated during the drilling operations would be removed from the collection pit and transported to an approved disposal site. The concrete anchor used to stabilize the drilling rig would be broken up and removed from the site and any excavation backfilled. Backfill activities are described below in Section 2.4.2.8, Trench and Bore Pit Backfilling.

2.4.2.6. Trenchless Conduit Installation

Approximately 90 percent of terrestrial conduit installation (between the LMH and the PFE facility) is expected to utilize trenchless construction rather than utility trenching. This construction technique would be used for most locations within the City streets and Greenbelt, except in locations where the existing conditions would require the use of an alternate technique, such as conventional trenching (see Section 2.4.2.7 below). Trenchless technology would use small, guided bores that can be steered. This approach would allow the bore machine to sit at normal ground level, to bore down under an obstruction or along an alignment, and to be steered back up to the surface at a distant point. Once the bore reaches the opposite side of the resource or obstruction being avoided, the conduit would be attached to the bore pipe and pulled back through the bore opening.

The bore machine would use a drilling fluid in the drilling process. The drilling fluid is a fine clay (such as bentonite) mixed with water. The clay-and-water mixture would coat the wall of the borehole to help hold it open and to provide lubrication for the drill stem and pipe being installed. The drilling fluid would be circulated back to the bore site for filtering and reuse. The bore machines would be able to complete approximately 300 feet (91.4 meters) per day.

Trenchless construction would only disturb the ground surface at the bore entry/exit pits, which would be spaced approximately 200 to 300 feet (61 to 91.4 meters) apart. Entry/exit pits, excavated at each end of the bore, would measure approximately 4 feet (1.2 meters) wide and 8 feet (2.4 meters) long and 5 feet (1.5 meters) deep, for a total of 32 square feet (3 square meters). Activities around each pit, such as the laydown of equipment and material, would occupy approximately 500 square feet (46.5 square meters).

2.4.2.7. Trench Construction

Short segments of the terrestrial conduit system could be installed using trenching methods where boring is infeasible or undesirable. Short segments of trenching would likely be required at manhole locations and connection points to existing structures for the PFE facilities. The trenches would typically be 12 to 18 inches (31 to 46 centimeters) wide and 48 to 60 inches (122 to 152 centimeters) deep (depending on underground utilities encountered). In some cases where numerous underground utilities are located closely together and the exact depth is unknown, trenching may be used to install new conduit rather than utilizing trenchless construction to prevent potential damage to the existing utilities. Figure 2-8~~Figure 2-8~~ shows details of installing trenches in the under earth and asphalt.

Trenches would be excavated with a rubber-tired backhoe or similar excavating equipment. Conduit placement would begin immediately following trench excavation. Where existing utilities are encountered, a minimum clearance of 12 inches (31 centimeters) would be maintained between the utility and the conduit. Generally, when existing utilities are encountered, the new facilities would be placed below the utilities so as not to interfere with their future maintenance.

2.4.2.8. Trench and Bore Pit Backfilling

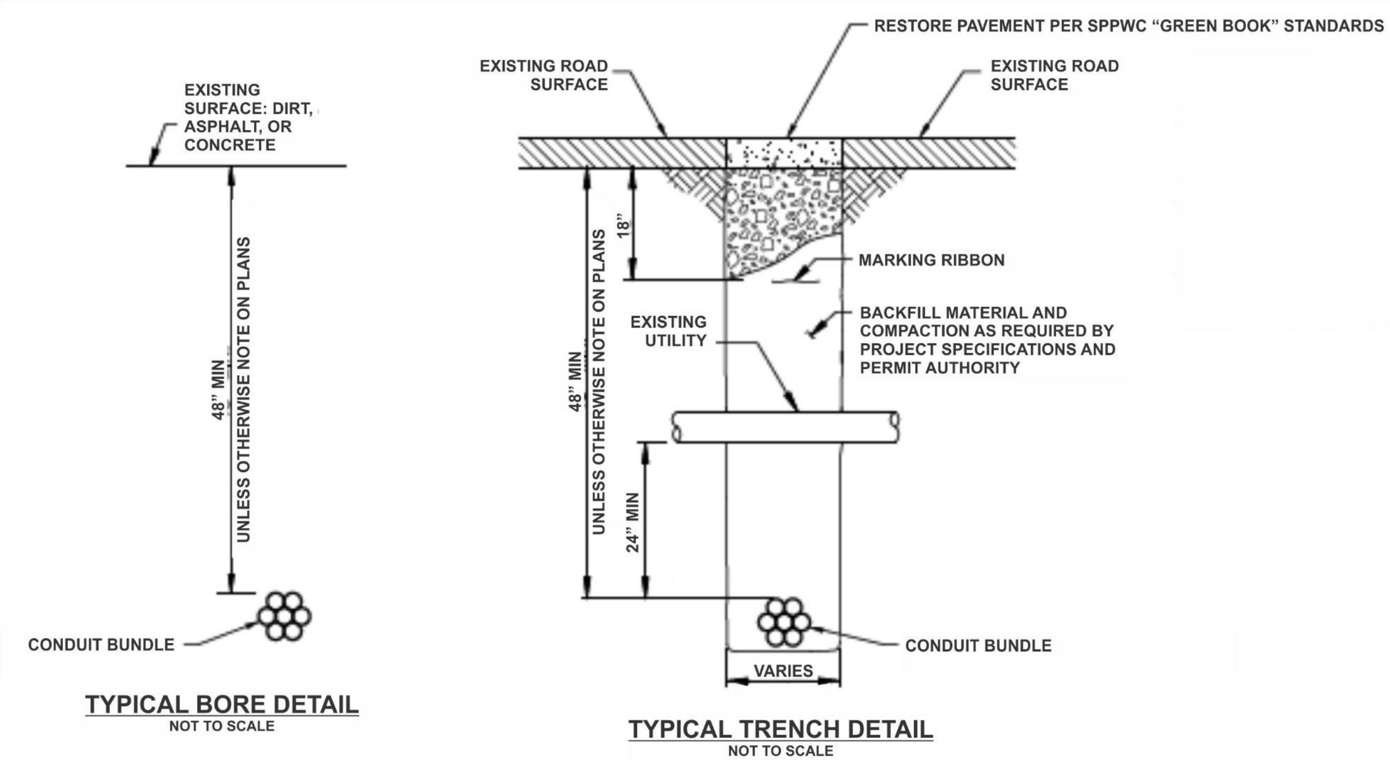
Trench and bore pit backfilling would begin immediately after the conduits are installed. Backfilling would be accomplished with a rubber-tired backhoe or similar equipment. Backfill material would be compacted to eliminate erosion and soil settlement in conformance with *Specifications for Public Works Construction* adopted by the City (Hermosa Beach 1998, revised 2004).

The backfill material would consist of native soil, imported aggregate base, or sand-cement slurry, and would conform to the specifications of the City. Material removed during trenching that is not replaced would be disposed of at locations approved to receive clean fill material.

Compaction of the backfill would be accomplished 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 City specifications.

The backfilling activities are typically conducted by the excavation crew. The equipment and labor needed to carry out the work are included in the allocations for bores, trenches, and manholes.

Figure 2-8. Trench Detail



Source: ICF

2.4.2.9. Manhole Installation

Manhole installation would entail excavating with a backhoe or excavator, placing the manhole in the excavation, and backfilling around the manhole. Backfilling would be accomplished by placing backfill material with a rubber-tired backhoe/loader and compacting the backfill with a hand-operated vibratory compactor. Manholes may be installed before trenching. Traffic control would be the same as described for trenching operations (see Section 2.4.2.14, Traffic Control).

A typical manhole placement crew would install one intermediate manhole per day. Each manhole excavation would be approximately 8 by 10 feet (2.4 by 3.0 meters). Activities around each pit, such as the laydown of equipment and material, would encompass approximately 1,000 square feet (93 square meters). The installation of each manhole would take 2 days to complete.

2.4.2.10. Terrestrial Cable Pulling

Once the conduit system is constructed, the cable would be installed connecting the LMH and the PFE facility. The cable-pulling process would entail pulling from one intermediate manhole to the next. Equipment required for this operation includes trailers to transport the cable and truck-mounted mechanical pulling equipment. Although cable pulling would not disturb the ground surface physically, traffic control may be required for manholes located in traffic lanes.

To reduce friction while pulling the cable, a pulling lubricant (e.g., Polywater Lubricant, manufactured by American Polywater Corporation) would be used. The lubricant would be introduced without pressure directly into the conduit, typically at a rate of less than 1 gallon per 1,000 feet (305 meters). The lubricant would dry to a nontoxic powder that would remain in the conduit and manhole system.

Terrestrial cable pulling would not involve subsurface excavation. In streets, one lane of traffic would be occupied by the pulling activities for a distance of approximately 40 feet (12 meters). Cable pulling activities around each manhole would require approximately 500 square feet (46.5 square meters).

2.4.2.11. Marine Cable Pulling

Installing the marine cable through the directional bore pipe and into the LMH would require operations at both the LMH and the marine exit point of the bore pipe. A winch (a hauling or lifting device) would be set up on shore just east of the LMH to pull the marine cable. A wire rope would be attached to the winch and to the end of the marine cable on the cable vessel located offshore of the end of the landing pipe. The winch would pull the marine cable through the landing pipe into the LMH, where the cable would be anchored in place. The pulling operation would be supported on the marine side, as described in Section 2.5.2.4, Cable-Pulling Support.

2.4.2.12. Surface Restoration

Surface restoration would be the final step in the construction process. Generally, restoration would involve returning the Project site to its preconstruction condition or better.

Where paved surfaces have been disturbed, restoration would include pavement repair, curb and gutter reconstruction, and pavement re-striping, if needed. Typical pavement repair would involve cutting and removing a strip of asphalt wider than the trench along its entire length. This would then be replaced with new asphalt after backfilling and compaction are completed. Compacting backfill to a minimum of 95 percent relative density in two courses would provide for a structurally sound repair.

In unpaved areas, restoration would include minor grading to restore original land contours; installing erosion-control devices at locations susceptible to erosion; and seeding, mulching, and fertilizing to return the site to preconstruction conditions. Surface restoration of the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ would not be needed because the expected design would place the conduit facilities on the Greenbelt but just behind the curb line of Ardmore Avenue. This would allow the majority of the construction activities to be contained on Ardmore Avenue with very little disturbance on the Greenbelt.

On the beach, all construction materials would be removed and the original top sand, which would be stockpiled in the initial site preparation process, would be spread back over the site. The site would be graded and groomed to its original condition.

2.4.2.13. Staging Areas

The Applicant does not anticipate the need to establish any temporary staging areas for materials near the terrestrial work sites (i.e., the landing site, terrestrial cables routes, and PFE). Rather, the contractor is expected to operate out of existing local yards. Materials needed to install the terrestrial components of the work would be brought into the Project site daily from these yards. The directional bore sites would be large enough to accommodate the Project's daily needs for materials.

Although not anticipated, if a local staging area is needed to support terrestrial work, the staging area would be located in an existing paved or disturbed area. For planning purposes, a possible staging area has been identified, consisting of a field at the northern end of Redondo Beach in vacant lots beneath the overhead power transmission lines. Reportedly, this area has been used previously for construction projects in Hermosa Beach. The main staging area of approximately 500 by 500 feet (152 by 152 meters) would be used primarily to support terrestrial construction. The equipment and materials (e.g., backhoes, conduit, cable) would be delivered to this site at the beginning of Project construction. The equipment and materials would be transported to the individual work sites daily as needed.

Approximately 15 tractor-trailer loads of construction equipment and materials would be delivered to the local staging area. At the beginning of the Project, equipment and materials would arrive at the rate of approximately five trucks per day for the first few days. Then approximately one supply truck per day would be required for the duration of construction. Trucks would access the site using existing highways and roads, including Pacific Coast Highway, Herondo Street, and Hermosa Avenue as primary feeders. Gravel would be added to the site at the access point off Francisca Avenue and at critical locations within the staging area to control dust and prevent tracking mud onto public roads. The local staging area would be occupied from approximately 2 weeks prior to the beginning of construction until approximately 2 weeks following the end of construction.

2.4.2.14. Traffic Control

Because the terrestrial alignment would be mainly within public street ROWs, traffic would be controlled and coordinated. Traffic control would conform to the specifications of the City.

In total, approximately 10 tractor-trailer loads of construction equipment and materials would be delivered directly to the bore site over the course of the boring operation. In addition, one fuel truck would make a delivery to the staging area every 2 days on average, and approximately 3 deliveries of materials and supplies would be made weekly. The deliveries would be made by a medium-duty class 6 truck or similar. Fuel delivery amounts would be roughly 1,000 to 1,500 gallons of fuel. The fuel would be stored in on-site fuel storage tanks. Trucks accessing the 6th Street site would typically use Pacific Coast Highway, 8th Street, Pier Avenue, Hermosa Avenue, and Manhattan Avenue in Hermosa Beach.

Each load would take approximately 10 to 20 minutes to unload within the bore site perimeter. Standard traffic and pedestrian control measures would be implemented to ensure that vehicle and pedestrian access is not unduly disturbed. Flaggers would be in place to alert recreational users and vehicles of crossing construction traffic. Standard construction cones, signs, and traffic control personnel would be in place to notify pedestrians of the construction vehicle crossings.

Where access to any residential or commercial driveway is obstructed by an open trench or pit, steel plates would be placed over the excavation to provide temporary access.

2.4.3. Terrestrial Alignments

The terrestrial conduit system would be constructed to connect the LMH to the PFE facility. The terrestrial conduit system is proposed to be installed in public ROWs (streets) and areas zoned as Open Space (i.e., the Hermosa Valley Greenbelt ~~[Veterans Parkway]).~~).

If the 6th Street location is used, the terrestrial conduit system would be installed in 6th Street between the LMH and the Greenbelt and would then follow the Greenbelt in a northerly direction to 16th Street. If the 10th Street location is used, the terrestrial conduit system would be installed in 10th Street from the LMH to Loma Drive, and would then turn northerly to 11th Street, easterly to the Greenbelt, and would then follow the Greenbelt northerly to 16th Street. A Project vicinity map with the proposed terrestrial routes is provided in Figure 1-2~~Figure 1-2~~.

2.5. Marine Components and Construction

The marine components of the cable systems refer to those components between the MHW line and the outer limit of the continental shelf, which is where seawater depth reaches approximately 5,904 feet (1,800 meters). The continental shelf extends from the coastline to a drop-off point called the shelf break. From the break, the shelf descends toward the deep ocean floor in what is called the continental slope. Off the southern California coast, the distance from the shore to the shelf break varies considerably but generally ranges from about 30 to 130 nautical miles from shore and extends up to 150 nautical miles from shore. In the deep ocean, the proposed cable systems would be laid on the sea floor but would not be buried.

The State of California's jurisdiction extends 3 nautical miles (3.5 statute miles or 5.6 kilometers) from the shoreline, which is also the limit of CEQA's applicability to the proposed Project. Within the Project area, the City was granted sovereign tide and submerged lands in trust by the State of California; therefore, the area extending 3 nautical miles offshore is within the City's jurisdiction. The territorial sea of the United States extends out 12 nautical miles (13.8 statute miles or 22.2 kilometers) from shore and the country's exclusive economic zone encompasses ocean areas extending out 200 nautical miles (230.2 statute miles or 370.4 kilometers) from shore.

2.5.1. Marine Components

The marine components of the cable systems considered in this EIR are those that would be installed between the MHW line and a seawater depth that reaches approximately 5,904 feet (1,800 meters) or about 151 nautical miles (174 statute miles or 280 kilometers) offshore. After that point, the cables would be placed on the ocean bottom in deeper waters beyond the continental shelf. The marine cable systems consist of the following components, which are described in the subsections that follow:

- Marine conduit
- Marine cables
- Cable regenerators

2.5.1.1. Marine Conduit

The marine conduit that would extend from the landing site west into the ocean is described in Section 2.4.2.1, Directional Bores.

2.5.1.2. Marine Cables

Two marine cable specifications would be used to provide an appropriate degree of protection for the cable from geologic and sedimentary conditions encountered during installation, as well as from potential interactions with fishing gear. Both designs involve surrounding a core of optical fibers with rings of wires, copper sheathing, and polyethylene insulation.

The greatest degree of protection would be provided by the double-armored design, which is used in areas of rocky or coarse substrate and where protection from fishing gear may be warranted. The double-armored cable incorporates two surrounding layers of galvanized wires, which are coated with tar, two layers of polypropylene sheathing, and an outer layer of tar-soaked nylon yarn to reduce corrosion (see Figure 2-9~~Figure 2-9~~).

The second type is a light-weight-armored cable, similar in design to the double-armored cable but with only a single surrounding polypropylene sheath and ring of galvanized wires. The light-weight-armored cable would be used where the risk of damage due to substrate conditions or fishing is reduced by the burial of the cable in soft-bottom sediments using a cable plow or remotely operated vehicle (ROV). Both cables would be less than 2 inches (5 centimeters) in diameter.

2.5.1.3. Cable Regenerators

Light pulses, which carry the telecommunications data through the fiber-optic cables, can be transmitted only approximately 35 miles (56 kilometers) along the cable before they need to be regenerated. This regeneration would be done by regenerator equipment attached to the cable at the appropriate intervals. The regeneration equipment would operate from 48 volts of DC electricity. The marine cable would contain a copper conductor to transmit the DC electrical power to the regenerators. The DC power system for the regenerators would be housed at the PFE facility and would contain protective equipment that can detect either a sharp decrease or sharp increase in electrical current flow. Upon detection of abnormal current flow, the DC power system would be shut down. The DC power system would generate a static magnetic field on the order of 5 milligauss at a distance of 3.28 feet (1 meter) from the cable. The field would diminish with distance from the cable (such that at 33 feet [10 meters], the field would be approximately 0.5 milligauss). Please see Section 3.7, Hazards and Hazardous Materials, for an expanded discussion of electric and magnetic fields.

2.5.2. Marine Construction

Two 6-inch steel pipes would be installed from the LMH into the ocean at each of the cable landing sites. Each conduit would contain a marine fiber-optic cable. Table 2-4 shows the construction method associated with various ranges of water depth. The exact vessels to be used in the Project are not known at this time. The construction support vessels would likely be ships of opportunity hired locally and depending on availability at the time of construction. The Applicant has committed to compliance with the USEPA voluntary vessel speed reduction program and would limit the vessel speeds to 9 knots during the relocation and transit to the marine workstations. This would reduce vessel air pollutant emissions and provide an ancillary benefit of reducing the potential for collisions with marine mammals. During cable-laying operations, vessel speed would be reduced further. An image of a typical cable-laying vessel is presented in Figure 2-10~~Figure 2-10~~.

Figure 2-9. Fiber-Optic Cables

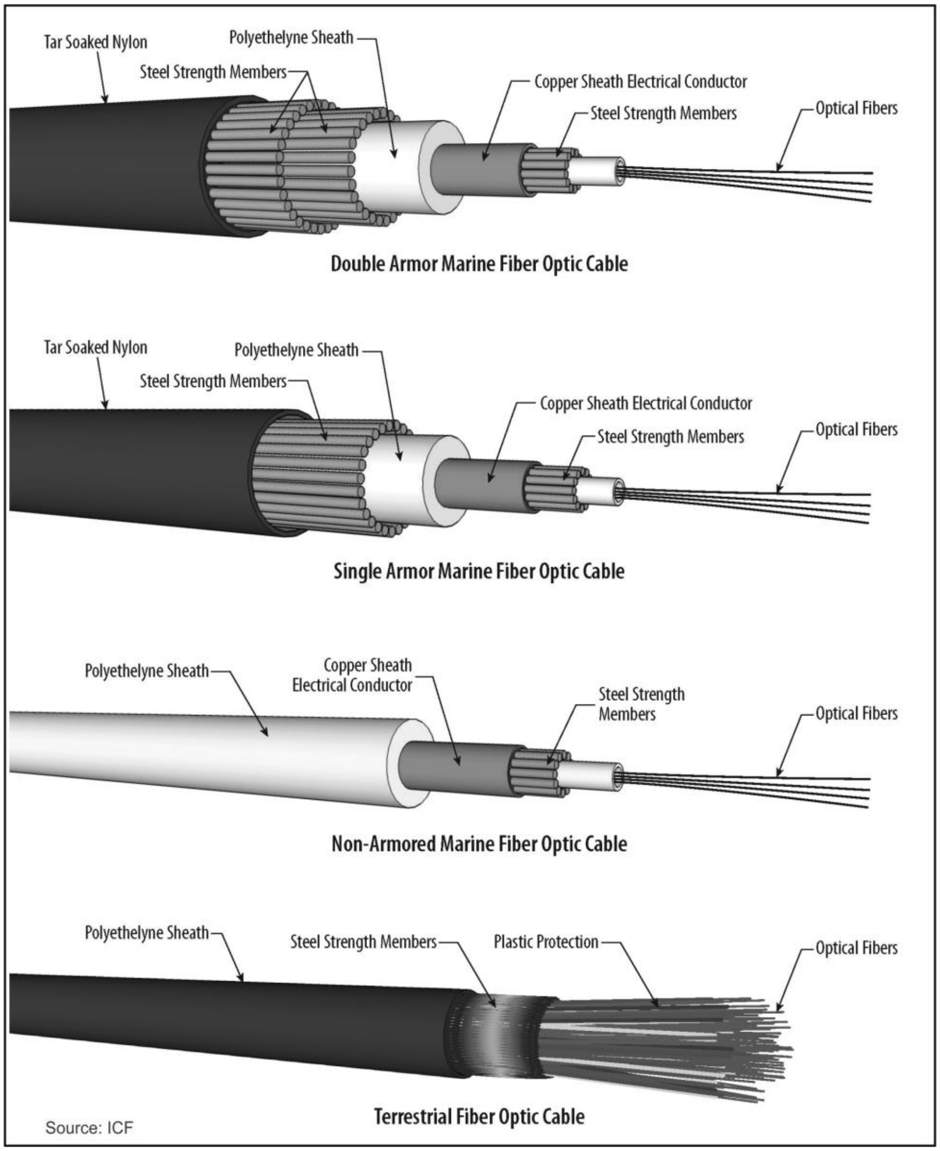


Table 2-4. Summary of Proposed Marine Construction Methods

Route Description	Installation Method
Landing manhole to water depths of 40 feet (12 meters)	Directional bore
Water depths of 40 to 98 feet (12 to 30 meters)	Diver-assisted post-lay burial
Water depths of 98 to 3,937 feet (30 to 1,200 meters)	Cable plow, diver- or ROV-assisted post-lay burial
Water depths greater than 3,937 feet (1,200 meters)	Direct-surface lay

Note: ROV = remotely operated vehicle

Figure 2-10. Typical Cable-Laying Vessel

Source: https://commons.wikimedia.org/wiki/File:CS_Tyco_Responder-27527.jpg

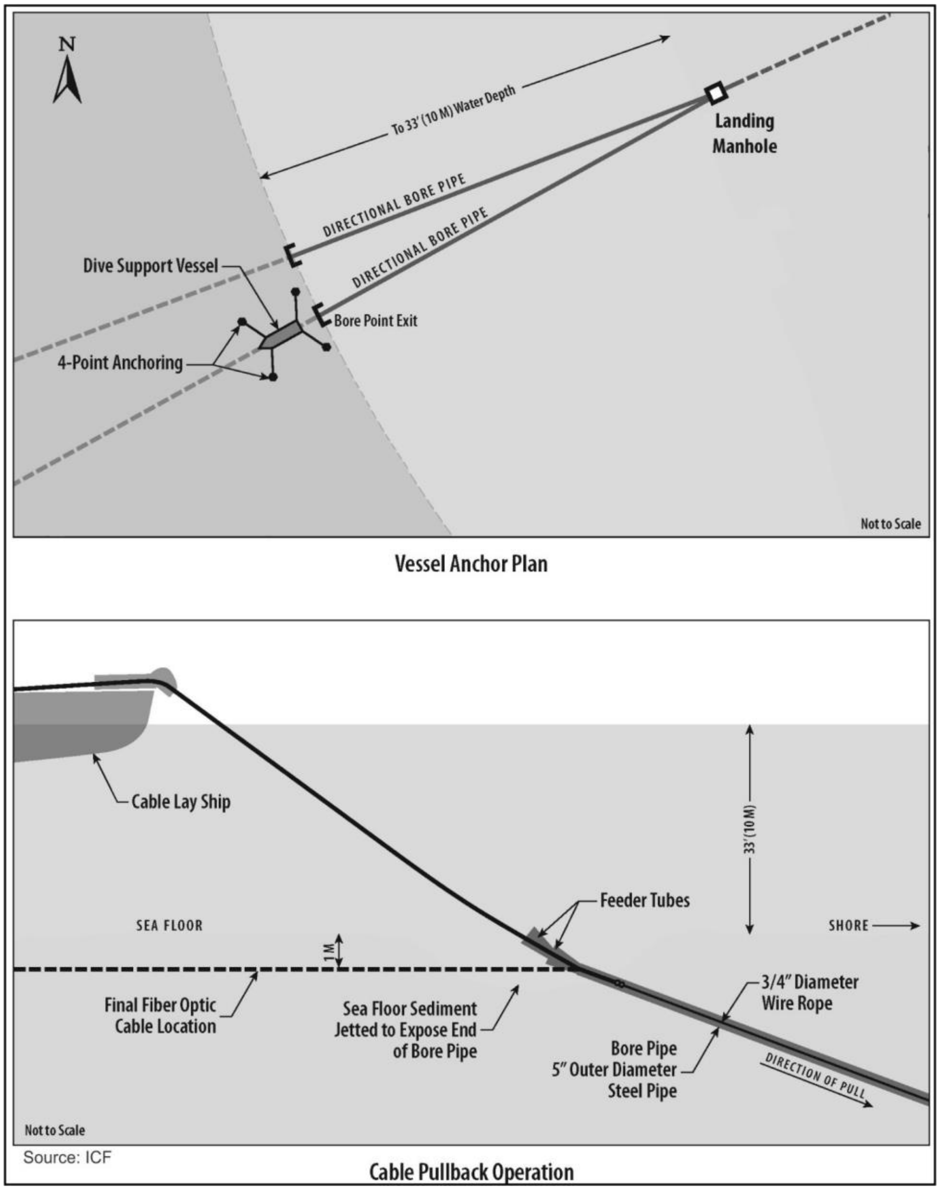
2.5.2.1. Directional Bore Support

The first marine task would be the support of the directional bore operations. The primary work boat, which would serve as a dive platform, would arrive and be set up on station within approximately 50 feet (15 meters) of the bore exit point. This boat would be a 100- to 200-foot (30- to 60-meter) construction work boat. The work boat would use a four-point mooring with an anchor spread of approximately 328 feet (100 meters), as shown schematically in Figure 2-11~~Figure 2-11~~. This boat would be accompanied by a smaller secondary work boat, which would set and retrieve anchors, as well as shuttle the crew between the work boat and the shore.

Three parts of the marine portion of the Project would take place in the “near shore” area that would require daily crew change and supply delivery. These activities include directional bore support, cable pulling support, and diver post-lay burial. Though the exact port is not known at this time, the initial mobilization and demobilizations are assumed to be from/to the Port of Long Beach. The daily trips would be from/to Kings Harbor in Redondo Beach. No helicopters would be used for transport or any other purposes. All anchors would be set and retrieved vertically to avoid dragging them across the seafloor.

The directional bore support would be needed for approximately 2 days per bore pipe. Operations would only be completed during the daytime in accordance with the City’s noise ordinance. The main dive platform would be anchored on station, and a support vessel hired locally would deliver the work crew in the morning, along with the day’s supplies. The support vessel would likely stay on station until the end of the workday when the vessel would return to port with the work crew.

Figure 2-11. Anchor Plan Pullback



Source: ICF

2.5.2.2. Bore Exit

As the drill stem approaches the exit point on the ocean floor, the boring conditions would be monitored to determine the exact location of the bore head in relation to the exit point. To achieve a mud-free exit and minimize the potential release of large quantities of bentonite on the ocean floor, the drilling mud would be circulated out of the system by flushing the drill string with fresh water. Freshwater would be introduced at least 60 feet from the end of the bore. The actual bore exit would be identified by the drill crew when the bottom-hole assembly is no longer supported by the soil and the angle of the drill string changes dramatically. A marine support crew would be dispatched to dive on the exit to verify the exit point. Once the exit has been verified, an on-site inspector would be given the true offshore exit coordinates for approval.

2.5.2.3. Remove Bottom-hole Assembly

Once the exit location has been approved, divers would jet down through the sediment and excavate approximately 10 to 15 cubic yards (8 to 12 cubic meters) of seafloor sediment to expose the end of the pipe. The divers would then cut off the drill steel at a desired depth using underwater cutting equipment. Once the pipe is cut and the end of the pipe has been de-burred to remove any sharp edges, the guidance wire would be removed, and a pipe pig attached to an aircraft cable would be installed at the onshore end of the drill pipe. The pipe pig would be hydraulically pushed through the drill pipe with fresh water with the cable trailing the pig. This process would remove any remaining drilling fluids, proof the pipe, verify that the inside of the pipe is clean, and provide a cable for pulling the fiber-optic cable through the drill pipe. A check valve and a bell mouth would be installed on the offshore end of the drill, and any extra cable would be pushed into the land portion of the drill pipe. The valve is intended to keep seawater from entering the bore pipe until the cable is installed. This process would be repeated for each of the two bore pipes. The cable would be tied off to a cap that would be placed on the land portion of the drill pipe. A locator ball would be placed above the cap, and the pipe would be buried according to specification. The locating ball would be used to relocate the pipe casing prior to the installation of the fiber-optic cable.

2.5.2.4. Cable-Pulling Support

The marine cables would be pulled into the bore pipes from the LMH on shore. The cable ship would position itself approximately 328 feet (100 meters) seaward of the end of the bore pipe into which the cable is to be pulled. Divers would then install cable chutes (also known as feeder tubes) to the end of the pipe and floats to the cables in preparation of pulling. A workboat would assist with feeding a wire rope from the end of the marine conduit to the cable ship. The end of the cable would be attached to a 0.75-inch (1.9-centimeter) wire rope that would be placed during the final stage of the directional bore process and attached to a hydraulic winch (a hauling or lifting device). Each of the cables would be pulled into the LMH by the winch and anchored behind the LMH. Once the cable is secured in the LMH, the cable ship would move away on its course. Divers would manage and monitor the pulling process from the workboat.

The support for pulling the cable from the main cable-laying vessel into the completed bore pipe would typically take 2 days per cable. The first day would including arriving on station and preparing the end of the pipe for the operation, which would be a daytime operation. The second day would include installing the cable into the bore pipe, which would be a 24-hour operation once the cable pulling begins. The vessel that would serve as the dive platform would be anchored on station, and a support vessel would deliver the work crews along with the day’s supplies. The dive platform would stay on station during the operation.

2.5.2.5. Pre-Lay Grapnel Run

The purpose of a pre-lay grapnel run is to clear debris, such as discarded fishing gear, from the seafloor along the corridors where the cables are to be buried. To accomplish this, a grapnel, typically of the flatfish type (see Figure 2-12~~Figure 2-12~~), would be dragged along the cable routes before cable installation. The grapnel would be attached to a length of chain to ensure contact with the bottom and towed by the main cable ship or a workboat at a speed of approximately 1.2 miles per hour (approximately 1 knot or 1.9 kilometers per hour). The arms of the grapnel are designed to hook debris lying on the seafloor or shallowly buried to approximately 1.3 feet (0.4 meter). If debris is hooked and towing tension increases, then towing would cease, 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.

Both of the proposed cable alignments would cross at least one currently buried cable. Prior to the cable-laying activities, current cable positions would be obtained from the existing cable owners, and the locations would be verified during the geophysical survey, when possible. The pre-lay grapnel run would not be performed in the vicinity of potential buried cables. The grapnel would be raised off the seafloor 656 feet (200 meters) before the potential buried cable location, and not lowered until at least 656 (200 meters) past the potential buried cable location.

2.5.2.6. Cable Laying and Plowing

Beginning at the end of the bore pipe, the cable would be temporarily laid directly on the seafloor to a water depth of approximately 328 feet (100 meters) until it can be post-lay buried by divers or ROV as described in Section 2.5.2.9 below. For the remainder of the buried section of cable, burial would be achieved by cable plowing or by ROV-assisted post-lay burial.

Software would provide operators with substantial control over the variables in cable laying, the most important of which are cable position and tension. The software would calculate the forces on the cable and automatically adjust cable payout speed and vessel navigation to keep tension within acceptable limits. Key parameters in controlling cable position and tension are the ship's speed over the seafloor, the speed of the cable being payed out from the ship, and water depth. These parameters would be continuously monitored during cable-laying operations. The ship's position and speed over the seafloor would be measured by a global positioning system, and water depth would be measured by echo-sounders and seabed mapping systems. Cable pay-out speed and length would also be monitored. Computerized tracking of the entire cable-laying operation would include corrections for external factors, such as winds and ocean currents.

Cable plowing would be the primary installation method for the marine cable between the water depths of 328 feet (100 meters) and 3,037 feet (1,200 meters). A cable plow is a burial tool in the form of a large sled that is deployed by the main cable ship after the shore-end landing operations are complete. Once deployed to the bottom, divers would assist with loading the cable into the plow's articulated feed chute and burial shank. These mechanical movements would be controlled through an umbilical cord connecting the plow to the cable ship by an operator watching the divers through a video camera mounted on the plow. When the ready signal is given, the ship would move away with the plow in tow. As it is towed, the plow would mechanically bury the cable to its desired depth. The plow would accomplish this by slicing through the ocean floor sediments, while at the same time, the cable would be fed through the plow shank and into the bottom of the furrow in one operation, as illustrated in Figure 2-13~~Figure 2-13~~.

Figure 2-12. Grapnel

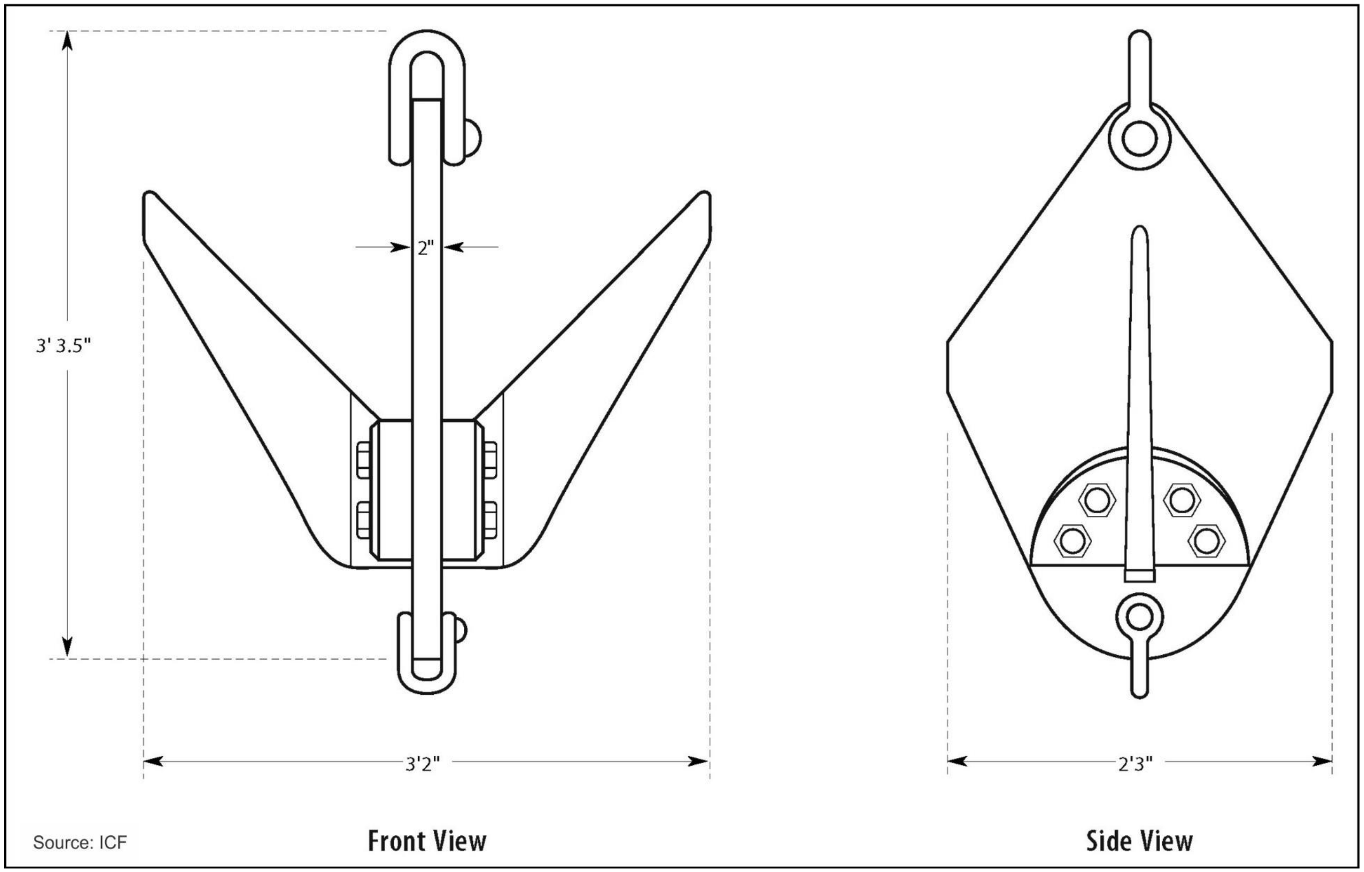
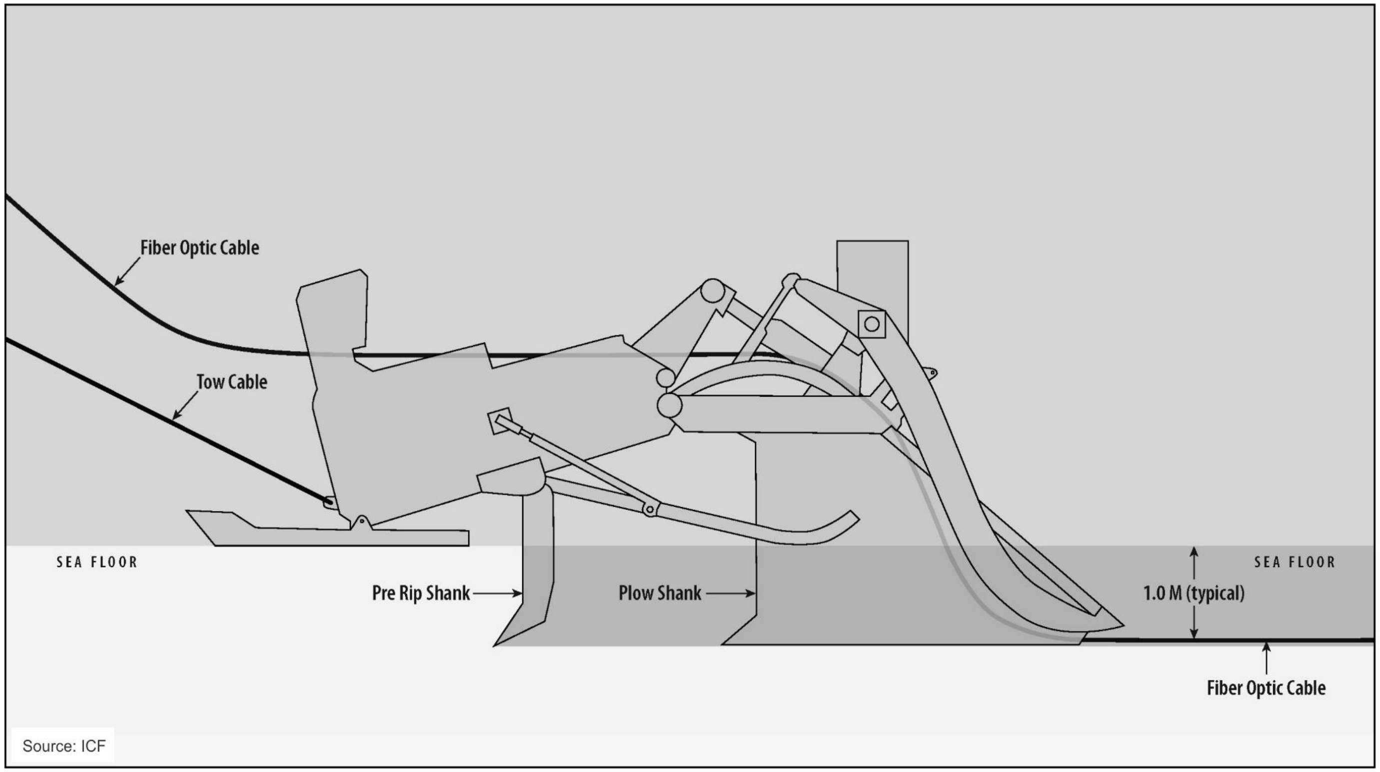


Figure 2-13. Sea Plow



The plow furrow would be a narrow area of approximately 3.3 feet (1 meter) wide. The plow would be supported by two sled outriggers to a total width of approximately 20 feet (6.1 meters). The furrow created by the shank of the cable plow tool would naturally close under the weight of the sediments and the plow sleds that transmit the weight of the plow to each side of the furrow, effectively adding compacting force to the sediment. The combination of the two forces – the weight of the soil and the weight of the sled – is sufficient to fully close and compact the furrow. No further compacting would be required.

2.5.2.7. Post-Lay Marine Cable Burial

In some locations where plow burial is not possible, such as where the cable would be laid on the seafloor due to the presence of other cables in the area, the cable would be buried using post-lay burial methods. These methods would include diver-assisted jet burial and ROV burial.

2.5.2.8. Diver-Assisted Post-Lay Burial

Diver-assisted burial could be used in shallow water depths typically between 33 and 98 feet (10 and 30 meters). Once the cable has been securely anchored at the LMH, the main cable ship would be given the order to begin moving out along the predetermined course, paying out the marine cable as it goes. The ship would move away at a rate of approximately 2.3 miles per hour (0.2 knots or 3.7 kilometers per hour).

Diver-assisted burial would be used from the end of the bore pipes to a water depth of approximately 98 feet (30 meters), and cables would be installed using diver-assisted jetting equipment. For diver-assisted burial, divers would use hand jets to open a narrow furrow beneath the cable. This action would allow the heavy cable to drop into the furrow as it is opened, and the disturbed sediments would then settle back over the cable. This would fill the furrow and restore the surface to original grade. Depending on bottom conditions, the cable would be buried to a 3.3-foot (1.0-meter) water depth, where feasible, based on localized conditions.

This operation would be conducted during the daytime and would utilize both a dive platform and a support vessel. The dive platform vessel would be on station and would move along the cable alignment as the burial progresses. The support vessel would deliver the work crews and daily supplies to the vessel each morning and return at the end of the workday to retrieve the workers. The operation is expected to take approximately 1 week to complete.

2.5.2.9. Remotely Operated Vehicle Post-lay Burial

Between water depths of approximately 98 feet (30 meters) and 328 feet (100 meters) or where the cable plow cannot achieve the targeted burial depth because of bottom conditions, an ROV would be used to attempt to bury the cable. These sections of cable would be laid temporarily on the ocean floor by the cable ship and would await a post-lay burial attempt at a later date by the ROV (E&E 2001).

An ROV is a robotic device operated from the vessel. The ROV would be deployed and operated from the main cable ship or a similar vessel. The ROV would move under its own power and would be tethered to and guided from the cable ship. In a manner similar to the hand jets used in diver-assisted burial, ROV jets would loosen the seafloor sediments beneath the cable, allowing the cable to settle to the desired depth. The disturbed sediments would then settle back over the area to their original grade, leaving the cable buried. The cable would typically be left at a depth of 3 to 4 feet (1 to 1.2 meters). The ROV would have a nominal speed of 0.35 mile per hour (0.3 knot or 0.56 kilometer per hour) when jetting. However, the overall rate of forward progress would depend on the number of passes needed to attain target burial depths, which in turn would be a function of sediment stiffness. Up to three passes may be required; therefore, the overall rate of burial using an ROV is estimated to be 0.1 mile per hour (0.09 knot or 0.2 kilometer/hour). Post-lay burial of the cable by ROV would take place between 1 day and 3 weeks from when the cable is first laid on the ocean floor.

The post-lay burial of cable by ROV would disturb the seafloor. The typical width of disturbance associated with this activity is 15 feet (4.6 meters). This represents the disturbance to the seafloor only, not disturbance to the water column.

2.5.3. Marine Alignments

The proposed marine routes cross coastal submerged lands under the City's jurisdiction (the MWH line to 3 nautical miles [3.5 statute miles or 5.6 kilometers] offshore) and offshore waters above the continental shelf from 3 nautical miles (3.5 statute miles or 5.6 kilometers) offshore to a distance where the seawater depth is approximately 5,904 feet (1,800 meters) or about 151 nautical miles (174 statute miles or 280 kilometers) offshore. The proposed routes cross Santa Monica Bay and several offshore basins, ridges, and escarpments located on the California Borderland before reaching the edge of the outer continental shelf (E&E 2001). Both of the proposed cable alignments would cross at least one existing cable.

The proposed marine routes were selected to avoid the following known marine features, including hazard areas and protected areas, which are shown on Figure 2-14~~Figure 2-14~~ and Figure 2-15~~Figure 2-15~~:

- Santa Monica Canyon and Redondo Canyon,
- Areas under consideration as part of the Channel Islands National Marine Sanctuary,
- Explosives dumping areas,
- Fisheries associated with Tanner Bank and Cortes Bank,
- Contaminated sediments in Santa Monica Bay associated with the Palos Verdes shelf and the Hyperion sewage outfall, and
- Commercial vessel anchoring and pilot boarding areas.

2.6. Operations, Maintenance, and Repair

2.6.1. Cable Identification

Differential geographic positioning system navigation would be used during installation of the cable systems. Extensive records would be maintained to track the exact location of the cable-laying ship, cable plows, or ROVs during the installation process. After installation, the data would be compiled into a standard-format cable record. The record would be distributed to all cable maintenance zone ships, government charting agencies, and other data users. Records could then be used to locate the cables on the seabed when a cable repair is needed. These records would be maintained throughout the system's life and after the system is retired.

2.6.2. Cable Operations and Maintenance

Other than ensuring that the power feed and transmission equipment in the terminal station are in proper working order (i.e., inspection and testing), no routine maintenance is planned for the terrestrial components of the cable network. These cables typically operate for 25 years. Routine maintenance for the marine components of the network is unnecessary due to the stability of the ocean-bottom environment.

Figure 2-14. Marine Hazard Areas

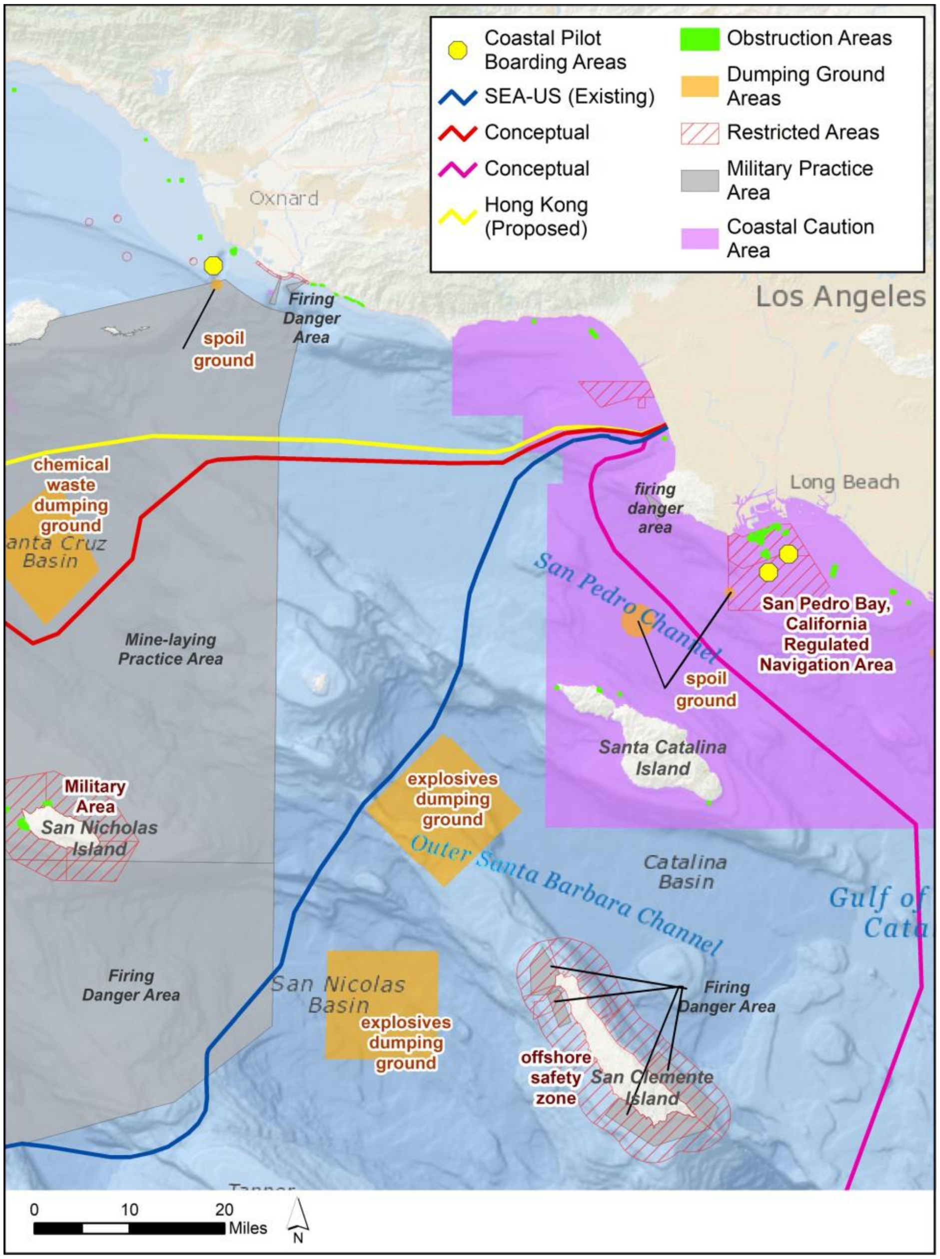
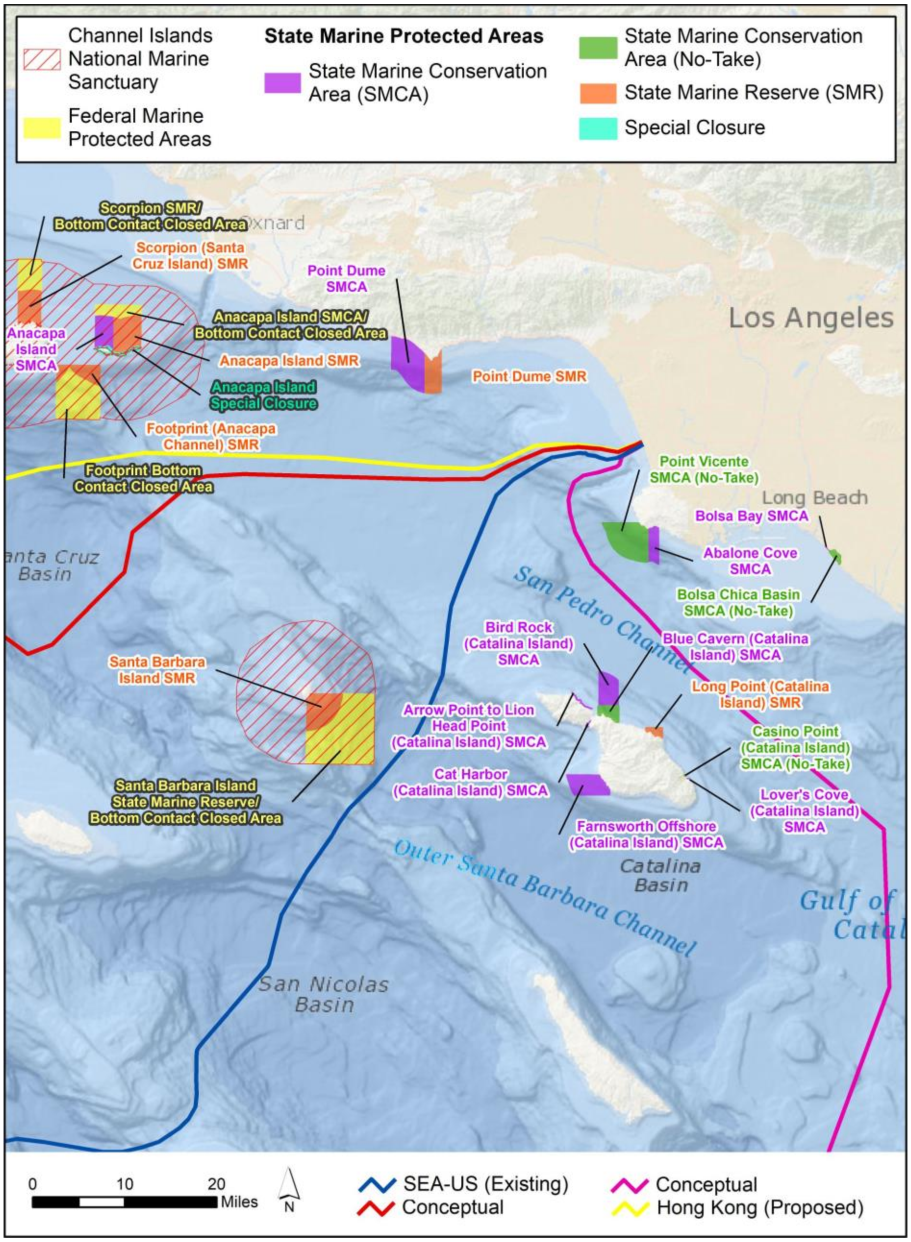


Figure 2-15. Marine Protected Areas



2.6.3. Emergency Cable Repair (Marine)

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

2.6.3.1. Buried Repair

If the cable is buried in the vicinity of the fault, the grapnel used by the repair vessel should be sized to match the burial depth attained during installation. Typically, a standard flatfish grapnel (see Figure 2-13~~Figure 2-13~~) could be rigged to penetrate and recover cable from burial depths up to 20 inches (50 centimeters). If deeper burial is involved, then a de-trenching grapnel, divers, or an ROV could be used to remove the cable from the burial trench and bring it to the surface. There, the cable could be repaired and then reburied in its original position to the extent practicable.

2.6.3.2. Unburied Repair

If the cable is not buried in the vicinity of the fault, the cable may be engaged and brought to the surface without cutting, provided there is sufficient bottom slack to allow this. The cable could be torch-cut at the bow of the ship. Otherwise, a cutting blade could be fitted to a flatfish grapnel and the cable cut close to the fault location before recovery. Gifford grapnels could then be used for holding runs to recover each cut end. A Gifford grapnel is a type of grapnel comprised of four wide seated hooks at right angles to each other. This equipment would typically be used on hard or rough bottoms. Generally, the "good" end is the first one recovered (i.e., the fault is assumed to be in the cable still on the bottom).

After the cable is recovered, the end would be prepared, and the fibers would be tested using a conventional optical time-domain reflectometer (OTDR). Additionally, the power conductor path would be checked to verify the absence of a shunt fault (fault to the power conductor). If there is any reason to suspect that the fault is in or beyond the repeater, Coherent OTDR also could be used. In any particular case, testing methods and the sequence of tests would depend on the fault characteristic previously observed from the PFE facility and/or from results of testing with probes that would detect an electronic signal on the cable power conductor.

The recovered end would then be sealed and buoyed off for easy recovery later. Next, the other end would be recovered and similarly tested to locate the fault more precisely. The repair vessel would then recover the cable until the fault is aboard. After the fault site (either cable or repeater) is removed from the system, the repaired cable would be joined to the fault-free cable end and paid out as the vessel returns to the buoyed end. If the fault is in a repeater, the repeater would be replaced with a spare repeater. When the buoy is recovered, the two cable ends would be joined. Before the joint is "overboarded," or returned overboard to the ocean floor, the system would be powered and tested from the terminal stations to verify proper DC and transmission performance. The overboarded cable would then be buried by an ROV if the cable came from a buried section, or would be laid on the bottom if the cable came from an unburied section.

2.7. Retirement, Abandonment, or Removal of the Cable Systems

The Project would have a life of approximately 25 years because technological advancements in the transmission capabilities would eventually render the cable obsolete. Within 90 days of either taking the cable out of service or the expiration of the City lease, the Applicant would advise the City, California Coastal Commission, and any other agencies with jurisdiction over the cable of the status and proposed disposition of the inactive cable. The cable owner would also work with the City to determine if removal of facilities would be necessary. All terrestrial facilities, including the conduit and manhole system, would be left in place and available for use by other cables. The directional bores installed to facilitate the cable landings would also be left in place.

The Applicant has stated that the buried portions of the marine cable are expected to be left in place. However, in the past, the California Coastal Commission (CCC) has included a condition in Coastal Development Permits requiring the cable owner to apply for an amendment to the original permit after the cable is taken out of service. Through that permit amendment process, the CCC would determine whether it would require removal of the cable from the waters of the State of California. If the CCC determines that removal is required, the cable owner would conduct the removal.

If the terrestrial cable is removed after Project retirement, the cables are anticipated to be accessed from the existing manholes and pulled out from the conduit using a truck with a reel puller, leaving the conduit in place and available for new cable to be installed. The other buried components of the terrestrial system are expected to be abandoned in place. As a result, no excavation or ground disturbance would be required. The equipment in the PFE facility would be removed, and the space the facilities occupied would be available for a new use.

If the marine cable is removed from State waters, the buried cable would be exposed using an ROV and hauled to the surface by a ship, which would bring the cable on board and then transport it away for disposal. The method of disposal is not known at this time.

Whether cable removal impacts would be significant would depend on the existing environmental conditions and significance criteria in place at the time. At the end of the cable’s life, a subsequent environmental analysis would be conducted, and measures imposed, as needed, to reduce or avoid significant impacts.

2.8. Required Permits and Approvals

Permits and approvals presumed necessary for the construction of the proposed Project that are known at this time are listed in Table 2-5 below. This EIR is intended to provide the environmental clearance required by the California Environmental Quality Act for discretionary permits and approvals required by local and State agencies to implement the proposed Project. Based on previous subsea cable installations, separate environmental review under the National Environmental Policy Act (NEPA) is not anticipated. The primary federal action required for implementation of the Project is a permit for compliance with Section 404 of the Clean Water Act. At this time, the Project is anticipated to qualify for a Nationwide 57 Authorization under the Clean Water Act (CWA), which does not typically necessitate project-specific NEPA review. The U.S. Army Corps of Engineers, which issues CWA Section 404 permits, would be responsible for determining if the Project qualifies for a Nationwide 57 Authorization.

Table 2-5. Required Permits and Approvals

Agency	Permit/Approval
Local	
City of Hermosa Beach	~~■ Planned Development Permit for development in Open Space Zone[1]~~ ■ Precise Development ~~Permit~~ Plan[1] ■ Building Permits and Encroachment Permits related to placement of conduit and construction activities
South Coast Air Quality Management District	■ Permit to Operate (for PFE diesel generator)
Los Angeles Regional Water Quality Control Board	■ Section 401 Clean Water Act Certification ■ Dewatering Permit (if necessary)
State	
State Water Resources Control Board	■ National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction Activities
California Department of Fish and Wildlife	■ Letter of Concurrence (if needed) ■ Section 2090 Interagency Consultation (if needed) ■ Section 2081 Incidental Take Permit[1] under the California Endangered Species Act (if needed)
California Coastal Commission	■ Coastal Zone Management Act Consistency Determination ■ Coastal Development Permit
Federal	
United States (U.S.) Army Corps of Engineers	■ Section 404 Clean Water Act, Nationwide 57 Authorization
National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries)	■ Letter of Concurrence pursuant to Section 7, Endangered Species Act (if needed)
U.S. Fish and Wildlife Service	■ Letter of Concurrence pursuant to Section 7, Endangered Species Act (if needed)

Notes: PFE = power feed equipment
1. Discretionary actions necessitating CEQA environmental review.

3. ENVIRONMENTAL SETTING, REGULATORY SETTING, AND POTENTIAL ENVIRONMENTAL IMPACTS

3.1. Introduction

The sections in this chapter present information on existing environmental conditions in the Project area for each technical issue area and describe environmental impacts that would result from the implementation of the proposed Project (described in Chapter 2, Project Description). The impact analyses consider the potential direct, indirect, and cumulative impacts of the proposed Project, including short-term impacts during construction and decommissioning, and long-term impacts during Project operation and maintenance. The sections in this chapter also identify mitigation measures to reduce or avoid significant adverse impacts and describe any adverse impacts that cannot be avoided or minimized through the implementation of mitigation measures. The scope of the impact analysis is commensurate with the level of detail provided in Chapter 2 and the availability and/or quality of data necessary to assess impacts.

3.1.1. Analytical Assumptions

The impact analysis was conducted with the following general assumptions:

- The laws, regulations, and policies applicable to the City in authorizing approvals for fiber-optic cable facilities would be applied consistently to the proposed Project.
- All applicable laws, regulations, and standards of the State of California would be applied consistently to the proposed Project.
- The Applicant will obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals.
- The proposed Project would be constructed, operated, maintained, and decommissioned as described in Chapter 2, Project Description.
- Short-term impacts are those expected to last during the construction phase and during decommissioning that do not have lingering effects for an extended period after construction and decommissioning are completed. Long-term impacts are those that would last during operation and maintenance of the Project or that persist for an extended period after completion of construction or decommissioning.

3.1.2. Types of Effects

The potential direct, indirect, and cumulative effects of the proposed Project were considered for each technical issue area. The terms “effect” and “impact” used in this document are synonymous and are applied to beneficial as well as detrimental effects.

Direct effects are caused by the Project and are experienced at the same time and place as the Project. Indirect effects are caused by the Project and are experienced later in time or further in distance but are still reasonably foreseeable. Cumulative impacts are those effects resulting from the incremental impacts of the Project when combined with other past, present, and reasonably foreseeable future projects (regardless of which agency or person undertakes such projects). Cumulative impacts could result from individually insignificant but collectively significant actions taking place over a period of time. Short-term impacts last during or for a short time after implementation of a project, such as during construction or immediately after construction. For example, noise impacts from construction activities would be considered a short-term effect. By contrast, long-term effects last for an extended period after implementation of a project. For example, operational noise during facility operations would be a long-term impact, as this noise would last for as long as the facility is in operation.

3.1.3. Mitigation Measures Included in the Analysis

CEQA requires that a significance determination be made for each adverse impact identified in an EIR. Significance criteria, the basis for which is set forth in State CEQA Guidelines, Section 15064.7, are identified for each environmental resource area. The significance criteria serve as a benchmark for determining if a project would result in significant adverse environmental impacts when evaluated against the baseline or existing environmental conditions. Impacts are assessed relative to each impact criterion to determine whether the project would have no impact on existing conditions, an impact that is less than significant, an impact that is less than significant with mitigation, or a significant and unavoidable impact. Impacts are quantified to the extent possible. In addition, the determination of an impact's significance is derived from standards set by regulatory agencies on the federal, State, and local levels; knowledge of the effects of similar past projects; professional judgment; and plans and policies adopted by governmental agencies.

CEQA requires that feasible mitigation measures be identified to reduce or avoid significant impacts.

The State CEQA Guidelines, Section 15370, define mitigation as:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action;
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
(e) Compensating for the impact by replacing or providing substitute resources or environments.

If impacts remain significant after all feasible mitigation is considered (i.e., continue to exceed the applicable threshold of significance), the analysis concludes that the impact is significant and unavoidable. If the Lead Agency elects to approve a project despite its significant and unavoidable impacts, the Lead Agency must also adopt a Statement of Overriding Considerations that explains why the significant and unavoidable impacts associated with the project are acceptable.

Some measures that serve to reduce impacts are required by agencies other than the City, and their implementation will be enforced by those other agencies. The Applicant will be required to comply with the requirements of these other agencies.

3.1.4. CEQA Significance Conclusions

CEQA requires that EIRs focus on identifying and analyzing impacts that have the potential to be "significant" or substantial. For the purposes of CEQA compliance, a determination has been made regarding the significance of each adverse impact identified for the proposed Project.

A significant impact is defined by CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines, Section 15382). The CEQA Lead Agency (which in this case is the City of Hermosa Beach) is responsible for determining whether an impact is significant and is required to adopt feasible mitigation measures to minimize or avoid each significant impact. A series of criteria, identified in the "Significance Thresholds" section for each technical issue area, are used to help the CEQA Lead Agency gauge the significance of each impact.

Significance thresholds serve as a benchmark for determining if a project would result in a significant adverse environmental impact when evaluated against baseline conditions. The significance thresholds used in this EIR are based on the questions contained in the Environmental Checklist Form in Appendix G of the State CEQA Guidelines. The City prepared a CEQA Initial Study for the proposed Project using the City's version of this Environmental Checklist Form (see Appendix A of this EIR). The Initial Study prepared by the City determined that the proposed Project had the potential to cause significant impacts related to some Environmental Checklist Form questions, but not others. This EIR focuses on the impacts that the Initial Study determined had the potential to be significant. Please see Appendix A for the reasons why the Project would not have potential to cause significant impacts related to certain Environmental Checklist Form questions that were not addressed in this EIR.

Although guidance provided by CEQA is used to help determine the significance of impacts, the determination of impact significance is based on the independent judgment of the CEQA Lead Agency. The establishment of any criteria used to evaluate the significance of impacts is also the responsibility of the CEQA Lead Agency. Some impact categories in this document lend themselves to scientific or mathematical analysis and, therefore, to quantification, while others are more qualitative. Some issues, such as air quality, have significance thresholds that are established by agencies with regulatory authority for that resource and have been determined by the CEQA Lead Agency to be applicable to the analysis.

To provide a systematic evaluation of potential environmental impacts, a classification system has been applied to the impacts of the proposed Project. These classifications indicate whether an identified impact is significant and whether mitigation measures can reduce the severity of the impact to a level that is not significant. The following classifications were uniformly applied to each impact:

- **Class I: Significant impact; cannot be mitigated to a level that is not significant**. Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant impact; can be mitigated to a level that is not significant**. A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
- **Class III: Adverse; less than significant**. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact**. Class IV impacts represent beneficial effects that would result from Project implementation.

In cases where a certain type of impact has no potential to result from the proposed Project, the lack of an impact is described, and a no impact classification is assigned.

3.1.5. Cumulative Effects Scenario

This section presents the scenario used to determine the cumulative impacts associated with the proposed Project. Cumulative effects are those impacts from related projects that would combine with similar impacts of the proposed Project. To document the process used to determine cumulative impacts, this section provides the CEQA requirements, the methodology used in the cumulative assessment, and the projects identified and applicable to the cumulative analysis. The analysis of cumulative impacts is presented within each issue area section.

3.1.5.1. Introduction

Preparation of a cumulative impact analysis is required under CEQA, which identifies three basic types of potential impacts: direct, indirect, and cumulative. "Cumulative impact" is the impact on the environment that results from the incremental impact of the proposed Project when considered with other past, present, and reasonably foreseeable future actions regardless of which agency or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over time.

Both CEQA and the State CEQA Guidelines require that cumulative impacts be analyzed in an EIR when the resulting impacts are cumulatively considerable and, therefore, potentially significant. The discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood that these impacts would result from the identified cumulative projects; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Further, the discussion is intended to be guided by the standards of practicality and reasonableness. As stated in the Public Resources Code, Section 21083(b), "a project may have a significant effect on the environment if" the "possible effects of a project are individually limited but cumulatively considerable."

According to Section 15355 of the State CEQA Guidelines:

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
> (b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Further, according to State CEQA Guidelines, Section 15130 (a)(1):

> As defined in Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, State CEQA Guidelines, Section 15064(h)(4), notes the following:

> The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

Therefore, the cumulative discussions in an EIR focus on whether the impacts of the project under review are cumulatively considerable within the context of impacts caused by other past, present, or future projects. The determination of whether an impact is cumulatively considerable takes into consideration the severity and likelihood of the impact, as well as the magnitude of the project's contribution to the cumulative impact. In some circumstances, even a minor project effect can make a substantial contribution to a cumulative impact, meaning that as a cumulative impact becomes more acute, even a small individual contribution to that impact can be considered cumulatively considerable. Cumulative impact discussions for each issue area are provided in their respective sections.

3.1.5.2. Methodology

The area within which a cumulative effect can be experienced varies by resource or issue. For example, air quality impacts tend to disperse over a large area, while noise impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts must be identified for each issue area. In the case of the proposed Project, most impacts would last during installation of the various Project components, and those impacts tend to be localized, meaning they generally only affect areas in close proximity to construction activities. This is the case for both the terrestrial and marine components of the Project. Therefore, the geographic scope for the analysis of cumulative impacts is generally limited to areas with the City of Hermosa Beach. However, because the proposed cable landing site options are relatively close to the boundary with the City of Redondo Beach, impacts of the proposed Project may combine with similar impacts of concurrent projects within Redondo Beach.

The analysis of cumulative effects considers a number of variables, including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the proposed Project area and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects, but not beyond the scope of the indirect effects of the proposed Project. In addition, each project (see Table 3-1), has its own implementation schedule, which may or may not coincide or overlap with the proposed Project's schedule.

The scope of cumulative impacts evaluated in this EIR likely represents a "worst-case" scenario for the following reasons:

- Not all of the related projects will be approved and built;
- Related projects may not be constructed or opened until after the proposed Project has been built;
- Some related projects may be completed prior to the initiation of proposed Project construction; and
- Related projects would likely be, or have been, subject to unspecified mitigation measures, that would reduce potential adverse impacts.

The analysis focuses on addressing the following: (1) the area(s) in which the effects of the proposed Project would be experienced (i.e., the geographic scope); (2) the effects that are expected in the direct or indirect impact area(s) from the proposed Project; (3) past, present, and reasonably foreseeable future projects that have or that are expected to have impacts in the same area; (4) the impacts or expected impacts from these other projects; (5) and the overall impact(s) that can be expected if the individual impacts are allowed to accumulate.

3.1.5.3. Relevant Cumulative Projects

For preparation of the cumulative projects list, the City of Hermosa Beach produced a list of projects either proposed, recently approved, or under construction. The City of Redondo Beach was contacted for a similar list of projects within its jurisdiction. The EIR preparers also attempted to ascertain whether any cumulative projects are planned offshore of Hermosa Beach but were unable to identify any such projects. Therefore, the compiled list of cumulative projects consists solely of projects located onshore. Other relevant previously prepared documents were consulted to ensure completeness of the cumulative project list, presented in Table 3-1 below. The locations of these projects are shown in Figure 3-1~~Figure 3-1~~.

Table 3-1. Transpacific Fiber-Optic Cable Systems Project Cumulative Projects List

Project	Type	Location	Status	Map No.
City of Hermosa Beach				
MC GLOBAL BP4 Transpacific Fiber-Optic Cable System (Cable 1, SEA-US)	Telecommunications	Landing site on Longfellow Avenue between Manhattan and Hermosa Avenues.	Operational. Installation completed in 2017.	1
MC GLOBAL BP4 (Cable 2, JUPITER)	Telecommunications		Operational. Installation completed in 2019.	2
MC GLOBAL BP4 (Cable 3, Hong Kong)	Telecommunications		Operational. Installation completed in 2020.	3
MC GLOBAL BP4 (Cable 4, SX-NEXT)	Telecommunications		Operational. Installation completed in 2021.	4
Fire Station Remodel	Public Works	540 Pier Avenue	Operational. Construction completed in 2019.	5
City Yard Project	Public Works	555 6th Street	Application not submitted at this time. Architect is almost ready to submit.	6
Strand and Pier Hotel	Commercial	11 and 19 Pier Avenue, 1250 and 1272 The Strand, and 20, 30, and 32 13th Street	Project is on hold.	7
Clark Building	Public Works	861 Valley Drive	Operational. Construction completed in 2020.	8
Parking Lot A	Municipal Parking Lot	1101 Hermosa Avenue	Currently in design phase.	9
Hermosa Avenue Sewer Lining Project	Public Works Right-of-way	Intersection of 6th Street and Hermosa Avenue	Operational. Construction completed in 2020.	10
Hermosa Avenue "Green Street" Project	Public Works Right-of-way	Hermosa Avenue between Herondo Street and 4th Street (possible extension to 6th Street)	No design at this time.	11
10th Street and Ardmore Repaving Project	Public Works Right-of-way	Intersection of 10th Street and Ardmore	N/A	12
Concrete Bus Pad Landings	Public Works Right-of-way	Hermosa Avenue	N/A	13
Install Flashing Beacons and Restripe Crosswalks	Public Works Right-of-way	Hermosa Avenue (at 4th, 6th, and 19th Street intersections)	Operational. Completed in 2019.	14

Project	Type	Location	Status	Map No.
West Coast Basin Barrier Project Unit 13	Public Works	Valley Drive and Ardmore Avenue	Environmental review completed in April 2020.	15
Skechers Design Center and Offices	Office Buildings	2851, 2901, 3001, and 3125 Pacific Coast Highway; 305, 309, and 317 S. Sepulveda Boulevard; 1050 Duncan Avenue; 330 S. Sepulveda Boulevard	Under construction.	16
Hope Chapel / Lazy Acres Supermarket	Mixed-use	2420 Pacific Coast Highway	Completed	17
70 Tenth Street Motel Development	Commercial	70 10th Street	Approved	18
City of Hermosa Beach Municipal Pier Structural Repairs and Electrical Upgrades	Public Works	1 Pier Avenue	Environmental review completed in May 2022.	19
Parking Lot D	Municipal Parking Lot	Manhattan Avenue and 14th Street	Pending	20
Downtown Hermosa Beach Temporary Lane Configuration	Public Works Right-of-way	Hermosa Avenue between 8th Street and 14th Street and Pier Avenue between Hermosa Avenue and Valley Drive	Approved	21
Pacific Coast Highway Traffic Improvements	Public Works	Aviation Boulevard / 10th Street and Pacific Coast Highway; Pier Ave / 14th Street and Pacific Coast Highway	Underway	22
Traffic Safety Demonstration Project	Public Works	Prospect Avenue	Complete	23
Prospect Avenue Curb Ramps	Public Works	Prospect Avenue	Under Design	24
Strand Bikeway and Walkway Improvements at 35th Street	Public Works	The Strand at 35th Street	Under Design	25
Emergency Operation Center Renovations	Public Facilities	N/A	Under Design	26
Street Beach Restroom	Public Facilities	14th Street	Under Design	27
Police Station Improvements	Public Facilities	540 Pier Avenue	Pending	28
City Parks Restrooms and Renovations	Public Facilities	1102 6th Street; 1870 Prospect Avenue; 425 Valley Drive; 861 Valley Drive	Pending	29
Council Chambers Audiovisual Improvements	Public Facilities	Council Chambers	Pending	30

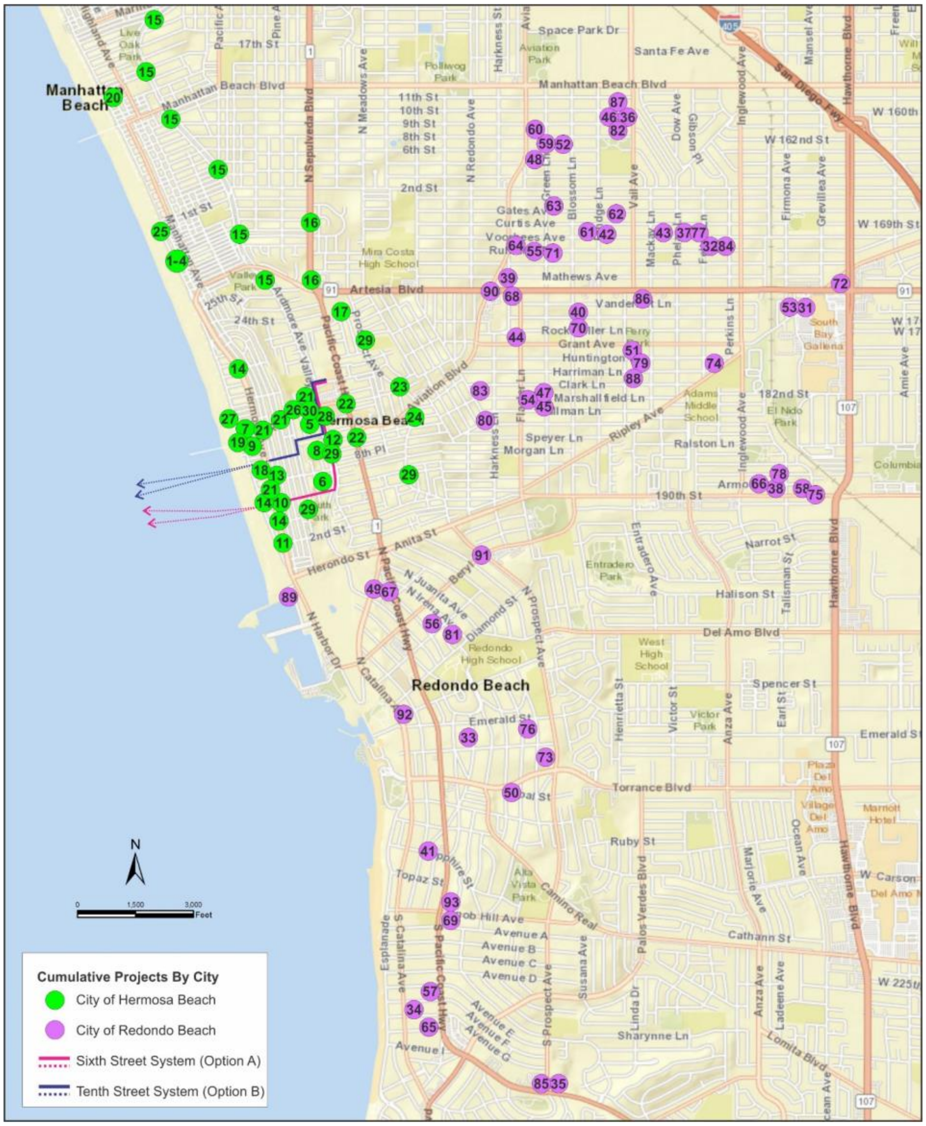
Project	Type	Location	Status	Map No.
City of Redondo Beach				
Galleria Project	Commercial/ Residential	1815 Hawthorne Boulevard	Approved 1/15/2019	31
3-Unit Condo	Residential	2601 Ruhland Avenue	Approved 2/19/2019	32
2-Unit Condo	Residential	119 S. Guadalupe Avenue	Approved 2/21/2019	33
3-Unit Condo	Residential	1406 S. Catalina Avenue	Approved 4/16/2019	34
New Fitness Studio	Commercial	1922 S. Pacific Coast Highway	Approved 3/21/2019	35
2-Unit Condo	Residential	2228 Bataan Road	Approved 4/15/2019	36
2-Unit Condo	Residential	2517 Voorhees Avenue	Approved 4/15/2019	37
2-Unit Condo	Residential	2783 190th Street	Approved 5/28/2019	38
3-Unit Condo	Residential	2010 Aviation Way	Approved 6/14/2019	39
2-Unit Condo	Residential	2102 Carnegie Lane	Approved 5/20/2019	40
2-Unit Condo	Residential	528 S. Guadalupe Avenue	Approved 5/20/2019	41
2-Unit Condo	Residential	2203 Ruhland Avenue	Approved 5/20/2019	42
2-Unit Condo	Residential	2421 Voorhees Avenue	Approved 5/20/2019	43
3-Unit Condo	Residential	1605 Flagler Lane	Approved 6/24/2019	44
2-Unit Condo	Residential	1912 Marshallfield Lane	Approved 6/24/2019	45
2-Unit Condo	Residential	2226 Bataan Road	Approved 7/15/2019	46
2-Unit Condo	Residential	1909 Marshallfield Lane	Approved 7/26/2019	47
2-Unit Condo	Residential	1908 Perry Avenue	Approved 7/15/2019	48
Fitness Studio	Commercial	1008 N. Catalina Avenue	Approved 7/18/2019	49
Fitness Studio	Commercial	800 Torrance Boulevard	Approved 7/18/2019	50
2-Unit Condo	Residential	2309 Huntington Lane	Approved 8/15/2019	51
2-Unit Condo	Residential	2023 Ernest Avenue	Approved 9/17/2019	52
4-Unit Condo	Residential	1900 Firmona Avenue	Approved 9/19/2019	53
2-Unit Condo	Residential	1914 Marshallfield Lane	Constructed in 2020	54
2-Unit Condo	Residential	1926 Ruhland Avenue	Constructed in 2020.	55
Variance	Residential	711 Carnelian Street	Public Hearing 10/17/2019	56
Body Art Studio	Commercial	1305 S. Pacific Coast Highway	Public Hearing 10/17/2019	57
The Foundry	Residential	2829 W. 190th St and 2893 W. 190th Street	Completed in January 2023.	58
Addition and Remodel of Condo	Residential	2008 Farrell Avenue	Approved	59
2-Unit Condo	Residential	1908 Bataan Road	Approved	60
2-Unit Condo	Residential	2117 Voorhees Avenue	Approved	61
2-Unit Condo	Residential	2216 Gates Avenue	Approved	62
2-Unit Condo	Residential	2003 Gates Avenue	Approved	63

Project	Type	Location	Status	Map No.
3-Unit Condo	Residential	2306 Aviation Boulevard	Approved	64
Restaurant	Commercial	221 Avenue I	Approved	65
Monument Sign for Church	Commercial	2761 190th Street	Approved	66
Expansion of Restaurant	Commercial	601-607 North Pacific Coast Highway	Approved	67
Reconfiguration of Existing Music School	Commercial	1806 Artesia Boulevard	Approved	68
Expansion of Restaurant	Commercial	800 S. Pacific Coast Highway	Approved	69
2-Unit Condo	Residential	2101 Rockefeller Lane	Approved	70
2-Unit Condo	Residential	2002 Ruhland Avenue	Approved	71
New Coffee Shop	Commercial	2321 Hawthorne Boulevard	Approved	72
5-Unit Condo	Residential	217 South Prospect Avenue	Approved	73
2-Unit Condo	Residential	2608 Huntington Lane	Approved	74
36-Unit Condo	Residential	190th Street and Fisk Lane	Approved	75
New Single-Family Dwelling	Residential	1010 Emerald Street	Approved	76
2-Unit Condo	Residential	2520 Curtis Avenue	Approved	77
Addition to Single-Family Residence	Residential	2736 Spreckels Lane	Approved	78
2-Unit Condo	Residential	2314 Huntington Lane	Approved	79
2-Unit Condo	Residential	1705 Belmont Lane	Approved	80
2-Unit Condo	Residential	519 N. Irena Avenue	Approved	81
2-Unit Condo	Residential	2216 Bataan Road	Approved	82
2-Unit Condo	Residential	1710 Clark Lane	Approved	83
2-Unit Condo	Residential	2623 Voorhees Avenue	Approved	84
Tutoring Center	Commercial	1900 South Pacific Coast Highway, #103	Approved	85
3-Unit Condo	Residential	2317 Vanderbilt Lane	Approved	86
2-Unit Condo	Residential	2217 Dufour Avenue	Approved	87
2-Unit Condo	Residential	2304 Harriman Lane	Approved	88
Redondo Beach Harbor Patrol/County Lifeguard and Public Sewage Pump Out Floating Dock Replacement Project	Public Facilities	King Harbor, 208 Yacht Club Way	Environmental review completed March 2020.	89
Northbound Right-turn Lane from Aviation Boulevard to Artesia Boulevard	Public Works Right-of-way	Artesia and Aviation Boulevards	Environmental review completed May 2020.	90
Beach Cities Health District Healthy Living Campus Master Plan	Public Facilities	N. Prospect Avenue and Beryl Street	Under Design. Environmental review completed November 2021.	91

Project	Type	Location	Status	Map No.
100-132 North Catalina Avenue Project	Commercial and Residential	100-132 N. Catalina Avenue	City Council hearing held January 2023.	92
Project Homekey – Pacific Coast Inn	Housing	716 S. Pacific Coast Highway	Environmental review completed February 2022.	93

Note: N/A = not applicable; N. = North; W. = West; S. = South; Condo = Condominium

Figure 3-1. Cumulative Projects



3.2. Aesthetics

This section discusses the Project's potential to cause physical changes that adversely affect the visual environment. The analysis describes the current visual character and significant visual resources in the local environment, and identifies physical changes caused by the Project that might affect visual resources. The assessment addresses both the construction and post-construction phases of the Project.

3.2.1. Environmental Setting

Visual characteristics in the area of the proposed Project are typical of a highly urbanized coastal city and beach community in Southern California. The area consists of dense, compact residential single-family and multi-family homes, commercial buildings, and recreational facilities along the coastline and inland area. Recreational areas and facilities include a pedestrian and bicycle boardwalk (The Strand) located adjacent to the sandy beach; volleyball courts on the beach; Clark Field (a municipal playfield) on Valley Drive; and the Hermosa Valley Greenbelt~~ (Veterans Parkway),~~, which is a walking/running trail that extends the entire length of Hermosa Beach and into the neighboring city of Manhattan Beach. Fishing and commercial vessels, tankers, and private boats are visible offshore but are usually at least 300 yards from shore.

The urban landscape includes man-made structures and associated ornamental landscape and hardscape areas. The City is fully developed with a mix of residential, commercial, and recreational development consisting of residential houses, condominiums, and apartments; restaurants and retail outlets; and banks, hotels, and public facilities. The Strand is a walkway and bike path that fronts the beach for the entire length of the Hermosa Beach coastline, extending to Manhattan Beach on the north and Redondo Beach on the south. The visual character and setting in nearby Manhattan Beach and Redondo Beach are similar to that of the proposed Project area.

Sources of light and glare at night include lampposts that illuminate The Strand and local streets, as well as exterior lighting associated with commercial and residential uses. Streetlamps are the primary source of nighttime illumination in the area.

Figures 3.2-2 and 3.2-3 present views of the two locations under consideration for the cable landing site. Figure 3.2-1 shows the mapped location of both views. Because the cable landing site is the location of the Project's greatest physical activity (as discussed more fully in the subsequent analysis) the visual character of the two potential sites under consideration is described in detail below.

Viewpoint 1 – 6th Street Landing Site

Figure 3.2-2 presents the existing conditions looking west from the 6th Street landing site's eastern limit at Manhattan Avenue towards The Strand and beach. The landscape is urban in character, dominated by multi-family residences in the foreground, middle ground, and background on the left and right sides of the image. All the adjacent buildings are zoned R-3 Multi-Family Residential with a 30-foot (three-story) height limit. The Strand, beach, and Pacific Ocean are in the background in the middle of the image. Other common urban features, such as streets, utility lines and parked vehicles, also influence the visual character. Some palm trees obscure portions of the ocean view, and utility lines interrupt views of the sky above the horizon. Hermosa Avenue is visible in the middle ground in the center of the image. On a clear day, a narrow view of the ocean is visible between buildings at the western end of the street from this viewpoint.

Figure 3.2-1. Key Observation Point Location Map

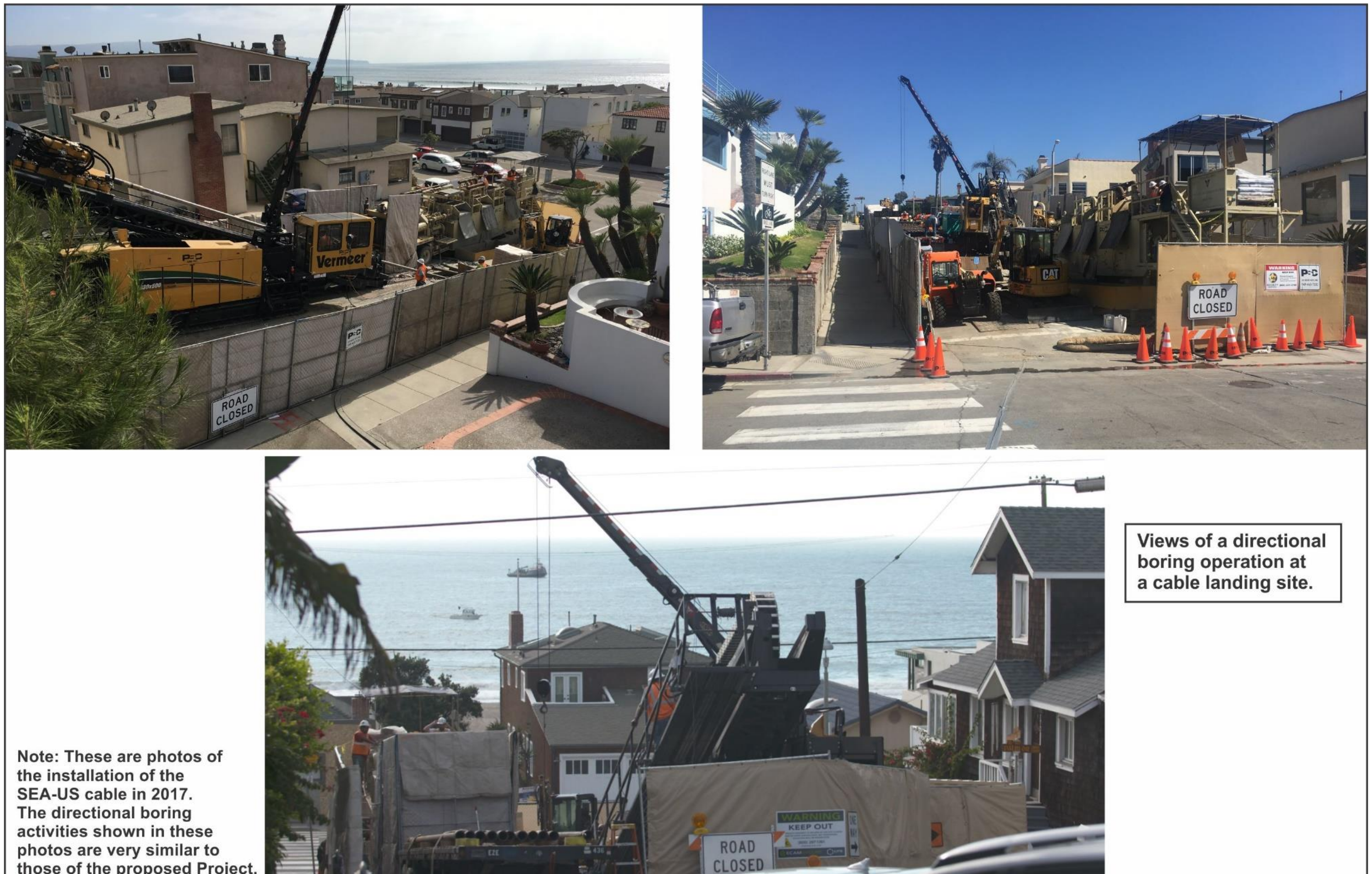
Figure 3.2-2. Existing Conditions at 6th Street Landing Site (Option A)

Existing conditions – 6th Street looking west towards the ocean.

Figure 3.2-3. Existing Conditions at 10th Street Landing Site (Option B)

Existing conditions – 10th Street looking southwest towards the ocean.

Figure 3.2-4. Expected Construction Views



Views of a directional boring operation at a cable landing site.

Note: These are photos of the installation of the SEA-US cable in 2017. The directional boring activities shown in these photos are very similar to those of the proposed Project.

Viewpoint 2 – 10th Street Landing Site

Figure 3.2-3 presents the visual character of the 10th Street landing site from Viewpoint 2, looking west from the eastern limit of 10th Street at Manhattan Avenue towards the beach and The Strand. Hermosa Avenue is visible in the upper-middle portion of the view. Similar to 6th Street, multi-family homes, along both sides of the street (zoned R-3 Multi-Family Residential with a 30-foot [three-story] height limit) dominate the visual character, along with the street itself and parked vehicles.

The Pacific Ocean and beach are visible in the distance within the narrow view between the buildings on both sides of the street where 10th Street terminates at The Strand. Unlike 6th Street, no visible utility lines span across 10th Street, so views of the sky and horizon are uninterrupted. The foreground and middle ground provide typical urban views of buildings, adjacent streets, street signs and streetlights.

3.2.2. Regulatory Setting

3.2.2.1. Federal

No federal regulations are applicable to aesthetics and visual resources.

3.2.2.2. State

California Scenic Highway Program

The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code. A list of California's scenic highways and a map identifying their locations is available from the Caltrans Scenic Highway Coordinators.

For a specific route to be included on a list of highways eligible for scenic highway designation, the route must be added to the list prior to being considered for official designation. A highway may be designated scenic depending on the extent of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

According to the Caltrans list of eligible and officially designated State Scenic Highways, no designated or eligible scenic highways are in the vicinity of the proposed Project (Caltrans 2017).

California Coastal Act

The California Coastal Act (CCA) establishes a comprehensive approach to govern land use planning along the entire California coast. Section 30251 states, "The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting."

3.2.2.3. Local

PLAN Hermosa

PLAN Hermosa is the City's Integrated General Plan and Coastal Land Use Plan, which was adopted in August 2017. The Plan establishes goals and policies that address visual resources. Goal 5 of the Parks and Open Space Element provides policies "to ensure future development does not substantially detract from identified scenic public viewpoints or uninterrupted viewing areas, particularly within the Coastal Zone" (PLAN Hermosa, p. 179). Goal 5 includes the following policies that have relevance to the assessment of the Project's potential effects:

> **Policy 5.2 Visual character**. Accommodate economic growth and new buildings in a way that is consistent with and reflects the visual character of the community.
>
> **Policy 5.6 Signage and infrastructure**. Encourage signage, infrastructure, and utilities that do not block or detract from views of scenic vistas.
>
> **Policy 5.7 Light pollution**. Preserve skyward nighttime views and lessen glare by minimizing lighting levels along the shoreline.

PLAN Hermosa has identified and mapped a variety of ***prominent public viewpoints and uninterrupted viewing areas*** within the City, largely related to coastal scenic views of the ocean, Palos Verdes Peninsula, and the Santa Monica Mountains (City of Hermosa Beach 2017b). These resources are defined as follows:

- **Prominent Public Viewpoint** – A specific location and angle on public property or right-of-way from which a regionally important feature can be seen;
- **Uninterrupted Viewing Area** – An area that has an infinite number of viewpoints with views that are uninterrupted, expansive, or greater than 180 degrees.

Scenic vistas in Hermosa Beach consist of expansive public views of the Pacific Ocean, Palos Verdes Peninsula, Santa Monica Mountains, or inland views of the San Gabriel Mountains. The most prominent scenic vistas in the City are from the beach and The Strand and other areas immediately adjacent to the coast. A few scenic vistas exist in the upper elevations of the City. As previously described, PLAN Hermosa maps these locations as uninterrupted viewing areas (City of Hermosa Beach 2017b).

The **prominent public viewpoints** that are closest to the Project's areas of greatest disturbance (the cable landing site at either 6th Street or 10th Street) are located on Pier Avenue, east of Hermosa Avenue (north of both potential landing sites) and on Cypress Avenue (several blocks east and uphill of both landing sites). However, none of these prominent public viewpoints include views of the two potential landing sites. The nearest **uninterrupted viewing areas** in the vicinity of the Project site include Pier Plaza, The Strand, the beach, and Hermosa Pier, which are discussed in further detail below.

In addition to these visual resources, the Final Environmental Impact Report for PLAN Hermosa also identifies the important role of the many east-west streets in Hermosa Beach in providing a series of intermittent views of the ocean as one travels parallel to the coast on north-south trending streets of Hermosa Avenue, Manhattan Avenue and Monterey Boulevard. These east-west streets cumulatively provide visual permeability from the public streets to the ocean, an effect that contributes to the visual character of Hermosa Beach (see City of Hermosa Beach 2017a, p. 4.1-5)

City of Hermosa Beach Local Coastal Program

The City's Local Coastal Program (LCP) consists of the Coastal Land Use Plan (CLUP), which is integrated into the adopted General Plan, and a Local Implementation Program (LIP), which will be incorporated into the City's coastal zoning code, zoning maps, and applicable ordinances following certification of the LCP. The CLUP component (originally adopted by the City and certified by the California Coastal Commission [CCC] in 1981, then adopted in 2017 through the PLAN Hermosa update) addresses aesthetic considerations of development within the Coastal Zone. CLUP goals and objectives associated with coastal recreational access and development and design include protecting and enhancing coastal views and key viewpoints. However, the City is still working through the LCP certification process with the CCC, a process that can often require considerable time (i.e., more than 6 months and often up to 18 months) and could require several administrative changes and/or changes to specific coastal-related policies in the PLAN Hermosa document. Therefore, the CCC currently retains authority to review and issue coastal development permits (CDPs) for development within the Coastal Zone based on the California Coastal Act and the City's 1981 CLUP, including its policies and maps.

3.2.3. Potential Environmental Impacts

3.2.3.1. Significance Thresholds

Based on the findings of the Initial Study, an impact related to aesthetics would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold A-1:** Have a substantial adverse effect on a scenic vista.
- **Threshold A-2:** Substantially degrade the existing visual character or quality of public views of the site and its surroundings.
- **Threshold A-3:** Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following threshold:

- Substantially damage scenic resources within a scenic highway viewshed or a national scenic trail viewshed (including, but not limited to, trees, rock outcroppings, and historic buildings).

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to this threshold. The impacts assessment below focuses on Thresholds A-1 through A-3 identified above.

3.2.3.2. Impact Analysis

Scenic Vistas (Threshold A-1)

Impact A-1:	***Construction activities would temporarily obstruct or modify scenic vistas in coastal and beach areas in the City.***

Of the Project's multiple construction activities, the cable landing site at either 6th Street or 10th Street would have the greatest potential to alter the visual environment. Even so, neither of the two sites under consideration have the potential to obstruct any of the prominent public viewpoints or uninterrupted viewing areas identified and mapped in the City's General Plan (Figure 5.3 of PLAN Hermosa). As stated earlier, the prominent public viewpoints nearest the two sites are at Pier Avenue and on Cypress Avenue. Neither of these two viewpoints is near enough to areas that would be disturbed during construction of either of the cable landing sites to be obstructed or in any way affected by construction activities, either permanently or temporarily, nor would any of the construction activities related to any of the other terrestrial or marine components of the Project obstruct public views from those or other important public viewpoints. The other terrestrial components include the buried conduit system and the power feed equipment (PFE) facilities. Neither of these components has the potential to obstruct or significantly affect public views from a prominent public viewpoint, nor would the offshore activities related to laying the marine cable present the potential to adversely affect public views from these locations.

Construction activities at the cable landing site would be largely screened by construction fencing, approximately 40 feet wide by 220 feet long and between 6 to 8 feet in height. The screened work site would obstruct street-level views of the ocean, beach, and The Strand from the public right-of-way immediately surrounding the site on 6th or 10th Street, in the block between Hermosa Avenue and Manhattan Avenue. As a consequence, a very small portion of the series of intermittent views of the ocean available to travelers on Manhattan Avenue and Monterey Boulevard would be partially obstructed immediately uphill (inland) from the construction site. This minor obstruction (for a period of up to 6 weeks) would not constitute a significant impact because this impact would be short-term and would only be a partial obstruction of the many intermittent east-west views available from north-south trending streets throughout the coastal portion of the City.

Similarly, if the beach area is used for the installation of the ocean ground bed (OGB), then viewsheds along the beach and The Strand near the westerly terminus of either 6th Street or 10th Street would be affected during construction; however, this would be a short-term effect that would partially modify views from only a small portion of the public viewshed along The Strand and beach. The effect would not rise to the level of a significant adverse impact. If the OGB is installed under the Greenbelt, a location would be selected near a planned manhole and away from existing trees. Because Project construction would not substantially obstruct or modify a scenic vista, impacts on scenic vistas would be less than significant (Class III).

Following construction, all facilities would be either underground or underwater, and otherwise out of sight. The Project's proposed modifications to the existing PFE facility are within an existing commercial building underground. None of the permanent facilities have the potential to obstruct or adversely affect scenic views.

Visual Character and Quality of Public Views of the Site and Surroundings (Threshold A-2)

Impact A-2:	***Construction activities would temporarily degrade visual character and quality of public views of the site and its surroundings.***

Construction would alter the visual character of the immediate area from some activities, but these alterations would only be temporary and short-term. As indicated previously, construction at the cable landing site would be screened by construction fencing that is approximately 40 feet wide by 220 feet long, and between 6 to 8 feet in height. This would temporarily introduce construction site activities to an area that is residential in character. Construction at the cable landing site would thus alter the visual character of the streetscape between Hermosa Avenue and Manhattan Avenue on either 6th or 10th Street. Because this effect is temporary and short-term, and very localized, this change in the visual environment would not be a significant adverse impact on the visual environment.

Construction activities along the buried terrestrial conduit routes would be visible from public streets, sidewalks, Clark Field, and portions of the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ that are in the immediate area. This activity would last no more than a day at each location before moving on. The cumulative effect of several days of activity does not rise to a level that would result in a significant impact on the environment as there would be no change to the permanent visual environment.

Construction activities to install the terrestrial conduit system in public street rights-of-way would temporarily be visible to local residents and visitors. Approximately 90 percent of terrestrial conduit installation is expected to utilize trenchless construction rather than utility trenching. The activities associated with this component of construction would result in short-term views of construction equipment, such as a bore machine, backhoe, and pickup truck. Conventional boring may be used to a limited extent, and short segments of the terrestrial conduit system could be installed using trenching methods where boring is infeasible or undesirable.

Offshore activities to lay the marine cable would introduce marine vessels that would typically be approximately 328 to 656 feet (100 to 200 meters) in length to views of the ocean. Vessels would be at least 3,000 feet (914 meters) from shore. At that distance and scale of the vessels relative to panoramic ocean views, their temporary presence would not visually intrude on or substantially alter the visual character of the public viewshed. Therefore, aesthetic effects associated with construction would be less than significant (Class III).

The permanent terrestrial components of the proposed Project include underground terrestrial fiber-optic lines and the existing PFE facility. The fiber-optic lines would be underground and, therefore, would not result in aesthetic impacts. The existing PFE facility is located below grade in the former loading dock of a commercial building at 1601 Pacific Coast Highway in Hermosa Beach. Because the PFE facility is underground and not accessible or visible to the public, the facility would not result in aesthetic impacts. Adding new equipment to an existing room in the PFE facility would not alter the visual character of the surrounding area. Due to the PFE facility's obscured location from the public, adding new equipment would not have any substantial aesthetic impacts. Following the construction phase, all facilities would be underground or under water, and otherwise outside of the public viewshed. The Project's permanent components do not have the potential to permanently affect the visual character of their immediate environment.

Light or Glare (Threshold A-3)

Impact A-3:	***The Project has the potential to introduce night lighting during construction that could adversely affect neighboring residences.***

As stated in Chapter 2, Project Description, during the construction period, the Applicant is proposing to work during daylight hours, 7 days a week, to complete directional boring. For the installation of landing pipes and landing manhole and terrestrial cable pulling, the Applicant has proposed construction hours of 8:00 a.m. to 6:00 p.m., Monday through Friday, and from 9:00 a.m. to 5:00 p.m. on Saturdays, for up to 6 weeks. As described, these construction activities are anticipated to be completed during the day, and nighttime lighting would not be required. However, construction activities may be completed during the night if the cable pulling process is slower than anticipated or if problems are encountered. Once cable pulling starts, this process cannot be stopped until complete. Under a prolonged cable pulling scenario, nighttime lighting would be required. Nighttime Project-related activities may also be necessary to keep the bore pipe from seizing in the hole through a brief 30-minute operation of the bore equipment once per night; lighting would be utilized for approximately 45 minutes during this procedure.

To avoid significant adverse effects from periodic nighttime lighting, Mitigation Measure A-1 (Nighttime Lighting Guidelines) would be required. Implementation of this measure would reduce nighttime lighting impacts to less than significant (Class II).

Mitigation Measure

A-1 **Nighttime Lighting Guidelines.** The Project's Construction Management Plan shall specify the equipment, placement and methods for night lighting to ensure that night lighting complies with the following standards:

- All lighting shall be hooded and directed toward the working area to avoid light spill to neighboring residences and to prevent a direct line-of-sight from any light source to lower or upper floor windows of neighboring residences.
- All light levels shall be of minimum brightness consistent with safety needs. Temporary light levels shall not exceed lumens of adjacent streetlights.
- The quantities of temporary night lights utilized shall be minimized to not exceed that which is necessary for safety.

Night lighting shall be permitted only under special circumstances that necessitate temporary and limited nighttime construction and shall be subject to the approval of the Community Development Director.

3.2.3.3. Cumulative Effects

Introduction

The geographic area of analysis for cumulative impacts on scenic resources is limited to projects within 500 feet of the area surrounding the proposed Project construction components. This area is identified because the City of Hermosa Beach is a densely developed urban area, and at distances greater than 500 feet, the visual changes of the Project begin to blend in with existing views and would likely be shielded from view by existing development.

The following projects are within the 500-foot geographical extent:

- Hermosa Avenue Sewer Lining Project. This project would be located at the intersection of 6th Street and Hermosa Ave (Map Number 10 in Figure 3-1~~Figure 3-1~~) and is adjacent to the 6th Street landing site.
- Installation of flashing beacons and restriping of crosswalks at Hermosa Avenue and 6th Street intersection (Map Number 14 in Figure 3-1~~Figure 3-1~~). This activity would be immediately adjacent to the proposed 6th Street landing site.
- Installation of concrete bus pad landings along Hermosa Avenue (Map Number 13 in Figure 3-1~~Figure 3-1~~).
- Potentially Hermosa Avenue "Green Street" Project, located at the intersection between Hermosa Avenue between Herondo Street and 4th Street, with a possible extension to 6th Street (Map Number 11 in Figure 3-1~~Figure 3-1~~).

Project Contribution to Cumulative Impacts

The cable landing site is the component of the temporary construction activities that would create the greatest visual impact. As the fiber-optic lines would be underground, and the PFE facility would be located within an existing building and out of public sight, no visual impacts would result from these components of the proposed Project. The projects that would be located within 500 feet of the 6th Street landing site are small in scale and would not involve any large permanent visual impacts, like large buildings or structures. No cumulative projects are located within 500 feet of the 10th Street landing site. The Hermosa Avenue Sewer Lining Project would most likely result in temporary visual impacts during construction activities. The installation of flashing beacons and restriping of crosswalks at Hermosa Avenue and 6th Street would be a necessary public safety project and would not have any major visual impacts that would detract from the overall visual quality of an already-urbanized area. These public works projects would be small in scale and temporary. With implementation of MM A-1, the proposed

Project would not substantially contribute to impacts on the visual quality of the surrounding areas. Therefore, impacts would not be cumulatively considerable.

3.2.3.4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Aesthetics

Table 3.2-1, below, provides a summary of the Project's impacts related to aesthetics. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.2-1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Aesthetics

Impact	Mitigation Measures	Significance Conclusion
Threshold A-1: Have a substantial adverse effect on a scenic vista.		
Impact A-1: Construction activities would temporarily obstruct or modify scenic vistas in coastal and beach areas in the City.	None required	Class III
Threshold A-2: Substantially degrade the existing visual character or quality of public views of the site and its surroundings.		
Impact A-2: Construction activities would temporarily degrade visual character and quality of public views of the site and its surroundings.	None required	Class III
Threshold A-3: Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.		
Impact A-3: The Project has the potential to introduce night lighting during construction that could adversely affect neighboring residences.	A-1 Nighttime Lighting Guidelines	Class II
Cumulative Effects	A-1 Nighttime Lighting Guidelines	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.2.4. References

Caltrans. 2017. List of eligible and officially designated State Scenic Highways. [data file]. Retrieved from https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed September 11, 2019.

City of Hermosa Beach. August 2017a. PLAN Hermosa, Final Environmental Impact Report.

_____. August 2017b. PLAN Hermosa, Integrated General Plan and Coastal Land Use Plan.

_____. 2015. City Facts. [online]: http://www.hermosabch.org/index.aspx?page=47. Accessed September 11, 2019.

3.3. Air Quality

This section describes effects on air quality that would be caused by the implementation of the Project. The following discussion addresses existing environmental conditions in the affected area, describes existing laws and regulations relevant to air quality, identifies and analyzes environmental impacts for the proposed Project, and includes measures to reduce or avoid adverse impacts anticipated from Project construction, operation and maintenance, and decommissioning.

3.3.1. Environmental Setting

The Project site is located in within the South Coast Air Basin (SCAB) under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Emissions from construction and operation of the proposed Project would affect air quality in the immediate Project area and within the SCAB region, which consists of the urbanized areas of Los Angeles, Riverside, San Bernardino, and Orange Counties, and the ocean areas in South Coast waters. The SCAB onshore area covers 6,000 square miles. The SCAQMD has 37 separate source receptor areas (SRAs) designated within its jurisdiction related to its ambient air pollutant monitoring network; the Project site is located in SRA 3 – Southwest Los Angeles County Coastal.

3.3.1.1. Regional Climate and Meteorology

The climate of the SCAB is characterized as a Mediterranean climate with warm, dry summers and cool winters with seasonally heavy precipitation, primarily during the winter months. Summers typically have clear skies, warm temperatures, and low humidity. A monthly climate summary for the City of Hermosa Beach is provided to characterize the climate of the Project area. As shown in Table 3.3-1, average summer (June through September) high and low temperatures in the study area range from 78 degrees Fahrenheit (°F) to 59°F. Average winter (December-March) high and low temperatures in the study area range from 67°F to 46°F. The City's climate is moderated by its location adjacent to the Pacific Ocean, meaning the City is much cooler in the summer than inland locations within the SCAB and is generally warmer than much of the inland SCAB in winter.

Table 3.3-1. Hermosa Beach Monthly Average Temperatures and Precipitation

Month	Temperature (°F) Average High	Temperature (°F) Average Low	Precipitation
January	66	46	3.26
February	66	48	3.91
March	67	49	2.22
April	70	51	0.76
May	71	55	0.22
June	74	59	0.07
July	77	62	0.05
August	78	62	0.02
September	78	61	0.16
October	75	57	0.62
November	70	50	1.19
December	65	46	2.09

Source: Weather Channel, 2019

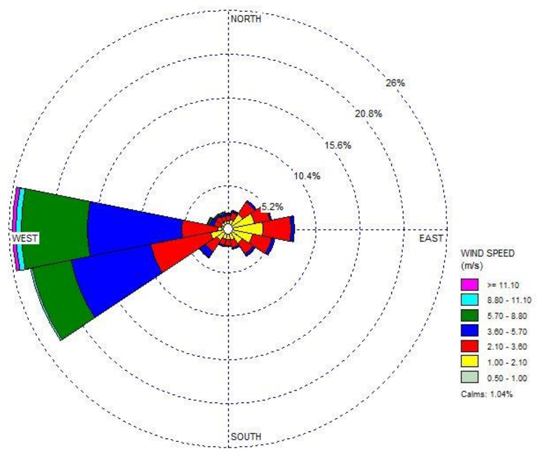
The average annual precipitation is approximately 14.6 inches with over 78 percent between December and March and over 96 percent between October and April. The months of May through September are very dry with all of these months averaging less than a quarter of an inch of precipitation. Little precipitation is typical during summer because of high-pressure cell blocks that move storm systems over the eastern Pacific Ocean.

Winds across the Project area are an important meteorological parameter, as they control both the initial rate of dilution and direction of pollutant dispersion. Using data from the nearby Los Angeles International Airport (LAX), winds blowing onshore from the west-southwest are dominant from February through

November, while the prevailing winds during December and January have high frequencies both from the west-southwest and from the east-southeast through northeast.

The typical wind speeds and directions for the Project area are depicted in Figure 3.3-1 using a wind rose from LAX, which is located approximately 5 miles north of the Project site (a wind rose is a graphic tool used by meteorologists to give a succinct view of how wind speed and direction are typically distributed at a particular location). This wind rose is based on 5 years of data between 2012 and 2016. As shown, the area has a strong predominant onshore flow from the south-southwest through the west, with higher wind speeds and more predominately onshore winds during the day. The average wind speed during this five-year period was approximately 7.8 miles per hour, but the daytime (7 a.m. to 7 p.m.) wind speed average is over 9.6 miles per hour. The ocean winds adjacent to and on the beach at Hermosa Beach would likely be stronger on average than those monitored at LAX, as the LAX meteorological station is located further inland and behind the bluffs to the east of Dockweiler State Beach.

Figure 3.3-1. Wind Rose for LAX (2012-2016)



Source: SCAQMD, 2019a

3.3.1.2. Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: (1) “criteria” pollutants, representing six pollutants for which national and State health- and welfare-based ambient air quality standards have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have ambient air quality standards. The three TACs that do have ambient air quality standards (lead, vinyl chloride, and hydrogen sulfide) are not pollutants that are relevant to the Project. The Project would not emit any vinyl chloride or hydrogen sulfide (often associated with plastics and chemical manufacture; and oil and gas production, geothermal fields, and waste decomposition, respectively), and only trace amounts of lead would result from the petroleum-based fuels used during construction and operation and from soil (having trace lead contamination from historical leaded gasoline use) that is emitted as fugitive dust during construction.

3.3.1.3. Criteria Pollutants

The U.S. Environmental Protection Agency (USEPA), California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment, depending on whether or not the monitored ambient air quality data shows compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) relevant to the Project are provided in Table 3.3-2. Table 3.3-3 summarizes the federal and State attainment status of criteria pollutants for the SCAQMD based on the NAAQS and CAAQS, respectively.

Table 3.3-2. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
Ozone (O_3)	1-hour	0.09 ppm	--	Breathing difficulties, lung tissue damage
	8-hour	0.070 ppm	0.070 ppm	
Respirable particulate matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m^3	--	
Fine particulate matter (PM2.5)	24-hour	--	35 µg/m^3	Increased respiratory disease, lung damage, cancer, premature death
	Annual [1]	12 µg/m^3	12 µg/m^3	
Carbon monoxide (CO)	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9 ppm	9 ppm	
Nitrogen dioxide (NO_2)	1-hour	0.18 ppm	0.100 ppm [2]	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	
Sulfur dioxide (SO_2)	1-hour	0.25 ppm	0.075 ppm [2]	Increases lung disease and breathing problems for asthmatics
	3-hour	--	0.5 ppm	
	24-hour	0.04 ppm	--	

Source: CARB, 2009; CARB, 2016
Notes: ppm = parts per million; µg/m^3 = micrograms per cubic meter; "--" = no standards
1. The federal standard shown is the primary standard, the secondary standard is 15 µg/m^3.
2. The federal 1-hour NO_2 and SO_2 standards are based on the 98th and 99th percentile of daily hourly maximum values, respectively.

Table 3.3-3. Attainment Status for the SCAB

Pollutant	Attainment Status[1]	
	Federal	State
Ozone	Nonattainment/Extreme	Nonattainment
PM10	Attainment/Maintenance	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment/Maintenance	Attainment
SO_2	Attainment	Attainment

Source: CARB, 2019; USEPA, 2019
Notes: SCAB = South Coast Air Basin; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); CO = carbon monoxide; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide
1. The Attainment designations shown in this table may actually be unclassified/unclassifiable or cannot be classified designations that for regulatory purposes are the same as an attainment designation.

The SCAQMD operates regional air quality monitoring stations; the nearest station to Hermosa Beach with recent complete annual data and the one that is located within the same Source Receptor Area as Hermosa Beach (SRA 3) is to the northwest in Los Angeles. That station, located on Westchester Parkway just north of the Los Angeles International Airport, monitors all of the federal criteria pollutants, except for PM2.5. The nearest station that monitors PM2.5 concentrations is the Compton monitoring station in the adjacent SRA 12 – South Central Los Angeles County. Table 3.3-4 presents the maximum pollutant levels measured at the Los Angeles – Westchester Parkway and Compton (PM2.5 only) monitoring stations from 2016 through 2018. Values in exceedance of the most restrictive ambient air quality standard for each pollutant and averaging period are shown in **bold**.

Table 3.3-4. Background Ambient Air Quality Data

		Maximum Concentration (ppm or µg/m³) [1]		
Pollutant	**Averaging Time**	2016	2017	2018
Ozone	1-hour	0.087	0.086	0.074
	8-hour	**0.080**	0.070	0.065
PM10	24-hour	43	46	45
	Annual	**21.6**	19.8	**20.5**
PM2.5	24-hour (98th percentile)	26.4	**41.3**	34.2
	Annual	11.1	**12.9**	**13.0**
CO	1-hour	1.6	2.1	1.8
	8-hour	1.3	1.6	1.5
NO_2	1-hour	0.082	0.072	0.060
	1-hour (98th percentile)	0.055	0.055	0.050
	Annual	0.010	0.009	0.009
SO_2	1-hour	0.010	0.010	0.012
	1-hour (99th percentile)	0.006	0.007	0.005

Source: SCAQMD, 2019b
Notes: PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); CO = carbon monoxide; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; ppm = parts per million; µg/m³ = micrograms per cubic meter
1. Gaseous pollutant (ozone, SO_2, NO_2, and CO) concentrations are shown in ppm, and particulate (PM10 and PM2.5) concentrations are shown in µg/m³.

The ambient air quality data provided above shows exceedances of the State and federal ozone standards, the State PM10 standard, and the State and federal PM2.5 standards; but shows no exceedances of the State or federal CO, NO_2, or SO_2 standards. While the SCAB is still non-attainment of several ambient air quality standards, the air quality of the air basin has improved substantially since air quality regulations were enacted in the 1970s. For example, a single Stage II Smog Alert has not occurred in the SCAB since the 1980s; and the last Stage I Smog Alert, an event that used to occur 100 to 120 times a year, occurred in 2003.

3.3.1.4. Toxic Air Contaminants

TACs are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. TACs are emitted from mobile sources, including diesel particulate matter (DPM); industrial processes and other stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations; and stationary fossil fuel-burning combustion. The SCAQMD estimates in the draft Multiple Air Toxics Exposure Study IV (MATES IV) that the estimated cancer risk in the Project area within Hermosa Beach and surrounding coastal waters[5] is over 770 in a million (SCAQMD 2019e) and that over 68 percent of the background airborne air toxics risk in the SCAB is due to DPM (SCAQMD 2015). DPM is by far the largest TAC emissions source from the Project; therefore, this EIR focuses on the impacts of DPM emissions from the Project.

[5] The entire terrestrial project area within Hermosa Beach, along with the nearshore marine activity including the marine cable laying areas, are within the same 1 square mile area identified in the MATES IV Estimate Risk Map (Risk = 771.60 in a million).

3.3.1.5. Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations include schools, hospitals, convalescent homes, day care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed. In addition, this analysis considers all residents as potentially sensitive receptors.

Much of Hermosa Beach is zoned for residential use, which is considered a sensitive land use for the purposes of evaluating air quality. Hermosa Beach has two public primary schools, Hermosa Valley Middle School and Hermosa View Elementary School, both of which are also sensitive land uses. Several private schools, as well as day care facilities, and a senior assisted living facility called Sunrise, are within the City and are also considered sensitive uses. Recreational land uses include many public parks, the Hermosa Valley Greenbelt ~~(Veterans Parkway),~~, beach, The Strand, and the Hermosa Beach Community Center with outdoor facilities. The onshore Project components, including the directional boring location, would generally be adjacent to residences. Other adjacent receptors temporarily affected during Project construction would include area parks and schools. Table 3.3-5 identifies, and Figure 3.3-2 shows, sensitive receptors located nearest to the proposed marine and terrestrial cable landing sites and the existing power feed equipment (PFE) facility location.

Table 3.3-5. Sensitive Receptors near Cable Landing Site and PFE Facility

Receptor	Distance from Cable Landing Site (6th Street, Option A)	Distance from Cable Landing Site (10th Street, Option B)	Distance from PFE Facility
Residences	Immediately adjacent	Immediately adjacent	Immediately adjacent
The Strand and Beach	0.1 mile west	0.1 mile west	0.5 mile west
Fusion Academy School	0.65 mile northeast	0.5 mile northeast	Immediately adjacent
Hermosa Valley School	0.35 mile northeast	0.55 mile north northeast	0.10 mile east
Hermosa View Elementary School	0.85 mile northeast	0.70 mile northeast	0.20 mile north northeast

Note: PFE = power feed equipment

In addition to construction activities at the cable landing site, the Project would result in construction emissions during trenching and directional boring at multiple locations within Hermosa Beach, as well as construction at the existing PFE facility location. These additional construction locations would also be adjacent to residents and other nearby sensitive receptor locations. However, the cable landing site construction activities are by far the most extensive and highest emitting, and the PFE facility has the peak operating emissions, so the sensitive receptor impacts near these other construction activity areas would be substantially less than the those at the worst-case sensitive receptor locations identified above in Table 3.3-5.

The nearest sensitive receptors to the marine construction activities are conservatively assumed to be located on the end of the Hermosa Beach Pier. The distance from the four potential marine landing sites to the end of the pier would range from 0.32 mile to 0.40 mile. The distance from the marine landing sites to the surf zone would be approximately 0.38 mile, to the beach would be approximately 0.45 mile, and to the nearest onshore residences would be approximately 0.55 mile. Normal Project operations would include periodic maintenance service calls to the PFE facility locations and the occasional testing of the two diesel-fueled emergency engine generators.

Figure 3.3-2. Terrestrial Land Uses

3.3.2. Regulatory Setting

Sources of air emissions in the SCAB are regulated by the USEPA, CARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. The role of each regulatory agency is discussed below.

3.3.2.1. Federal

The federal Clean Air Act (CAA) of 1963 and its subsequent amendments form the basis for the nation's air pollution control effort. The USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the NAAQS for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

USEPA regulations that affect the emissions factors used to determine Project emissions or that require compliance actions during Project construction or operation are summarized as follows:

- 40 Code of Federal Regulations (CFR) Part 80 – Sulfur Limits for Marine Diesel Fuel
- 40 CFR Part 89 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines
- 40 CFR Part 94 - Control of Emissions from Marine Compression-Ignition Engines
- 40 CFT Part 1042 – Control of Emissions from New and In-Use Marine Compression Ignition Engines and Vessels
- 40 CFR Part 1043 – Control of Nitrogen Oxides (NOx), Sulfur Oxides (Sox), and Particulate Matter (PM) Emissions from Marine Engines and Vessels Subject to the International Convention for the Prevention of Pollution from Ships (MARPOL) Protocol

These USEPA marine engine and marine fuel regulations, along with similar CARB regulations, are addressed in the emissions factors used to calculate the Project's marine vessel emissions. The Applicant has not proposed the use of a specific cable-laying vessel, so without knowing the specific vessel age, the International Maritime Organization (IMO)/USEPA engine tier requirements for the vessel are unknown. Therefore, for emissions estimation purposes, the vessel construction is conservatively assumed to predate IMO engine tier requirements, and the vessel would have Tier 0 engines. The cable-laying vessel would have to meet the current fuel sulfur requirements regardless of age.

USEPA also has several on-road vehicle and off-road vehicle engine emissions standards and fuel sulfur standards; however, the CARB regulations for these emissions sources are as strict or stricter than the USEPA regulations, and the emissions factors used for these emissions sources come from CARB emissions factor models.

3.3.2.2. State

In California, the CARB is designated as the responsible agency for all air quality regulations. The CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain the CAAQS for O_3, NO_2, SO_2, and CO by the earliest practical date. Since the CAAQS are often more stringent than the NAAQS, attainment of these more stringent CAAQS will require more emission reductions than what will be required to show attainment of the NAAQS. Similar to the federal system, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

CARB regulations that affect the emissions factors used to determine Project emissions or that require compliance actions during Project construction or operation are summarized below.

Emissions Reduction Regulations

The effects of the following CARB regulations, which require no specific action by the Applicant, are incorporated into the CARB emissions factors used to calculate the Project's construction and operation emissions:

- Advanced Clean Cars Program
- California Diesel Risk Reduction Plan
- Emissions Standards for On-Road and Off-Road Diesel Engines
- In-Use Off-Road Vehicle Regulation
- Heavy-Duty Diesel Truck Idling Regulation
- California Reformulated Gasoline Program
- California Diesel Fuel Regulations

The USEPA has regulations that cover the same emissions source categories and fuels as those noted above; however, the CARB regulations are as strict or more strict, and they are the regulations that are used by CARB to develop its on-road vehicle and off-road equipment emissions factors that are used in the Project's construction and operation emissions estimate.

Permitting/Registration and Compliance Action Regulations

The following CARB regulations would require the Applicant or their construction contractor to complete permitting/registration actions or follow specific compliance actions:

- **Statewide Portable Equipment Registration Program (PERP).** This regulation requires portable equipment, such as directional drill rigs and generators, to obtain statewide certification or have local air quality permits.
- **Heavy-Duty Diesel Truck Idling Regulation.** This regulation prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time, unless they are queuing, provided the queue is located beyond 100 feet from any homes or schools.

3.3.2.3. Local

South Coast Air Quality Management District (SCAQMD)

The SCAQMD is primarily responsible for planning, implementing, and enforcing federal and State ambient standards within this portion of the SCAB. As part of its planning responsibilities, SCAQMD prepares Air Quality Management Plans and Attainment Plans as necessary based on the attainment status of the air basins within its jurisdiction. The SCAQMD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by the USEPA.

Through the attainment planning process, the SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB (SCAQMD 2019c). The SCAQMD rules that are potentially applicable to the Project's construction and operation are as follows:

- Rule 201 - Permit to Construct and Rule 202 – Permit to Operate
- Rule 401 – Visible Emissions
- Rule 402 – Nuisance
- Rule 403 – Fugitive Dust
- Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines

- Rule 1113 – Architectural Coatings
- Rule 1166 – Volatile Organic Compound Emissions from Decommissioning of Soils
- Regulation XIII – New Source Review
- Rule 1401 – New Source Review of Toxic Air Contaminants
- Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and other Compression Ignition Engines

The Applicant and their construction contractor would have to comply with these permitting, construction impact, and emissions reduction regulations during construction and/or operation. The emissions factors and control measures and efficiencies used to calculate fugitive dust emissions, and the emissions factors for the new standby emergency power generators, are based on complying with these regulations.

Vessel Speed Reduction Program

In May of 2001, USEPA Region 9, CARB, SCAQMD, the Port of Long Beach, the Port of Los Angeles, the Pacific Merchant Shipping Association (PMSA), and the Marine Exchange of Southern California signed a Memorandum of Understanding (MOU) to voluntarily reduce the speed of ocean-going vessels (OGV) to 12 knots or less within 20 nautical miles of Point Fermin. This reduction in speed would demand less power on the main engine, which in turn would reduce fuel usage and emissions, except under very slow/very low engine load conditions. The Port of Long Beach and Port of Los Angeles Clean Air Action Plan (CAAP) expands the program out to 40 nautical miles from Point Fermin. The Applicant has agreed to reduce all vessel speeds to a maximum of 9 knots during vessel transit. This vessel speed reduction assumption is included in the Project's emissions calculations.

City of Hermosa Beach

PLAN Hermosa, the City's General Plan and Local Coastal Land Use Plan (City of Hermosa Beach 2017), do not include policies or implementation actions that are related to air quality and specifically relevant to the proposed Project.

3.3.3. Potential Environmental Impacts

This section evaluates air quality impacts associated with construction activities (marine and terrestrial), and long-term operation and retirement (cable removal) of the proposed Project. This analysis includes the evaluation of criteria pollutants as well as toxic air contaminants (TACs). The assessment addresses potential impacts on the regional air basin and localized impacts in proximity to the Project, potential impacts related to odors, and cumulative effects in combination with other projects.

Existing air quality conditions, as described above in Section 3.3.1, are used as a baseline to identify impacts. The proposed Project's construction and operation emissions were evaluated against the numeric SCAQMD significance thresholds identified below to determine Project impacts for criteria pollutants. This impact analysis includes the evaluation of marine vessel emissions out to 40 nautical miles (nm) from shore.[6]

The air quality impact analysis considers the proposed Project's air pollutant emissions estimate provided in Appendix B. Appendix B identifies the construction and operational air pollutant emissions estimate assumptions, air pollutant emissions calculation methods that have been approved by State and local air quality agencies for each of the emissions source types (marine, off-road, on-road, etc.), and emissions factor sources from USEPA, CARB, SCAQMD, and the Port of Long Beach.

[6] Forty nautical miles is used as a control distance for the voluntary Vessel Speed Reduction Program and a compliance distance for ocean going vessel fuel sulfur limits included in the 2012 AQMP control measure IND-01 – Backstop Measure for Indirect Sources.

3.3.3.1. Significance Thresholds

Based on the findings of the Initial Study, an air quality impact would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold AQ-1:** Be inconsistent with the applicable adopted Air Quality Management Plan (AQMP).
- **Threshold AQ-2:** Generate emissions of criteria air pollutants that would exceed South Coast Air Quality Management District (SCAQMD) regional significance thresholds (see table to the right showing thresholds in pounds per day [lbs/day]).
- **Threshold AQ-3:** Generate emissions of criteria air pollutants that would exceed SCAQMD localized significance thresholds.

SCAQMD Daily Emissions Thresholds

	Emissions Thresholds (lbs/day)	
Pollutant	Construction	Operation
NOx	100	55
VOC	75	55
PM10	150	150
PM2.5	55	55
SOx	150	150
CO	550	550

Notes: SCAQMD = South Coast Air Quality Management District; lbs/day = pounds per day; NOx = nitrogen oxides; VOC = volatile organic compounds; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); SOx = sulfur oxides; CO = carbon monoxide

The table below provides the localized significance thresholds for a one-acre project site at different distances to receptors applicable to coastal southwest Los Angeles County (Source Receptor Area 3) as prescribed by the SCAQMD.

SCAQMD Localized Significance Thresholds (one-acre site)

	Distance to Receptor				
Pollutant	**25 Meters**	**50 Meters**	**100 Meters**	**200 Meters**	**500 Meters**
Construction and Operation (lbs/day)					
NOx	91	93	107	139	218
CO	664	785	1,156	2,228	7,269
Construction (lbs/day)					
PM10	5	14	28	56	140
PM2.5	3	5	9	21	75
Operation (lbs/day)					
PM10	1	4	7	14	34
PM2.5	1	2	3	5	18

Notes: SCAQMD = South Coast Air Quality Management District; lbs/day = pounds per day; NOx = nitrogen oxides; CO = carbon monoxide; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter)

The onshore construction activities can be assumed to be within 25 meters of a receptor, and the offshore marine cabling activities can be assumed to be approximately 500 meters from a receptor (Hermosa Beach Pier).

- **Threshold AQ-4:** Generate emissions of toxic or hazardous air pollutants that exceed SCAQMD significance thresholds (see table to the right).

SCAQMD Air Toxics Thresholds

Impact	Impact Threshold
Cancer Risk	≥ 10 in 1 million
Cancer Burden	> 0.5 excess cancer cases (in areas with risk >1 in a million)
Chronic Hazard Index	≥ 1
Acute Hazard Index	≥ 1

Notes: SCAQMD = South Coast Air Quality Management District; > = greater than; ≥ = greater than or equal to

- **Threshold AQ-5:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

3.3.3.2. Impact Analysis

Consistency with the Air Quality Management Plan (Threshold AQ-1)

The proposed Project would produce emissions of nonattainment pollutants primarily from diesel powered marine vessels, mobile on-road vehicles, and off-road equipment sources during construction. The 2016 AQMP (the latest local- and State-approved air quality plan included in the State Implementation Plan [SIP]) proposes emission reduction measures that are designed to bring the SCAB into attainment of the NAAQS. The attainment strategies in these plans include mobile source control measures and clean fuel programs that are enforced at the federal and State levels on engine manufacturers and petroleum refiners and retailers.

The SCAQMD adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. The proposed Project would comply with these regulatory requirements. Therefore, the proposed Project's emission sources would conform with the emissions control forecasts for all approved AQMP control measures.

The Project is consistent with the growth estimates assumed in the 2016 AQMP because this Project would not create or induce growth, as discussed in Section 5.3, Growth-Inducing Impacts. Additionally, the Project would comply with all SCAQMD rules and regulations, as well as implement relevant local emissions reduction policies (e.g., vessel speed reduction within 40 miles of Point Fermin); therefore, the Project would not conflict with or obstruct implementation of the SIP. As a result, construction and operation of the proposed Project would conform to the applicable AQMPs, and the Project would result in no impacts.

Regional Air Pollutant Emissions (Threshold AQ-2)

Impact AQ-1:	***Project construction emissions would exceed SCAQMD regional criteria pollutant emissions thresholds.***

As described and shown in Section ~~0~~3.3.3.1, SCAQMD thresholds for criteria pollutants are expressed in terms of daily emissions (pounds per day [lbs/day]). Therefore, to determine whether the Project's emissions would exceed daily thresholds, this analysis estimates the Project's maximum daily emissions over the entire construction phase, including activities (onshore and offshore) that overlap in the schedule. The Project Description in Chapter 2 provides the general construction and operation activity assumptions used to calculate emissions. Additionally, the Project Description, Section 2.5.2 (Marine Construction), notes that the Applicant would enforce a vessel speed reduction requirement for the Project, limiting vessel speeds to a maximum of 9 knots for vessels operating within 40 nautical miles of the coast. Detailed assumptions for the construction phases, including the schedule for and types of all marine and terrestrial construction equipment and on road vehicle use, are provided in Appendix B (Air Quality Emissions Calculations). Table 3.3-6 compares the maximum daily construction emissions of the Project against the SCAQMD regional significance thresholds.

Table 3.3-6. Maximum Daily Construction Emissions (lbs/day)

	NOx	PM10	PM2.5	ROG	CO	SOx
Maximum Daily Emissions	1,598.98	41.88	37.49	65.23	164.71	46.84
SCAQMD Regional Significance Thresholds	100	150	55	75	550	150
Significant?	YES	NO	NO	NO	NO	NO

Source: Appendix B; SCAQMD, 2019d
Note: lbs/day = pounds per day; NOx = nitrogen oxides; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); ROG = reactive organic gases; CO = carbon monoxide; SOx = sulfur oxides
The maximum daily emissions include multiple overlapping construction activities: Marine Cable Landing, Terrestrial Conduit Installation, Manhole Installation, and Power Feed Equipment (PFE) Facility Construction and Testing.

The maximum daily emissions, which are primarily from the cable-laying vessel engines, exceed the SCAQMD emissions significance thresholds for NOx by an order of magnitude. The NOx emissions would exceed the significance thresholds at all times when the cable-laying vessel is active. The maximum daily emissions during the rest of the construction period, when the cable-laying vessel is not active, are below all of the SCAQMD regional emissions significance thresholds.

Mitigation Measures

The Project would only exceed the NOx regional emissions significance threshold during marine construction periods, when the cable-laying vessel is active. Therefore, the mitigation measure proposed below is focused on the reduction of marine vessel emissions. Ocean-going vessel emission reduction measures for the cable-laying vessel, such as retrofitting engines, are not feasible for this type of specialty vessel that is not regularly berthed in California and that would only be in use for the Project within California waters during the limited Project marine construction periods. The other marine vessels that would be in use during Project construction are support vessels that would be locally berthed. To reduce air pollutant emissions from the Project's construction marine vessels, the following mitigation measure would be required.

AQ-1 **Vessel Emissions Reduction.** The marine vessels used for the Project's construction shall reduce emissions through the following actions: (1) The Applicant will perform a due diligence search to obtain the nearest location available for support vessels berthing, such as at Kings Harbor, assuming appropriately sized slips are available during the Project's marine construction period; and (2) the Applicant will perform a due diligence search to obtain properly sized support vessels that have the highest available engine tiers.

While this mitigation measure would reduce potential emissions from the marine support vessels, the worst-case daily emissions of NOx would remain well above the SCAQMD regional thresholds during Project construction; therefore, regional air pollutant impacts would be significant and unavoidable (Class I).

Impact AQ-2: Project operation or decommissioning would exceed SCAQMD regional criteria pollutant emissions thresholds.

The Project's potential sources of criteria pollutant emissions during the operational phase (after construction work is completed) would normally include periodic inspection and maintenance activities and periodic testing of standby emergency engine generators. The Project would not affect the current inspection and maintenance operations, which is comprised of periodic employee travel to the site. However, the Project would replace the existing standby natural gas-fueled emergency engine generator with two much larger standby diesel-fueled emergency engine generators. The normal emissions from these engines would be limited to engine testing. Emergency use of these engines would be required if site power is interrupted, or power is officially scheduled by the power utility (Southern California Edison [SCE]) to be interrupted. However, actual emergency use is unknown and speculative, so per CEQA Statute Section 15145, the potential significance of emissions from emergency use has not been evaluated. The engine testing would be limited by SCAQMD in permit conditions. These permit conditions are expected to limit the engine testing to 1 hour per test per engine and no more than 50 hours per year per engine of testing. The maximum daily emissions from normal engine testing operations are provided below in Table 3.3-7.

Table 3.3-7. Maximum Daily Operation Emissions Increase (lbs/day)

	NOx	PM10	PM2.5	ROG	CO	SOx
Emergency Generators	8.86	0.03	0.03	2.95	7.68	0.01
SCAQMD Regional Significance Thresholds	55	150	55	55	550	150
Significant?	NO	NO	NO	NO	NO	NO

Source: Appendix B; SCAQMD, 2019d
Notes: lbs/day = pounds per day; NOx = nitrogen oxides; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); ROG = reactive organic gases; CO = carbon monoxide; SOx = sulfur oxides

The normal maximum daily operation emissions, as shown above in Table 3.3-7, are well below the SCAQMD regional emissions significance thresholds.

The Project has an expected life of about 25 years. Upon retirement of the Project, the Applicant anticipates that both the marine and terrestrial cable systems would be removed (see Section 2.7, Retirement, Abandonment, or Removal of the Cable Systems). All terrestrial cable facilities, including the conduit and manhole system, would be left in place and available for use by other cables. The equipment in the PFE facility would be removed, and the space the facilities occupied would be available for a new use. During marine cable removal, emissions would be generated by the vessels involved in removing the marine cable and transporting it away for disposal. The details of such an operation are not known at this time, but the scale of the operation is expected to be similar to that of cable installation. The emissions from cable removal could be substantially lower than the emissions calculated for cable laying due to the likely availability of newer lower emitting vessels. However, to be conservative, the emissions and impacts are considered to be the same as those for cable laying. If the cables are completely abandoned in place, minimal air pollutant emissions would result from the retirement of the Project, which would include the removal of the PFE facility equipment.

For the terrestrial segment, the terrestrial cable has the potential to be pulled out of the buried conduit after Project retirement, leaving the conduit itself in place. If this occurs, air pollutant emissions would result from the use of a truck with a reel puller that would pull the terrestrial cable from the existing manhole locations. The emissions associated with this limited decommissioning activity would be lower than maximum daily terrestrial construction emissions from the original installation of the terrestrial cables and PFE facilities, substantially lower than the maximum daily marine construction emissions, and would be well below all SCAQMD emissions significance thresholds.

As discussed above, Project operations and decommissioning would not result in a significant air quality impact, and impacts would be less than significant (Class III).

Local Air Pollutant Emissions (Threshold AQ-3)

Impact AQ-3: Project construction would expose local receptors to substantial pollutant emissions.

Temporary marine emissions may be generated approximately 500 meters from the Hermosa Beach Pier (900 meters from residential receptors). Emissions would result from three separate marine work tasks that would be completed near the marine landing sites. Most of the other marine emissions would result from vessels in transit to and from the offshore work area, or during the grapnel run or cable laying procedures at distances much greater than 500 meters from shore and sensitive receptors. The main lay vessel would also come to port to provision, but that would be the Port of Long Beach or the Port of Los Angeles where distances to receptors are most likely to be greater than 500 meters. The significance thresholds use the SCAQMD look-up table values for a one-acre terrestrial construction site and 25-meter distance, the minimum distance to receptor provided in the SCAQMD Local Significance Threshold (LST) look-up table,[7] to receptor for the terrestrial construction emissions, and a one-acre marine construction site 500 meters from receptors. The maximum daily localized emissions from terrestrial and marine construction, compared to the significance criteria, are provided below in Table 3.3-8.

Table 3.3-8. Maximum Daily Localized Construction Emissions (lbs/day)

	NOx	PM10	PM2.5	CO
Terrestrial Construction Maximum	32.76	1.48	1.48	26.98
SCAQMD Localized Significance Thresholds [1]	91	5	3	664
Significant?	NO	NO	NO	NO
Marine Construction Maximum	1,565.42	38.72	35.21	137.80
SCAQMD Localized Significance Thresholds [2]	218	140	75	7,269
Significant?	YES	NO	NO	NO

Source: Appendix B; SCAQMD, 2009
Notes: lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District; NOx = nitrogen oxides; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); CO = carbon monoxide
1. These represent values for a one-acre site and 25 meters from receptor in source receptor area (SRA) 3 (Southwest Los Angeles County Coastal).
2. These represent values for a one-acre site and 500 meters from receptor in SRA 3.

Table 3.3-8 shows that the maximum marine construction emissions would exceed localized NOx emissions thresholds when the cable-laying vessel is operating at the marine landing sites. No other emissions would exceed localized emissions thresholds.

The support vessels, which would deliver the work crew and daily supplies to the cable vessel, are assumed to dock at Kings Harbor. The localized emissions impacts for support vessels were analyzed in the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project Final EIR, using larger and more support vessels than estimated for this project.[8] That analysis assumed that the nearest sensitive receptors, based on a conservative berth location, could be within 50 meters of the vessel emissions. The findings of that analysis are presented below in Table 3.3-9.

[7] SCAQMD LST guidance provides that the LST threshold values for 25 meters should be used for distances to receptor of 25 meters or less (SCAQMD 2008).
[8] The revised support vessel assumptions are based on the cable-laying work actually used for the MCC GLOBAL BP4 Transpacific Fiber-Optic Cables Project.

Table 3.3-9. MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project Final EIR Kings Harbor Localized Construction Emissions (lbs/day)

	CO	NOx	PM10	PM2.5
Phase 1-4 Kings Harbor Service Vessel Emissions	3.1	5.7	0.3	0.3
SCAQMD Localized Significance Thresholds [2]	664	91	5	3
Significant?	NO	NO	NO	NO

Source: City of Hermosa Beach, 2015
Note: EIR – Environmental Impact Report; lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District; CO = carbon monoxide; NOx = nitrogen oxides; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter)

The emissions presented in Table 3.3-9 are based on four support vessels with their auxiliary engines all idling for 2 hours at the berth. The total horsepower for the auxiliary engines on these four support vessels was estimated to be 380 horsepower. The revised support vessel assumptions, based on experience with the completed cabling project, reduce the number of support vessels to two and reduce the total combined auxiliary engine size to 74 horsepower (see Appendix B). So, given that the emissions estimated for the support vessels assumed for the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project Final EIR were found to be more than an order of a magnitude below all of the LST values, the emissions from the smaller and less numerous support vessels for the proposed Project can be determined to not exceed the LST thresholds for the nearest sensitive receptors at Kings Harbor.

Mitigation Measures

AQ-1 **Vessel Emissions Reduction**. See above for the full text of this measure.

The Project would only exceed the NOx localized significance threshold levels during marine construction, when the cable-laying vessel is active. Mitigation Measure AQ-1 proposed under Impact AQ-1 would reduce emissions; however, the worst-case localized daily emissions of NOx would remain well above the SCAQMD regional thresholds when the cable-laying ship is operating in the nearshore area. Therefore, during Project construction, the localized air pollutant impacts would be significant and unavoidable (Class I).

Impact AQ-4: Project operation would expose local receptors to pollutant emissions.

The Project's normal operation would consist of weekday inspections, requiring a vehicle trip, and monthly testing of a standby diesel-fueled emergency generator engine. The localized portion of these emissions would be from the stationary standby emergency generator testing events. The other regular operational emissions would be mobile emissions that are not included as site-specific localized emissions. The significance thresholds use the SCAQMD look-up table values for a one-acre site and 25-meter distance to receptor. The maximum daily localized emissions from normal operations, compared to the significance criteria, are provided below in Table 3.3-10.

Table 3.3-10. Maximum Daily Localized Operation Emissions (lbs/day)

	NOx	PM10	PM2.5	CO
Standby Generator Test Emissions	8.86	0.03	0.03	7.68
SCAQMD Localized Significance Thresholds	91	1	1	664
Significant?	NO	NO	NO	NO

Source: Appendix B; SCAQMD, 2009
Notes: lbs/day = pounds per day; SCAQMD = South Coast Air Quality Management District; NOx = nitrogen oxides; PM10 = respirable particulate matter (less than 10 microns in diameter); PM2.5 = fine particulate matter (less than 2.5 microns in diameter); CO = carbon monoxide

As shown above in Table 3.3-10, operation of the proposed Project would have emissions that are well below the SCAQMD localized significance thresholds, and would not result in significant impacts; therefore, impacts would be less than significant (Class III).

Toxic Air Contaminant Emissions (Threshold AQ-4)

Impact AQ-5:	***Project construction, operation, and decommissioning emissions would generate air toxic pollutant emissions.***

The bulk of the proposed Project's toxic air contaminant (TAC) emissions are primarily associated with the diesel particulate matter (DPM) emissions from the diesel-fueled marine engines during Project construction. A much smaller amount of DPM would be emitted from the onshore off-road and on-road engines during Project construction. The proposed Project's marine DPM emissions would total 1.1 tons (for emissions within 40 nautical miles of shore) for each of the two cable laying runs over a very large offshore area, much of which would be miles from any receptors. The Project's terrestrial construction DPM emissions would be less than 0.04 tons over the entire Project construction period for each cable, and those emissions would be spread over a large area of Hermosa Beach. In comparison, the entire South Coast Air Basin (SCAB) was estimated to have over 5,000 tons of DPM emissions in 2010 (CARB 2013). Therefore, the Project's construction short-term TAC emissions are not considered to be of concern in relation to the potential long-term health risk impacts from DPM exposure.

The TAC emissions from Project operation would be limited to the negligible emissions of occasional inspection trips, and the DPM emissions from the PFE facility's two diesel-fueled standby engine generators testing. Given the fact that the PFE facility is adjacent to sensitive receptors, a conservative screening level risk assessment was completed per SCAQMD Rule 1401 guidance (see Appendix B). To comply with the requirement of SCAQMD Rule 1470, these diesel engines would have a controlled DPM emissions rate of no more than 0.01 grams per brake horsepower. This results in total annual DPM maximum emissions of no more than 1.48 pounds. Using this annual emissions rate, the screening level risk assessment determined a worst-case cancer risk of 5.14 in a million.[9] This value is below the SCAQMD significant risk threshold of 10 in a million.

Therefore, given that the vast majority of the proposed Project's TAC emissions would be temporary and spread over a large marine and terrestrial area, and the operation emissions health risk for cancer was found to be below SCAQMD significance thresholds (<10 in a million), the health risk impacts from the proposed Project would be less than significant (Class III).

Odor Emissions (Threshold AQ-5)

Impact AQ-6:	***Project construction, operation, and decommissioning would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.***

Objectionable odors may be temporarily created during construction or decommissioning-related activities, such as from construction equipment diesel exhaust. Additionally, occasional standby diesel generator use would create similar odors during Project operation. However, diesel engines are ubiquitous, and their emissions/odors are regularly encountered and are not normally considered to cause nuisance odors that would adversely affect a substantial number of people. The Project's emissions sources would not create diesel odor conditions that are more pronounced or adverse than those near

[9] Please see the end of Appendix B for the screening level health risk assessment. This screening level health risk assessment was performed in compliance with SCAQMD health risk assessment guidance.

other construction sites, railyards, warehouses, or heavily traveled roadways. Additionally, no significantly malodorous substances would be used or emitted during Project construction, decommissioning, or operation. Therefore, due to the limited and mild to moderate odors created during Project construction and operation, these odors would not affect a substantial number of people.

The Project would not cause a large amount of airborne dust, given compliance with SCAQMD Rule 403, which includes fugitive dust control requirements. The Project would not require large areas of grading or large amounts of earthmoving. The Rule 403 dust control requirements would more than adequately control the emissions from the limited excavation work required at the cable landing sites, and emissions during the cable installation trenching or horizontal directional drilling (HDD) boring activities. Therefore, the Project would not have other emissions that could cause a nuisance or otherwise adversely affect a substantial number of people surrounding the Project construction and Project decommissioning work areas, or at the PFE facility during Project operation. Therefore, odor and other emissions impacts would not affect a substantial number of people and would be less than significant (Class III).

3.3.3.3. Cumulative Effects

Introduction

SCAQMD guidance provides the following discussion on cumulative impact analysis:

> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.* (SCAQMD 2003)

The existing ambient air quality conditions are summarized in Section 3.3.1.3. The Project is located in a portion of the South Coast Air Basin (SCAB) that is designated as nonattainment of the federal and State ozone and PM2.5 standards and the State PM10 standard. Air quality has improved over time as various regulations affecting emissions sources, such as the mobile and stationary sources regulations enacted by CARB and SCAQMD, have started to take effect. As noted in Section 3.3.1.3, concentrations of all criteria pollutants within the SCAB have gone down, even considering significant population growth, since major air quality regulations were enacted in the 1970s. Air quality is forecasted to improve slowly within the SCAB, as current regulations continue to reduce air pollutant emissions from stationary, mobile, and area emission sources.

The cumulative project list is provided in Table 3-1 and shown in Figure 3-1~~Figure 3-1~~. A review of this project list indicates that few projects are near the Project's terrestrial construction route. However, the Project's terrestrial construction would have limited emissions below all SCAQMD regional and localized emissions significance thresholds during each of the construction tasks and at each of the construction sites (see Appendix B and Table 3.3-8). No offshore cumulative projects, located near the Project's marine construction route, have been identified.

Project Contribution to Cumulative Impacts

The potential for air quality impacts of the proposed Project to combine with the effects of other proposed, planned, and reasonably foreseeable future projects, as listed in Table 3-1 and shown in Figure 3-1~~Figure 3-1~~ that are within the geographic extent of the cumulative analysis are described below for each significance criterion.

Consistency with the Air Quality Management Plan. This criterion is project-specific, and no cumulative project impacts are related to this criterion. In addition, the Project would not result in impacts related to the AQMP. Therefore, impacts would not be cumulatively considerable.

Regional Air Pollutant Emissions. The Project was found to have significant regional criteria pollutant emissions impacts during construction, even with implementation of MM AQ-1. Based on this SCAQMD guidance provided above, the proposed Project would have cumulatively considerable air pollutant emissions impacts for regional NOx construction emissions, although all other emissions have been determined to be below all SCAQMD regional emissions significance thresholds. (Impact AQ-1)

Project operation and decommissioning would be below SCAQMD regional emissions significance thresholds and would not substantially contribute to cumulative regional air pollutant emissions. Therefore, impacts would not be cumulatively considerable (Impact AQ-2)

Local Air Pollutant Emissions. Impact analysis using SCAQMD localized significance thresholds (LSTs) are a project-specific impact analysis that identify if a project would have the potential to expose sensitive receptors to substantial pollutant concentrations considering the existing background cumulative air quality conditions within the Project's source receptor area (SRA) (SRA 3 – Southwest Los Angeles County Coastal). The proposed Project's construction LST impacts for NOx were found to be significant even with implementation of MM AQ-1, so the cumulative local air pollutant emissions impacts for NOx would be cumulatively considerable. (Impact AQ-3)

The LST impacts during operation were found to be less than significant. Therefore, the Project's contribution to cumulative localized impacts during operation would not be cumulatively considerable. (Impact AQ-4)

Toxic Air Contaminant Emissions. Given that the vast majority of the proposed Project's TAC emissions would be temporary and spread over a large marine and terrestrial area, the Project's contribution to TAC emissions would not be substantial. Impacts would not be cumulatively considerable (Impact AQ-5)

Odor Emissions. The Project would have minimal odor and other pollutant impacts that would not substantially contribute to cumulative odor or other pollutant impacts that could adversely affect a substantial number of people. Impacts would not be cumulatively considerable. (Impact AQ-6)

3.3.3.4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Air Quality

Table 3.3-11, below, provides a summary of the Project's impacts related to air quality. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.3-11. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Air Quality

Impacts	Mitigation Measures	Significance Conclusion
Threshold AQ-1: Be inconsistent with the applicable adopted Air Quality Management Plan (AQMP).		
No Impact	None required	No Impact
Threshold AQ-2: Generate emissions of criteria air pollutants that would exceed South Coast Air Quality Management District (SCAQMD) regional significance thresholds.		
Impact AQ-1: Project construction emissions would exceed SCAQMD regional criteria pollutant emissions thresholds.	AQ-1 Vessel Emissions Reduction	Class I
Impact AQ-2: Project operation or decommissioning would exceed SCAQMD regional criteria pollutant emissions thresholds.	None required	Class III

Impacts	Mitigation Measures	Significance Conclusion
Threshold AQ-3: Generate emissions of criteria air pollutants that would exceed SCAQMD localized significance thresholds.		
Impact AQ-3: Project construction would expose local receptors to substantial pollutant emissions.	AQ-1 Vessel Emissions Reduction	Class I
Impact AQ-4: Project operation would expose local receptors to substantial pollutant emissions.	None required	Class III
Threshold AQ-4: Generate emissions of toxic or hazardous air pollutants that exceed SCAQMD significance thresholds.		
Impact AQ-5: Project construction, operation, and decommissioning emissions would generate air toxic pollutant emissions.	None required	Class III
Threshold AQ-5: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.		
Impact AQ-6: Project construction, operation, and decommissioning would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	None required	Class III
Cumulative Effects	AQ-1 Vessel Emissions Reduction	Cumulatively Considerable (Impacts AQ-1 and AQ-3)

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

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3.4. Biological Resources

This section describes the effects on biological resources that may result from the implementation of the proposed Project. The following discussion addresses the existing environmental conditions in the affected area, describes existing laws and regulations related to biological resources, identifies and analyzes environmental impacts, and includes measures to reduce or avoid impacts anticipated from Project construction and operation.

As described in Chapter 2, Project Description, the proposed Project would be constructed in phases. The proposed Project includes options for the locations of the cable landing site, landing manhole, and ocean ground bed (OGB). For the purposes of the analysis, the whole of the proposed Project, including both potential landing sites and marine and terrestrial OGB sites, are analyzed for impacts on biological resources. Given the nature of the Project area, sensitive biological resources primarily occur in the marine and coastal environment.

3.4.1. Environmental Setting

Both marine and terrestrial biological resources occur in the Project area. The following sections describe the baseline data collection methodology and the regional and local environmental settings for biological resources.

3.4.1.1. Baseline Data Collection Methodology

Information used to prepare this section was derived from a number of sources, including biological resource reports provided by the Applicant, a review of existing literature and analyses for similar projects in the region, consultation with technical experts, and a reconnaissance survey of the terrestrial portion of the Project area in 2019.

Literature Review

The following resources were reviewed to determine which sensitive biological resources have previously been documented within the Project vicinity:

- California Natural Diversity Database (CNDDB) for the terrestrial Project alignments and a 5-mile radius (CDFW 2019a),
- United States (U.S.) Fish and Wildlife Service (USFWS) sensitive species lists for the Project area,
- California Least Tern Breeding Survey, 2015 Season (Frost 2016),
- The Western Snowy Plover in Los Angeles and Orange Counties, California: September 2012 to June 2014 (Ryan et al., 2014) and The Western Snowy Plover in Los Angeles and Orange Counties, California: September 2014 to February 2017 (Ryan et al. 2017),
- Review of the Final Environmental Impact Report (EIR) for the Transpacific Fiber-Optic Cables Project (March 2016), a similar undersea telecommunication project located in Hermosa Beach, and
- Review of information summarized for the Tyco Global Network (TGN) Project EIR (2003), a similar undersea telecommunication project.

Collection of Field Data

A reconnaissance survey was conducted on May 7, 2019 to review the Project terrestrial locations, identify potential resources of concern, and assess current habitat conditions within the terrestrial portion of the

Project area as well as the surrounding vicinity. Field surveys conducted during the preparation of the previous MC Global BP4 Project located in Hermosa Beach and the proposed E&B Oil Drilling & Production Project were also reviewed to form a much more in-depth understanding and analysis of the baseline existing conditions in the City of Hermosa Beach.

3.4.1.2. Regional Setting

Terrestrial

The terrestrial portions of the proposed Project area lie within the City of Hermosa Beach. The City lies within the Southern California Coast ecological section of the California Coastal Chaparral Forest and Shrub ecological province (City of Hermosa Beach 2014). The Southern California Coast ecological section is subdivided into 10 different subsections, including the Los Angeles Plain where the City is located.

The Los Angeles Plain is generally characterized by mountains, hills, alluvial fans, marine terraces, and floodplains that are located south of the San Gabriel Mountains. Generally, the soil structure within this region is well drained. The vegetation cover, when present, is typically dominated by California sagebrush. Other common plants throughout the region include California buckwheat series and mixed sage series, as well as coast live oak series and California walnut series. The climate in the Project area is sub humid and hot, with mean annual temperatures falling between 58 and 64 degrees Fahrenheit and 12 to 20 inches of precipitation, generally falling as rain (City of Hermosa Beach 2014). Given the proximity to the marine environment, the terrestrial climate in the region is greatly affected by the marine influences and as a result, summer fog is common.

The greater Los Angeles Plain has been largely developed, and native habitats have been fragmented and are now primarily associated with nature preserves and parks. The terrestrial portion of the Project and surrounding area is urbanized, with no native vegetation.

Marine

The marine portions of the proposed Project lie within what is commonly referred to as the Southern California Bight (SCB). The SCB is a large open bay that follows the coast from Point Conception to the U.S./Mexico Border and encompasses the continental shelf that extends from the coastline to 124 miles offshore.

The SCB is generally characterized by a broad network of submarine canyons, ridges, seamounts, and banks. In addition, the SCB contains a complex countercurrent system that mixes cold, nutrient-dense currents from the north and warm currents from the south. The combination of the nutrient rich waters and varied topography allows the SCB to support a wide range of marine ecosystems and, by extension, marine species. Habitats found within the SCB include shallow intertidal rocky reefs and kelp beds, sandy bottoms, mudflats, and open waters. A high diversity of marine species, both migratory and native, can be found within the SCB, including fishes, seabirds, sea turtles, marine mammals, and invertebrates. Refer to Section 3.4.1.4, Special-Status Biological Resources, for a more detailed description of marine species present within the SCB.

3.4.1.3. Local Setting

Terrestrial Environment

The proposed Project is located within the City of Hermosa Beach. The elevations within the City range from mean sea level at the sandy beach located at the westernmost edges of the City, to approximately 200 feet above mean sea level. The Project area is predominantly urbanized, but portions of the proposed

Project may be sited on the approximately 400-foot-wide sandy beach located at the western side of the City. The proposed Project is bounded on all sides by urban development, including roadways as well as ornamental and landscaped vegetation, except for the potential OGB site that would be located on the beach next to The Strand. The beach area does not support dunes or native vegetation and is heavily used by recreationists.

The conduit routes would be installed in public rights-of-way (ROWs) (streets) and areas zoned as Open Space (i.e., the Hermosa Valley Greenbelt ~~[Veterans Parkway]~~ between South Ardmore Avenue and South Valley Drive, see Figure 1-2~~Figure 1-2~~). The Applicant's existing power feed equipment (PFE) facility would be renovated to accommodate the additional two sets of PFE equipment required for the two proposed cables. The Applicant would outfit an additional space of approximately 1,500 square feet adjacent to their existing leased commercial unit in the building (Figure 2-6~~Figure 2-6~~). Neither of the proposed terrestrial routes are in or near native terrestrial habitats. Both proposed terrestrial routes' landing pipes would be installed underneath the sandy beach via horizontal directional drilling (HDD). However, if the OGB is installed in the terrestrial locations, the equipment would be either within the Greenbelt or the sandy beach.[10] The sandy beach area is designated as critical habitat for the federally and State listed western snowy plover (*Charadrius niviosus nivosus*). See Section 3.4.1.4, Special-Status Biological Resources, for more details.

Vegetation Communities

Historic accounts of vegetation communities within the proposed Project area indicate the presence of both coastal sage scrub and southern coastal scrub communities. Generally, these communities are composed of low-growing, drought-tolerant shrubs with herbs and grasses located in the understory. The scrub communities that were historically present in the region provide a high-value habitat for wildlife and are structurally diverse. However, the scrub and other naturally occurring vegetation communities that were present within the City have been almost entirely removed to allow for urban development, and as a result, the City is largely built-out (City of Hermosa Beach 2014). The City maintains several open-space areas, including the beach, the Hermosa Valley Greenbelt~~ (Veterans Parkway),~~, a hillside west of the Marine Land Mobile Home Park, and several large parks. These open space areas consist of landscaping and ornamental plants. Native vegetation communities do not occur within the proposed cable route.

Vegetation and landforms were mapped by the City of Hermosa Beach in 2014 as part of the City of Hermosa Beach General Plan Update and are documented in the Existing Conditions Report prepared for the General Plan Update (City of Hermosa Beach 2014). The following communities and landforms occur along the terrestrial portions of the Project alignment:

- **Urban/Developed.** The area surrounding the proposed Project area is dominated by urban/developed land uses. Urban landforms include areas that have been heavily altered by and for human use, including roadways, existing buildings, recreation fields, parks, lawns, and other landscaped vegetation. Areas that are classified as urban/developed exhibit a high level of disturbance and generally provide low-value habitat for most wildlife. However, landscaped areas allow for nesting and foraging opportunities for migratory and resident birds.
- **Non-Native/Ornamental.** The Project area is dominated by non-native ornamental vegetation. This includes ornamental plantings at business and residential structures, City trees, and the Greenbelt. A large portion of the proposed Project's terrestrial conduit would be installed within the Greenbelt. The Greenbelt is regularly maintained and consists of a mulched trail, benches, and landscaped trees and shrubs. The non-native trees and shrubs identified in the Greenbelt include eucalyptus (*Eucalyptus*

[10] As discussed in Section 2.4.1.3, Ocean Ground Bed Installation, the OGB would be installed vertically under either the beach, under the Greenbelt, or under the ocean floor seaward of the existing HDD pipe.

spp.), palms (*Trachycarpus* spp., *Phoenix* spp., and *Washingtonia* spp.), pine trees (*Pinus* spp.), Peruvian pepper tree (*Schinus molle*), cape honeysuckle (*Tecoma capensis*), lantana (*Lantana* spp.), and acacia (Acacia spp.). Groundcover observed within the Greenbelt includes various non-native grasses, ice plant (*Carpobrotus edulis*), and Boston ivy (*Parthenocissus tricuspidata*). In a few locations, nasturtiums (*Tropaeolum majus*), soft agave (*Agave attenuata*), and non-native sages (*Salvia* spp.) are present. Parks near the cable route are primarily comprised of open, manicured lawn areas bounded by large trees. The parks also include trails, picnic areas, playgrounds, and recreation areas (City of Hermosa Beach 2014). The hillside west of the Greenbelt is characterized by a similar group of disturbance-tolerant, non-native species and includes areas of open grasslands and woodland.

While these areas consist of non-native vegetation, they provide habitat for common disturbance-tolerant wildlife species that are accustomed to the urbanized setting. A variety of birds use the non-native/ornamental areas, including American crow (*Corvus brachyrhyncos*), Anna's hummingbird (*Calypte anna*), house finch (*Carpodacus maxicanus*), mourning dove (*Zenaida macroura*), and northern mockingbird (*Mimus polyglottos*). Raptors, such as red-tailed hawk (*Buteo jamaicensis*) and American kestrel (*Falco sparverius*), may perch in trees and forage on prey species that utilize areas with heavy ground cover and low shrubs (City of Hermosa, 2014). Other common wildlife expected in the Greenbelt include urban-adapted species, such as opossum (*Didelphis virginiana*), Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), eastern fox squirrel (*Sciurus niger*), western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Gerrhonotus multicarinatus*), Skilton's skink (*Plestiodon skiltonianus*, formerly *Eumeces skiltonianus skiltonianus*), and gopher snake (*Pituophis melanoleucus*).

State and Federal Waters/Wetlands

No wetlands, streams, or riparian habitat are within the proposed Project's terrestrial route. As described in Chapter 2, Project Description, the terrestrial portion of the proposed Project area would be constructed primarily within City streets, with a portion of the Project running through the urban Greenbelt, and potentially on the sandy beach. The Pacific Ocean is considered a State and federal water and plays an important role in the ecology of the region.

Marine Environment

The proposed Project area is located partially within California State waters, which extend from the coastline to 3 nautical miles offshore, and within Federal waters, which extend beyond 3 nautical miles off the coast of California. After passing beneath beach sand and intertidal zone habitats, the majority of the proposed Project area would cross marine benthic communities (sandy seabed and rocky reefs), pelagic (open water), and deepwater communities. Further detail about the Marine Environment and communities included in this analysis can be found in the biological surveys conducted for the Final Environmental Impact Report for the Transpacific Fiber-Optic Cables Project (2016).

Beach Sand and Intertidal Zone. If the terrestrial OGB location is selected, the equipment would be located directly on the City's recreational beach area or under the Greenbelt. Beach habitat is typically found between the intertidal zone (the area between the low tide and high tide marks) and the area where terrestrial vegetation cover is established. To maintain this recreational beach, the City rakes the beach clean to remove drift algae (wrack), trash, and other objects that wash up on the beach at the tide line. Beach raking reduces the diversity and abundance of species compared with unraked beaches (Dugan and Hubbard 2010). The swash zone is the area of beach intertidal habitat inundated by wave action. Macro-invertebrates (invertebrates typically greater than 1 millimeter) are a major component of biology living within the swash zone habitat in southern California beaches, like Hermosa and Manhattan Beach. Pacific mole crab (*Emerita analoga*) is the numerically dominant macro-invertebrate in this zone. Pacific mole crabs are relatively small crustaceans (up to 35 millimeters [1.4 inches] long) that burrow into the sand

and filter feed as the waves move water back and forth at the tide line. These species collect food from the water column using antennules that protrude just above the sand surface. Talitrid amphipods, such as beach hoppers (*Megalorchestia* spp.), or sand fleas, are ubiquitous invertebrates on sandy southern California beaches. These invertebrates feed on decomposing organic material, such as kelp wrack, that washes up onto the beach. Together, these two taxa comprise the bulk of the biomass at intermediate trophic levels on sandy beach ecosystems (Dugan et al. 2015).

Macro-invertebrates in the swash zone are food for many species of shorebirds and gulls, some of which specialize in grazing within the swash zone. Species include sanderling (*Calidris alba*), whimbrel (*Numenius phaeopus*), western sandpiper (Calidris mauri), willet (*Tringa semipalmata*), marbled godwit (*Limosa fedoa*), curlew (*Numenius americanus*), and several species of gulls (e.g., *Larus occidentalis*, *Larus heermanni*). Fishes also feed on intertidal invertebrates, particularly in slightly deeper swash zones, as many of these invertebrates will wash into the shallow subtidal. Fishes must come close into shore at sandy beaches to prey on them. On southern California beaches, these fishes commonly include several species of surfperch (e.g., *Amphistichus argenteus*, *Hyperprosopon argenteum*), California corbina (*Menticirrhus undulates*), and yellowfin croaker (*Umbrina roncador*) (CDFW 2019b).

In addition to fishes that feed in the shallow swash zone of the intertidal beaches in southern California, the California grunion (*Leuresthes tenuis*) uses the sandy intertidal for spawning. These fish spawn on beaches from Point Conception to Baja California between March and August, although peak spawning typically ends in early June. Spawning occurs after high tides and continues for several hours. Grunions will swim up the beach as a wave breaks. Once on the beach, the males and females spawn into nests dug into the sand by the burrowing tails of female grunion. Adult fishes then return to the ocean with the next breaking waves. Fertilized eggs remain buried in the sand for approximately 10 days before hatching. Recreational fishermen occasionally target 'grunion runs' as fishing opportunities, collecting grunion directly from the beach by hand. Restrictions on the grunion recreational fishery were established in the 1920s because the population was showing signs of overfishing. These restrictions are still in place today, with minor modifications implemented in the 1940s. The population is currently described as "a restricted resource that is appropriately harvested" by the California Department of Fish and Wildlife (CDFW) (2019c).

Bivalves are also present in the sandy intertidal zone on southern California beaches. Bean clams (*Donax gouldii* and *D. californicus*) and Pismo clam (*Tivela stultorum*) are frequently encountered on intertidal beaches. Pismo clam was fished heavily in California from the 1910s through to the 1940s until the commercial fishery was closed in 1947 due to a decline in the population. The recreational fishery remained open in California; however, the population is still depressed throughout the State (CDFW 2001, 2006).

Marine snails (gastropods) are found within the intertidal zone, although they are a more common feature of the shallow subtidal zone of sandy beaches. In the intertidal zone, these animals feed off small detritus, algal wrack, and decaying animals. Olive snails (*Olivella* spp.) are a common group of snails in southern California sandy beach intertidal habitat. They have a wedge-shaped foot allowing it to burrow into sand for protection from predation, wave action, and currents.

Polychaete worms, which are dominant taxa in some parts of the subtidal sandy seabed environments, can also inhabit the shallow swash and intertidal zone of sandy beaches in large numbers. This is one of the most diverse groups of intertidal sandy substrate organisms. Abundant species include *Arabella iricolor*, *Nephtys californiensis*, and *Thoracophelia mucronate* (Dugan et al. 2015). Polychaete worms are usually buried into the sediment. They draw water into their burrows for food and respiration.

Marine Benthic Communities

Subtidal Sandy Seabed

Subtidal sandy seabed habitat occurs seaward of the intertidal swash zone and is characterized by sandy soft-bottoms and high wave disturbance. This area is well-supplied with nutrients and detrital input from algae and surface runoff, making it a relatively productive habitat for small invertebrates and shorebirds.

Seaward of the subtidal sandy seabed habitat, sand dollars (*Dendraster excentricus*) often dominate a narrow band of soft-bottom habitat between 4 and 15 meters depth. Sand dollars will bury part of their disc-shaped bodies into the sand and form a dense aggregation of closely packed individuals. Sand dollar aggregations often support the aggregation of other species, such as barnacles (Balanus spp.), hydroids (*Eucheilota bakeri*), bivalves (e.g., clams), and various gastropods (e.g., snails). Fishes are often attracted to seabed structures within sandy seabed habitats to forage and find refuge from wave action. Sarcastic fringehead (*Neoclinus blanchardi*), kelp bass (*Paralabrax clathratus*), hornyhead turbot (*Pleuronichthys verticalis*), rockfishes (*Sebastes* spp.), and California tonguefish (*Symphurus atricauda*) are commonly found near sand dollar aggregations. Several crab species, such as the cancer crab (particularly juveniles), sandflat elbow crab (*Heterocrypta occidentalis*), Xantus swimcrab (*Portunus xantusii*), and purple globe crab (*Randallia ornata*), are also found near sand dollar aggregations within the sandy seabed (Merrill and Hobson 1970).

Fishes are common in nearshore sandy seabeds. Small active planktivores (plankton eating) are typically the most numerically dominant fish in this habitat and include topsmelt (*Atherinops affinis*) and shiner surfperch (*Cymatogaster aggregata*). Roving substratum feeders are also common in nearshore sandy seabeds and include California corbina (Menticirrhus undulatus) and white croaker (*Genyonemus lineatus*). These fishes often have barbels around their mouths for finding food in the sand.

Many fishes in the shallow sandy subtidal are benthic (seafloor associated) flatfishes. These fishes typically graze on small invertebrates that live on or in the sandy substrate. However, some larger species are sedentary ambush predators. The low profile of flatfishes provides concealment from prey and predators. Typical flatfishes in nearshore sandy seabed habitat of southern California include round stingray (*Urolophus halleri*), speckled sanddab (*Citharichthys stigmaeus*) and spotted turbot (*Pleuronichthys ritteri*). Migratory schooling species also occur within this habitat and include mullets (Mugilidae), silversides (Atherinopsidae), and smelts (Osmeridae). Piscivores (fish eaters) are also common and include striped bass (*Morone saxatilus*), red drum (*Sciaenops ocellatus*), and jacks (Carangidae), which prey on the myriad of smaller grazing fishes that occur in this zone. Large predatory species include California halibut (*Paralichthys californicus*), leopard shark (*Triakis semifaciata*), grey smoothhound (*Mustelus californicus*), and white sea bass (*Atractoscion nobilis*) (Allen 2006a).

The high-energy zone of the nearshore sandy seabed declines in wave intensity further offshore as the shelf deepens and the effects of swell are reduced. Subsequently, the composition of the sediment becomes increasingly ‘muddy.’ This shift in grain size and decline in the disturbance due to intermittent, storm-driven wave action favors a shift from crustacean dominated to a polychaete worm dominated community. This area supports a diverse community of infauna (i.e., animals that live under the sediment) and an assemblage of benthic associated species. For example, surveys of infaunal seabed communities adjacent to the Hyperion sewage outfall, located approximately 6 kilometers up the coast of the Project area, found that more than 45 percent of the species consisted of polychaete worms. In the 10 most abundant taxa (which constituted 60 percent of the total taxa sampled), six were polychaetes (Deets and Lyon 2017). A commonly observed species on the Applied Marine Sciences (AMS) (2016) survey of the seabed in the Project area was the ornate tubeworm (*Diopatra ornata*). Typical examples of infaunal species inhabiting this habitat include serpulid worms, which possess a fan-like structure (crown) used for suspension-feeding.

Macrofaunal invertebrates that live on the surface (epifauna) can be limited in their mobility (sedentary), grazing slowly across the surface on sea stars and sea cucumbers. More active epifauna include crabs, lobsters, and benthic fishes. Brittle stars (*Ophiura* spp.) are ubiquitous, sedentary invertebrates that can occur in large aggregations within this zone. Other common sedentary macroinvertebrates in this sandy seabed habitat include the sea cucumber (*Apostichopus californicus*), bat star (*Patiria miniata*), and red sea star (*Mediaster aequalis*) (AMS 2018a, AMS 2018b).

In deeper waters rockfishes (*Scorpaenidae*), perch-like fishes (perciform), and flatfishes (pleuronectiform) dominate the fish assemblage. Other fishes common to the inner shelf fish assemblage in southern California include English sole (*Parophrys vetulus*), fantail sole (*Xystreurys liolepis*), California halibut, hornyhead turbot (*Pleuronichthys verticalis*), California tonguefish, barred sandbass, and specklefin midshipman (*Porichthys myriaster*) (Allen 2006a).

Subtidal Rocky Reefs

Hard substrate is relatively rare compared to sandy seabed, which dominates the benthic habitat within the proposed cable corridor. No substantially sized rocky reefs were identified in a review of publicly available datasets (National Oceanic and Atmospheric Administration [NOAA] Marine Cadastre National Viewer, California Department of Fish and Wildlife [CDFW] MarineBIOS); however, remotely operated vehicle (ROV) seabed surveys of cable corridors up the coast of the proposed Project corridor indicate that intermittent hard substrate features, such as boulder fields and bedrock protrusions, occur within the sandy seabed. A small amount (less than 1 percent of the seabed) of hard substrate was identified in the CDFW MarineBIOS Predicted Substrate layer[11] in this area (CDFW 2018).

Hard substrate in the area typically consists of cobble and small rocks less than 0.3 meter in height above the seafloor. Occasional high relief structure (greater than 1 meter) is rare in this area based on the AMS studies (AMS 2018a, 2018b, 2016). Rocky structures provide substrate for encrusting invertebrate communities to develop that include hydroids, bryozoans, tunicates, sponges, cup corals, and numerous anemones. High relief structures are typically more diverse, as they provide a correspondingly more diverse benthic habitat (e.g., cracks, walls, overhangs, and extensive surface areas) and they limit the effects of sand scour that can damage organisms settling and establishing on low relief rocky reefs.

Starfishes (phylum Echinodermata) are common on rocky reef habitats around Hermosa and Manhattan Beach and include bat stars (*Asterina miniata*), giant spined sea stars (Pisaster giganteus), and red sea stars. Some other commonly observed echinoderms from recent ROV surveys of the area (AMS 2016) included giant basket stars (*Gorgonocephalus eucnemis*) and the crinoid feather star (*Florometra serratissima*). Brittle stars (Ophiuroidea), which are close relatives of sea stars, are ubiquitous marine organisms in benthic habitats and are found both within the reefs, amongst cobble and rubble, and on sandy substrate.

Soft and stony corals, anemones, and jellyfish (Phylum Cnidaria) are other conspicuous benthic macro-invertebrates found in this area. Some of the species identified in ROV surveys in the area include white plumed anemone (*Metridium farcimen*), aggregations of strawberry anemones (*Corynactis californica*), the sea fan (*Leptogorgia chiliensis*), and Gorgonian corals (Alcyonacea), which grow on rocky substrate in these areas (AMS 2016).

Low-profile encrusting invertebrates, such as bryozoans, cup corals, and tunicates, and the larger benthic invertebrates including basket stars, crinoids, and gorgonian corals, are all filter feeders. They anchor onto rocky substrate and extend tentacles or articulated appendages into the water to capture food. Sponges rely on channels through which water is drawn to filter their food; however, all filter feeders are reliant on some exchange of water to deliver food and are susceptible to natural siltation. Subsequently, they

[11] These data are derived by an algorithm using seafloor roughness.

are more abundant on high-relief reefs where they are less vulnerable to the adverse effects of sedimentation than on lower relief reefs.

Many mobile invertebrates associate closely with structures in the ocean, including rocky reef features. ROV surveys note the presence of several mobile invertebrates associating with reefs in the area. These include market squid (*Doryteuthis opalescens*), rock crabs (occasionally *Metacarcinus magister* and more frequently *Cancer* spp.), spider crabs (*Loxoryhnchus* spp.), and several species of shrimp.

In shallow waters where light penetration is sufficient for photosynthesis, red and brown algae can establish on rocky reefs and other hard substrate, such as cobble and boulders. Surfgrass (*Phyllospadix* spp.) is also present regionally. However, based on publicly available information (NOAA Marine Cadastre National Viewer, CDFW MarineBIOS), no large stands of persistent giant kelp (*Macrocystis pyrifera*) or surfgrass are known to be present in the area. On the basis of the extensive sandy substrate evident in previous ROV surveys of the area (AMS 2016, 2018a, and 2018b), it is unlikely that substantial 'understory' kelps, such as *Eisenia arborea, Egregia menziesii* and *Pterogophora californica*, which are dominant understory algae throughout southern California, occur in the area of the proposed cable corridor.

Kelp forests can establish on rocky reefs in the nearshore environment along the coast of southern California. Fish abundance and diversity increases substantially in kelp forests; however, kelp canopy is not evident from long-term studies of kelp canopy in the Project area (NOAA 2019). Small stands of giant kelp may form on the Hermosa Beach Artificial Reef; however, this reef is relatively low relief compared with other artificial reefs and does not support as many fish as other artificial reefs in the region (Ambrose and Swarbick 1989).

Fish are attracted to rocky reef as a source of food and shelter and are typically found in much higher abundance around reefs than on the sandy seabed. Surveys conducted during the Regional Bight monitoring program documented a total of 78 fish species on or near rocky reef habitat (AMS 2018a, 2018b). Cross and Allen (1993) list over 125 species of fishes associated with rocky reefs throughout the Southern California Bight. Common rockfishes in the nearshore environment associated with the seabed include olive (*Sebastes serranoides*), kelp (*S. atrovirens*), grass (*S. rastrelliger*), and gopher rockfishes (*S. carnatus*). Blue rockfish (S. mystinus) are also commonly found schooling in the midwater around southern California rocky reefs. Other rockfishes commonly observed on deeper southern California reefs include vermillion (*S. miniatus*), yellowtail (*S. flavidus*), black (*S. melanops*), bocaccio (*S. paucispinus*), chillipepper (*S. goodei*), canary (*S. pinniger*), starry (*S. constellatus*), and copper (*S. caurinis*) rockfishes (Stephens et al. 2006, Love 2011, CDFW 2019d).

Kelp bass (*Paralabrax clathratus*) and barred sand bass (*P. nebulifer*) are also commonly found around rocky reefs in southern California and are popular fishes with recreational fishermen. Many cryptic fishes associate with rocky reefs, such as kelpfish (*Gibbonsia* spp.) and painted greenling (*Oxylebius pictus*), use the reefs as shelter from predation and as sources of grazing for food. Other fishes commonly associated with rocky reefs in the area include senorita (*Oxyjulis californica*), California sheephead (Semicossyphus *pulcher*), white seaperch (*Phanerod furcantus*), black perch (*Embiotoca jacksoni*), rock wrasse (*Halichoeres semicinctus*), pile perch (*Rhacochilus vacca*), blacksmith (*Chromis punctipinnis*), and black croaker (*Cheilotrema saturnum*) (Murdoch et al. 1989)

Giant sea bass (*Stereolepis gigas*) are known to frequent the Hermosa Beach Artificial Reef. This species almost disappeared in southern California in the 1970s due to decades of overfishing. Adults can reach lengths of over 2 meters (7 feet) and weigh hundreds of pounds. Restrictions on fishing this species were imposed in 1981 and amended in 1988. These restrictions remain in place today. Giant sea bass aggregate to spawn on rocky reefs from June through September and are apex predators in California rocky reef ecosystems, preying on fishes and invertebrates. They are slow growing and long lived, and so are vulnerable to overfishing and present slow rates of recovery after population declines (CDFW 2008).

Pelagic Communities

Fish Species

Many fishes associate with open water (pelagic) habitat. Relative to other fishes, pelagic fishes that live in the lighter surface waters of the ocean are generally large, active, and fast-growing. Deeper water species, which live in the darker mesopelagic/'twilight' zone, are typically smaller and slower growing. Both types of pelagic fishes tend to be long-lived fishes that reproduce early and repeatedly (Cross and Allen 1993).

Fishes associated with open water habitat often swim in schools. These fishes include sardine (*Sardinops sagax*), northern anchovy (*Engraulis mordax*), Pacific mackerel (*Scomber japonicus*), deepbody anchovy (*Anchoa compressa*), and topsmelt (*Atherinops affinis*). Northern anchovy is one of the most important prey species of fishes in California, providing a fundamental part of the diet to over 90 species of fishes, birds, marine mammals, and invertebrates. These fish species are generally most abundant in the top 50 meters of the water column, tending to be inshore during the fall months and move offshore in late winter (Love 2011). Topsmelt is a common nearshore pelagic schooling fish also found commonly in bays and estuaries (Horn and Ferry-Graham 2006). Predatory schooling fishes include Pacific bonito (*Sarda chiliensis*), young yellowtail (*Seriola lalandi*) and mahi-mahi (*Coryphaena hippurus*) (Love 2011, Allen 2006a).

Large solitary predators of the pelagic ecosystem in southern California prey on these schooling fishes, particularly blue shark (*Prionace glauca*), shortfin mako shark (*Isurus oxyrinchus*), thresher shark (*Alopias vulpinus*), swordfish (*Xiphias gladius*), and great white shark (*Carcharodon carcharias*). Seasonal predatory fishes arrive in southern California pelagic habitats from spring through fall and include blue fin tuna (*Thunnus thynnus*), hammerhead shark (*Sphyrna* spp.), albacore tuna (*Thunnus alalunga*), and striped marlin (*Kajikia audax*) (Allen 2006a).

Marine Mammals and Reptiles

Marine mammals and sea turtles inhabit the pelagic zone of the water column. All marine mammals are protected under the Marine Mammal Protection Act. Several species are included in Section 3.4.1.4, Special-Status Biological Resources, due to their listed status under California or Federal Endangered Species Acts. All listed marine mammal species are uncommon in the Project area (Table 3.4-2); however, several unlisted marine mammal species are moderately likely to occur or are common in the area.

California sea lions (*Zalophus californianus*) and short-beaked common dolphins (*Delphinus delphus*) are the most commonly observed marine mammals in the nearshore area of southern California (MBC 2012). Bottle nose dolphins (*Tursiops truncates*) and Risso's dolphins (*Grampus griseus*) are also seen regularly in this part of southern California. Gray whale (*Eschrichtius robustus*), which may occur in nearshore coastal waters during migratory periods, long-beaked dolphin (*Delphinus capensis*), and harbor seal (*Phoca vitulina*) have a moderate likelihood to occur.

California sea lions range from Alaska to Mexico; however, the core breeding range is centered on the Channel Islands in southern California, particularly San Miguel and San Nicholas islands (NMFS 2019a). Smaller breeding areas occur in western Baja California. These marine mammals are coastal animals that typically range no further than 20 nautical miles from shore. After breeding, males typically migrate north, while females and young range much closer to breeding grounds (Allen et al. 2011).

Short-beaked and long-beaked dolphins (*D. capensis*) have broad ranges and may be seen in the region. Short-beaked common dolphins are common out to 300 nautical miles and account for more than 50 percent of sightings by researchers throughout California. Long-beaked common dolphins (*Delphinus capensis*) are similar in appearance and distribution within the Project area and were identified as a separate species in the 1990s. Their distribution overlaps with those of the short-beaked common dolphin in the Project area, and their ecology is very similar to this species. Long-beaked common dolphins are typically restricted to within about 50 nautical miles of the coast from Baja California northward to central California. Less than 15 percent of sightings of long-beaked common dolphins occur in waters deeper than 1,640 feet (NMFS 2017a).

Bottlenose dolphins in California are genetically differentiated as either a nearshore or an offshore population. In southern California, this population occurs within 0.3 mile of shore, 99 percent of the time, and within 820 feet of shore, 90 percent of the time. Population estimates for the nearshore group is around 450 to 500 individuals, and the population appears to have remained stable over the last 20 years. This is a highly mobile species, and over 80 percent of tagged individuals in Santa Barbara, Monterey, and Ensenada, Mexico have also been observed near San Diego (NMFS 2017b). The offshore population is rarely observed, not well described, and the extent of the population is unknown (Allen et al. 2011).

Risso’s dolphins are commonly seen throughout the U.S. Pacific Coast in California, Washington, and Oregon. Typically, populations shift north after the colder winter months as water temperatures increase in the late spring and summer. Population estimates of the California, Washington, and Oregon stock is around 6,300 individuals. However, interannual variability is likely to be quite high, and surveys have provided estimates between 4,000 and 11,000 individuals annually from 1991 through 2008 (NMFS 2017c).

Harbor seal (*Phoca vitulina richardii*) occurs in the Project area and inhabits the eastern north Pacific from Mexico to Alaska. The California population is estimated at 31,000 individuals (NMFS 2015). During breeding and molting seasons (around March in Southern California) harbor seals spend a considerable amount of time on the shore at haul-out locations. Harbor seals mostly forage at night and rest during the day. They are typically curious in nature and will come close to boats and divers. Harbor seals typically forage close to shore, and dives are frequently shallow (less than 16 ft).

Whales are a common sight along the California coast and near the Project area. The gray whale is the most likely whale species to be present in the area during the placement of the undersea cable. These whales migrate to wintering lagoons in Baja California where pregnant females calve, typically in distinct lagoons within the region. During migrations, gray whales stay within 6 nautical miles of shore unless navigating around islands. Cow-calf pairs are most often observed heading north in May, although they can be observed as early as March and as late as June (NMFS 2019b). This species was removed from the endangered species list in June 1994. Abundance estimates based on shoreline counts have indicated an almost consistent year on year increase since 2000.

Sea Turtles

Several species of sea turtles are known from Southern California coastal waters and include green (*Chelonia mydas*), loggerhead (*Caretta caretta*), olive ridley (*Lepidochelys olivacea*), and leatherback (*Dermochelys coriacea*) turtles. Sightings are rare for these species because of range limits, low population abundance, and migratory behavior.

Marine Birds

More than 195 species of birds use coastal or offshore habitats in the Project area (Baird 1993). Many are present across the entire extent of the proposed cable routes and during all months of the year (E&E 2001). Some of the most common birds expected to occur in the Project area include western gull (*Larus occidentalis*), Heerman’s gull (*Larus heermanni*), double breasted cormorant (*Phalacrocorax auritus*), and a variety of shore birds. The highest abundance of seabirds occurs during the summer and autumn with the migrants, seasonal users, and nesting residents (E&E 2001, eBird 2019). Because of high oceanic productivity in the region, this area tends to support a high diversity and abundance of seabirds (Baird 1993). Special-status seabirds are discussed in Section 3.4.1.4.

Deepwater Communities

The proposed cable routes would cross deepwater communities in a number of locations. Deepwater communities are generally considered the part of the ocean where light diminishes beyond the capability of biological life to use photosynthesis as an effective method of energy acquisition. This depth varies throughout the oceans, but Neighbors and Wilson (2006) describe the upper limit of the mesopelagic zone at about 100 meters. Water depths at the State waters boundary (3 nautical miles from the shore) are approximately 70 meters deep. The Southern California Bight region is distinctive from much of the Pacific continental shelf of North America in that this region has a variable bathymetry consisting of numerous seamounts, several offshore islands, extensive offshore banks and deep basins. One of the largest basins is the Santa Cruz basin, located in the middle of the Southern California Bight. This basin reaches a depth of 2000 meters. Offshore of this basin, the seafloor rises to the Santa Rosa-Cortes Ridge at around 100 meters. This ridge stretches for approximate 95 kilometers between Santa Rosa Island and San Nicholas Island. The edge of the continental shelf drops off at approximately 3,500 meters. The area from federal waters to the edge of the continental shelf is considered deepwater habitat for the purposes of this EIR. The majority of deepwater seabed throughout the Southern California Bight consists of muddy, soft bottoms. Approximately 3 percent of the seabed in the Southern California Bight is estimated to be rocky outcrops and rubble (Thompson et al. 1993).

Rocky reefs within these deepwater areas are difficult to survey due to the depth and distance from shore. Surveys conducted using submarine and ROVs in deepwater offshore of the Channel Islands identified deepwater corals, sponges, anemones, and sea pens attached to the seabed. Mushroom corals (*Anthomastus ritteri*) and Plexuridae (*Swiftia*-like) corals were the most commonly observed during surveys conducted by Lipski et al. (2012). Deep sea corals are typically slow growing and long lived. Mobile organisms associated with these deep seabed habitats include sea cucumbers, such as (*Pannychia moseleyi*), small decorator crabs (Brachiuran crabs), and whelks.

3.4.1.4. Special-Status Biological Resources

Special-status species are those that meet one or more of the following criteria:

- Species listed as threatened or endangered under the Federal Endangered Species Act.
- Species that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act.
- Species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (California Code of Regulations [CCR], Title 14, § 670.5).
- Plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code Section 1900, et seq.).
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California and elsewhere" (List 1B and 2).
- Animals classified as Fully Protected in California (Fish and Game Code Sections 3511, 4700, 5050 and 5515).
- Species designated by the CDFW as Species of Special Concern, Watch List Species, or species that are considered rare and worthy of consideration by local agencies.

Tables 3.4-1 and 3.4-2 list the special-status plants and wildlife known from the region and summarize their habitat and distribution, conservation status, and potential for occurrence in the Project area. The potential for occurrence of each species is assessed based on the following criteria, but may be modified based on professional judgement:

- **Present:** Observed on the Project site during surveys or previously documented on the Project site.
- **High:** Documented in the Project vicinity (within approximately 5 miles) and suitable habitat found on the Project site, but not detected on the Project site during biological surveys.
- **Moderate:** Either documented in the Project vicinity (within approximately 5 miles), or suitable habitat found on the Project site and the Project site is within species' known geographic range.
- **Low:** No records are in the Project vicinity (within approximately 5 miles), the habitat is marginal, or the species is conspicuous and was not detected during biological surveys.
- **Minimal:** No records are in the Project vicinity (within approximately 5 miles) and the site lacks suitable habitat requirements.

Special-Status Plants

Special status plants do not occur in the Project area and are not expected to occur. Native habitat that can support special status plants is not present in the Project area. Open spaces within the City are landscaped, routinely maintained, and frequently used for recreation. The sandy beach habitat is highly disturbed, with frequent grading to remove trash or other detritus and heavy recreational use. Vegetated dune habitat is not present within the City. No federal- or State-listed plant species are expected to occur. None of the plant species considered rare by the California Native Plant Society (CNPS) (i.e., List 1, 2, 3, or 4 species) are expected to occur (CNPS 2019).

Table 3.4-1. Special-Status Plants with Potential to Occur in the Project Area

Common and Scientific Names	Status Federal/ State/CNPS	Habitat Requirements	Potential of Occurrence in Project Area
Brand's star phacelia (*Phacelia stellaris*)	--/--/1B.1	Coastal dunes, coastal scrub; 3.3 to 1,312 feet (1 to 400 meters)	**Not Likely to Occur**. No coastal scrub or dunes on Project site or conduit alignment. Presumed extirpated in the area.
California Orcutt grass (*Orcuttia californica*)	E/E/1B.1	Vernal pools; 49 to 2,165 feet (15 to 660 meters)	**Not Likely to Occur**. No vernal pools on Project site or conduit alignment.
Coastal dunes Milk-vetch (*Astragalus tener var. titi*)	E/E/1B.1	Sandy soils of coastal bluff scrub, coastal dunes, wet areas in coastal prairie; 3.3 to 164 feet (1 to 50 meters)	**Not Likely to Occur**. No coastal bluff scrub or coastal dunes on Project site or conduit alignment. Recorded population "probably extirpated."
Coulter's goldfields (*Lasthenia glabrata ssp. Coulteri*)	--/--/1B.1	Coastal salt marshes and swamps, Grasslands, vernal pools, alkali sinks, playas, in alkaline soils; 3.3 to 4,003 feet (1 to 1,220 meters)	**Not Likely to Occur**. No vernal pools, coastal salt marshes, valley and foothill grasslands, or playas on Project site or conduit alignment.
Orcutt's pincushion (*Chaenactis glabriuscula var. orcttiana*)	--/--/1B.1	Coastal dunes, sandy areas in coastal bluff scrub; below 328 ft (100 meters)	**Not Likely to Occur**. No coastal dunes or scrub on the Project site or conduit alignment.
Parish's brittlescale (*Atriplex parishii*)	--/--/1B.1	Alkaline soils in chenopod scrub, playas, vernal pools; 82 to 6,234 feet (25 to 1,900 meters)	**Not Likely to Occur**. No alkali meadows, vernal pools, chenopod scrub, or playas on the Project site or conduit alignment. Presumed extirpated in the area.

Common and Scientific Names	Status Federal/ State/CNPS	Habitat Requirements	Potential of Occurrence in Project Area
Prostrate vernal pool navarretia (*Navarretia prostrata*)	--/--E/1B.1	Vernal pools and mesic areas in coastal scrub and alkali grasslands; 49 to 3,970 feet (15 to 1,210 meters)	**Not Likely to Occur**. No vernal pools, coastal scrub, or valley and foothill grasslands on the Project site or conduit alignment.
South Coast saltscale (*Atriplex pacifica*)	--/--/1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas; below 460 feet (140 meters)	**Not Likely to Occur**. No coastal bluff scrub, coastal dunes, coastal scrub or playas on Project site or conduit align-ment. Presumed extirpated in the area.
Southern tarplant (*Centromadia parryi ssp. Australis*)	--/--/1B.1	Vernal pools, margins of marshes and swamps, wet areas in valley and foothill grassland; below 1,575 feet (480 meters)	**Not Likely to Occur**. No marsh or swamp margins or valley and foothill grassland on Project site or conduit alignment.
Spreading navarretia (*Navarretia fossalis*)	T/--/1B.1	Chenopod scrub, assorted shallow freshwater marshes and swamps, San Diego hardpan and claypan vernal pools, saltbush scrub, and playas; 98 to 2,149 feet (30 to 655 meters)	**Not Likely to Occur**. No chenopod scrub, freshwater marsh or swamp, vernal pool, or playa on Project site or conduit alignment.
Ventura Marsh milk-vetch (*Astragalus pycnostachyus var. lanosissimus*)	E/E/1B.1	Coastal dunes, Coastal scrub, Marshes and swamps (edges, coastal salt or brackish)	**Not Likely to Occur**. No coastal dunes, scrub, or salt marsh habitat on Project site or conduit alignment.

Source: CNPS, 2019; CNDDB, 2019; CCH, 2019
Status explanations:
Federal
E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
-- = no listing.
State
E = listed as endangered under the California Endangered Species Act.
R = listed as rare under the California Native Plant Protection Act (this category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation)
-- = no listing.
California Native Plant Society (CNPS)
1B = List 1B species; rare, threatened, or endangered in California and elsewhere.
2 = List 2 species; rare, threatened, or endangered in California but more common elsewhere.
0.1 = seriously endangered in California.
0.2 = fairly endangered in California.

Special-Status Wildlife

The potential for occurrence of special-status wildlife species in the Project area are shown in Table 3.4-2. Two listed wildlife species, the western snowy plover (*Charadrius alexandrinus nivosus*) and the California least tern (*Sternula antillarum browni*), are known from the region and use habitat present within the Project area. Figure 3.4-1 shows the designated critical habitat for the western snowy plover (USFWS 2012).

Table 3.4-2. Special-Status Wildlife with Potential to Occur in the Project Area

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Terrestrial Invertebrates				
Dorothy's El Segundo dune weevil (*Trigonoscuta dorothea dorothea*)	--/--	El Segundo Dunes in Los Angeles County.	Coastal sand dunes	**Not Likely to Occur.** No coastal sand dunes on the Project site or conduit alignment.
El Segundo blue butterfly (*Euphilotes battoides allyni*)	E/--	Once more widespread, it is now restricted to primarily two sites: approximately 270 acres at Los Angeles International Airport and approximately 1.3 acres at the Chevron refinery in El Segundo.	Native vegetated sand dune habitats with its host plant, coastal buckwheat (*Eriogonum parvifolium*)	**Not Likely to Occur.** No dunes present on the Project site or conduit alignment.
Globose dune beetle (*Coelus globosus*)	--/--	Sporadically distributed in central and southern California and the Channel Islands. From Bodega Bay, Sonoma County to Ensenada, Baja California, Mexico.	Foredunes and sand hummocks, burrows beneath sand surface under shrubs or herbaceous plants	**Not Likely to Occur.** No sand hummocks and foredunes on the Project site or conduit alignment.
Henne's eucosman moth (*Eucosma hennei*)	--/--	Coastal southern California from Ventura County south to Orange County. Known from less than 10 locations, including El Segundo dunes, Los Angeles County (where possibly extirpated), and dune lakes near Oceano, San Luis Obispo County.	Undisturbed sand dunes with native vegetation, including open areas of open sand and fairly dense shrubs and herbs, including the caterpillar host, *Phacelia ramasissima*	**Not Likely to Occur.** No dunes present on the Project site or conduit alignment.
Monarch butterfly - overwintering habitat (*Danaus plexippus*)	SA/--	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico.	Monarch butterflies roost in wind-protected tree groves (such as eucalyptus, Monterey pine, cypress) with nectar and water sources nearby; caterpillar host plants are milkweeds	**Low.** Historic observations have recorded over-wintering populations of this species within 5 miles of the Project site. The Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ holds potential roost trees for this species.
Palos Verde blue butterfly (*Glaucopsyche lygdamus palosverdesensis*)	E/--	The Palos Verde Peninsula, on the south coast of Los Angeles County, California.	Coastal scrub where the host plant, southern California locoweed (*Astragalus trichopodes var. lochus*) occurs	**Not Likely to Occur.** The proposed Project is located within the historic range, but no coastal scrub or host plants within the Project site.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Riverside fairy shrimp (*Steptocephalus wootoni*)	E/--	Vernal pools from southwestern Riverside County and western San Diego County, to northwestern Baja California, Mexico. One population is known from Orange County.	Found only in deep lowland pools that retain water through the warmer weather of late spring	**Not Likely to Occur.** No vernal pools present within the Project site or conduit alignment.
Sandy beach tiger beetle (*Cicindela hirticollis gravida*)	--/--	Records from the dune habitat near the Los Angeles International Airport and at the Chevron refinery in El Segundo.	Clean, dry, light-colored sand in the upper zone of beach dunes near brackish water	**Not Likely to Occur.** No areas adjacent to brackish water on the Project site or conduit alignment.
Senile tiger beetle (*Cicindela sinilis frosti*)	--/--	Coastal areas from Sonoma County south to San Diego County.	Coastal salt marshes and tidal mud flats as well as interior alkali mud flats	**Low.** The proposed Project area is located adjacent to the historic range, and contains marine shoreline, but no salt marshes or mud flats present within the Project site or conduit alignment.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	T/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools; also found in sandstone rock outcrop pools, and seasonal wetlands	**Not Likely to Occur.** No vernal pools, outcrop pools, or wetlands present within the Project site or conduit alignment.
Molluscs/Crustaceans/Echinoderms				
White abalone (*Haliotis sorenseni*)	E/-	Point Conception, California, to Punta Abreojos, Mexico.	Found at depths of 24 to 30 meters (80 to 100 feet) on low and high relief rock or boulder habitat interspersed with sand channels	**Low.** Project area overlaps the historic range; however, distance to known extant populations indicates an unlikely occurrence.
Black abalone (*Haliotis cracherodii*)	E/-	Point Arena, California, to Bahia Tortugas and Isla Guadalupe, Mexico.	Crevices of intertidal and shallow subtidal rocks	**Not Likely to Occur.** No suitable habitat in Project area.
Fish				
Steelhead - southern California Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus population 10*)	E/-	Santa Maria River, California, to U.S.-Mexico Border.	Born in freshwater streams, and later move into the ocean; after spending between 1 and 4 years in the ocean, steelhead return to their home freshwater stream to spawn	**Not Likely to Occur.** Known to occur in rivers approximately 20 kilometers south of proposed Project site in Los Angeles river. Oceanic distribution is poorly understood. Expected that they disperse offshore. Typically remain in the surface waters when at sea and not on seabed.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Pacific lamprey (*Entosphenus tridentatus*)	SSC	Historically common along the west coast of North America.	Live in the marine environment as adults; parasitic, feeding on Pacific salmon, flatfish, rockfish, and other fishes; after 1 to 3 years, they migrate to freshwater and spawn around February to June	**Not Likely to Occur.** No suitable habitat present; listed as possibly occurring, but not probably occurring in the Project area. Closest probable occurrence is approximately 40 kilometers upcoast of Manhattan Beach at Santa Clara River.
Tidewater goby (*Eucyclogobius newberryi*)	E/SSC	Brackish coastal waters, from Agua Hedionda Lagoon to the Smith River mouth.	Shallow lagoons and lower stream reaches with slow (not stagnant) water and high oxygen levels	**Not Likely to Occur.** No suitable habitat present. Historically occurred within Santa Monica artesian springs, approximately 20 kilometers upcoast. They are known to occur in Malibu Creek, approximately 30 kilometers upcoast of Manhattan Beach.
Terrestrial Reptiles				
Coast horned lizard (*Phrynosoma blainvillii*)	--/SSC	Most of west-central and south-western California (U.S.) as well as most of Baja California (Mexico) (except the northeastern portion). In California, species ranges from San Diego north to Shasta County, though a disjunct population occurs farther north at Grasshopper Flat, Siskiyou County, California.	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging	**Not Likely to Occur.** Marginal habitat is present within the Greenbelt; no recent records within 5 miles of the Project area. Habitat area subject to frequent human disturbance.
Southern California legless lizard (*Anniella stebbinsi*)	S/SSC	Most of southwestern California along the coastline, from Ventura County to the U.S.-Mexico Border.	Coastal dune, valley-foothill, chaparral, and coastal scrub habitats; primarily in areas with sandy or loose organic soils with plenty of leaf litter	**Low.** Potential habitat is present within the Greenbelt, but this area is subject to frequent human disturbance. Observed in 2014 in a private backyard, 1 mile from Project area.
Marine Reptiles				
Green sea turtle (*Chelonia mydas*)	T/-	Subtropical coastal waters of southern Baja California, Mexico, and Central America.	Typically make dives shallower than 100 feet (31 meter), with most dives not exceeding 58 feet (18 meters)	**Low.** No known nesting areas on southern California beaches. Low potential for occurrence within Project area due to generally low population densities.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Loggerhead sea turtle (*Caretta caretta*)	E/--	In U.S. waters, records have been of juveniles from nearshore waters of southern California. Sightings increase during the summer, peaking from July to September off southern California and southwestern Baja California.	For coastal foraging loggerheads, all dives shallower than 100 feet (31 meters)	**Low.** No known nesting areas on southern California beaches. Low potential for occurrence within Project area due to generally low population densities.
Olive ridley sea turtle (*Lepidochelys olivacea*)	T/--	Occurs off the coast of southern and central California but is not known to nest on California beaches.	Dive deeper than loggerheads but spent only about 10 percent of time at depth under 100 feet (31 meters)	**Low.** No known nesting areas on southern California beaches. Low potential for occurrence within Project area due to generally low population densities.
Leatherback sea turtle (*Dermochelys coriacea*)	E/--	Regularly seen off the western coast of the U.S., with the greatest densities found off central California. In the waters of southern California, nearly all sightings occur in deeper waters seaward of the Channel Islands.	Deepest diving sea turtle, with a recorded maximum depth of 4,200 feet (1,280 meters), although most dives are much shallower (usually less than 820 feet [250 meters])	**Low.** No known nesting areas on southern California beaches. Low potential for occurrence within Project area due to low population densities.
Marine Invertebrates				
Black abalone (*Haliotis cracherodii*)	E/--	Throughout California and as far south as Baja California, Mexico.	Intertidal to low subtidal rocky habitat	**Not Likely to Occur.** Suitable habitat absent in Project area.
White abalone (*Haliotis sorenseni*)	E/--	Historically present from Point Conception to Baja California, Mexico.	Present known occurrence limited to deep water reefs off Santa Barbara and at some offshore islands and banks	**Not Likely to Occur within State Waters/May Occur in Federal Waters.** Known populations occur adjacent to the Channel Islands. Mainland population limited to Santa Barbara County.
Birds				
California black rail (*Laterallus jamaicensis coturniculus*)	--/T, FP	Permanent resident in San Francisco Bay and eastward through Delta into Sacramento and San Joaquin Counties. Small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties.	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations	**Not Likely to Occur.** No marshes present within the Project site or conduit alignment.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Western snowy plover - coastal population (*Charadrius alexandrines nivosus*)	T/SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries; at least 20 breeding sites are known in California from Del Norte to San Diego Counties.	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent	**Moderate (Wintering Only).** Potential habitat is present within the Project OGB site on the beach, but this area is frequently disturbed. Known to roost during winter in the vicinity of the proposed OGB site on the beach. Recent (non-breeding) sightings within 5 miles of the Project; potential to forage on or near the Project site. Designated critical habitat overlaps with potential terrestrial OGB site on the beach.
California least tern (*Sterna antillarun browni*)	E/E, FP	Nests on beaches along the San Francisco Bay and along the southern California coast from southern San Luis Obispo County south to San Diego County.	Nests on sandy, upper ocean beaches, and occasionally uses mudflats; forages on adjacent surf line, estuaries, or the open ocean	**Moderate.** Potential habitat within the Project area is frequently disturbed. Recent records flying over within 5 miles of the site. Low potential to forage in the Project area.
Elegant tern (*Thalasseus elegans*)	WL	Forages and nests along the North American Pacific coastline from Oregon down to Mexico.	Nests on low, flat, sandy islands and forages in coastal waters, occasionally in ocean far from land	**High (Foraging/Flyover).** Likely to fly over beach OGB and ocean section of Project; no nesting habitat in Project area.
Cooper's hawk (*Accipiter cooperii*)	WL	Present throughout many densely wooded forests in North America (Canada, U.S., and Mexico), but can also be found in urban cities.	Nests in pines, oaks, Douglas-firs, beeches, spruces, and other tree species, often on flat ground rather than hillsides and in dense woods; forages in forests and woodlands and occasionally urban areas	**High (Foraging/Nesting).** Likely to fly over urban areas of Project; potential nesting habitat in trees within the Greenbelt.
Merlin (*Falco columbarius*)	WL	Non-breeding populations present throughout the majority of the continental U.S. and Mexico. Commonly found breeding or year-round in Canada and Alaska.	Breed in open and semi-open areas, nesting near forests openings, fragmented woodlots, or near rivers, lakes, bogs, lake islands	**Low (Flyover).** Potential habitat is present along Greenbelt and has been sighted flying over the beach within 5 miles of the Project site. Project is well south of breeding range.
Great blue heron (*Ardea herodias*)	SA	Found year-round through most of the continental U.S. Partial migrant. Will move from northern edge of breeding range in winter to as far as the Caribbean.	Nest mainly in trees, but also ground, bushes, mangroves, and on man-made structures; live in both freshwater and saltwater habitats and	**High (Foraging/Flyover).** Likely to fly over beach OGB and ocean section of Project; no nesting habitat in Project area.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
			forage in grasslands and agricultural fields	
Coastal California gnatcatcher (*Polioptila californica californica*)	T/SSC	Found only along the southern California coast from Los Angeles County to San Diego County.	Permanent resident in coastal sage scrub, where it prefers relatively dense stands dominated by California sage (*Artemesia californica*)	**Not Likely to Occur.** No coastal sage scrub present within the Project site or conduit alignment.
Least Bell's vireo (*Vireo bellii pusillus*)	E/E	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties.	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons	**Not Likely to Occur.** No riparian thickets or canyons present within the Project site or the conduit alignment.
Southwestern willow flycatcher (*Empidonax trailii extimus*)	E/E	Breeds in coastal southern California in the Los Angeles Basin, San Bernardino/ Riverside area, and San Diego County. No longer breeds along the Colorado River and is known to exist only in eight widely disjunct nesting populations.	Densely vegetated riparian habitat with streamside associations of cottonwoods and willows	**Not Likely to Occur.** No suitable habitat present within the Project site or conduit alignment.
Light-footed clapper rail (*Rallus longirostris levipes*)	E/E	Small populations along the coast in Santa Barbara, Ventura, Orange, and San Diego Counties.	Restricted to salt marshes and tidal sloughs where pickleweed is abundant	**Not Likely to Occur.** No salt marshes or sloughs present within the Project area or conduit alignment.
Tricolored blackbird (*Agelaius tricolor*)	--/SSC [1]	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony	**Not Likely to Occur.** No suitable habitat present within the Project site or conduit alignment.
Western burrowing owl (*Athene cunicularia*)	--/SSC	Lowlands throughout California, including Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low-stature grassland or desert vegetation with available burrows	**Not Likely to Occur.** No suitable habitat with available burrows present within the Project site or conduit alignment. No recent records within 5 miles of the area.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Short-eared owl (*Asio flammeus*)	--/SSC	In North America, it is distributed from Alaska and all Canadian provinces except the Northwest Territories south through the conterminous U.S. to central Mexico.	Preferred habitats include fresh and saltwater marshes, coastal plains, tamarack (*Larix laricina*), black spruce (*Picea mariana*) bogs, old fields, prairies, sagebrush (*Artemisia* spp.) steppes, wet meadows, grasslands, open shrublands, and montane parklands	**Not Likely to Occur.** No marsh or grassland foraging habitats on the Project site or cable alignment.
Northern harrier (*Circus cyaneus*)	--/SSC	The historic breeding range extended from the Modoc Plateau south to San Diego, mostly east and south of the humid northwest coast and west and north of the arid southeastern deserts.	Prefer open country, grasslands, steppes, wetlands, meadows, agriculture fields; roost and nest on ground in shrubby vegetation often at edge of marshes	**Not Likely to Occur.** No grassland or marsh breeding and foraging habitats in the Project area or conduit alignment.
Loggerhead shrike (*Lanius ludovicianus*)	--/SSC	In Los Angeles County, shrikes have declined substantially on the coastal slope. Nesting is now known from only 2 to 3 localities per year on the coast and in the Los Angeles basin.	Broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting	**Not Likely to Occur.** No riparian habitats, wood-lands, or open natural habitats for foraging and nesting in the Project area or conduit alignment.
Osprey (*Pandion haliaetus*)	WL	Can be found throughout North America along major water bodies during breeding, and elsewhere when migrating. Found near water, either fresh or salt, where large numbers of fish are present. May be most common around major coastal estuaries and salt marshes, but also regular around large lakes, reservoirs, rivers.	Forages and nests along rivers, lakes, and reservoirs	**Moderate (Foraging/ Winter).** Historic records within 5 miles; could forage in coastal area of the Project. Outside of the breeding range.
Belding's savannah sparrow (*Passerculus Sandwichensis beldingi*)	--/E	Southern California coastal marshes from San Diego County to Goleta Slough, Santa Barbara County.	Breeds on the southern coast from Santa Barbara to San Diego Counties; open fields, meadows, salt marshes, prairies, dunes, shores	**Not Likely to Occur.** No salt marsh habitat for breeding or foraging in the Project area or conduit alignment.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
California brown pelican (*Pelecanus occidentalis*)	--/FP	Breeds along Pacific coast of central and southern California (the Channel Islands south), on islands off Baja California and on islands in the Gulf of California (south to Isabella and the Tres Marias Islands).	Brown Pelicans live year-round in estuaries and coastal marine habitats along both the east and west coasts; they breed between Maryland and Venezuela, and between southern California and southern Ecuador – often wandering farther north after breeding as far as British Columbia or New York; on the West Coast, they breed on dry, rocky offshore islands; when not feeding or nesting, they rest on sandbars, pilings, jetties, breakwaters, mangrove islets, and offshore rocks	**High (Foraging/Flyover Only).** Likely to fly over beach OGB and ocean section of Project. No nesting habitat in Project area.
Double-crested cormorant (*Phalacrocorax auritus*)	–/SSC	Winters along the entire California coast and inland over the Coast Ranges into the Central Valley from Tehama County to Fresno County. A permanent resident along the coast from Monterey County to San Diego County.	Rocky coastlines, beaches, inland ponds, and lakes; needs open water for foraging, and nests in riparian forests or on protected islands, usually in snags	**High (Foraging/Flyover Only).** Likely to fly over beach OGB and ocean section of Project. No nesting habitat in Project area.
Bank swallow (*Riparia riparia*)	--/T	Breeding range in North America extends from western and central Alaska eastward across Canada to the southern Hudson Bay region, Labrador, and Newfoundland, and south to central California, Nevada, Utah, New Mexico, Oklahoma, Arkansas, Tennessee, northern Alabama, and North Carolina, and disjointly to southern Texas and adjacent northeastern Mexico (northern Veracruz, northeastern San Luis Potosí, and extreme northern Coahuila).	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert; requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, or the ocean to dig a nesting hole	**Not Likely to Occur.** No riparian habitat for breeding and foraging in the Project area or conduit alignment. Nesting populations are considered extirpated in southern California.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Black skimmer (*Rynchops niger*)	--/SSC	Breeds in southern California (Salton Sea, around San Diego).	Nests primarily near coasts on sandy beaches, shell banks, coastal and estuary islands, on wrack and drift of salt marshes (especially where traditional beach nesting areas have been lost or where Herring gulls have become abundant), along tropical rivers, salt pond levees (southern California), and on gravelly rooftops; also on dredged material sites; nests usually in association with or near terns	**Moderate.** Sandy beaches may provide nesting habitat in the Project area, but areas are frequently disturbed and unlikely to support nesting. Recently recorded at the Hermosa Beach Pier in 2012.
Terrestrial Mammals				
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	Occurs along the western Sierra primarily at low to mid elevations and widely distributed throughout the southern coast ranges. Recent surveys have detected the species north to the Oregon border.	Found in a wide variety of habitats from desert scrub to montane conifer; roosts and breeds in deep, narrow rock crevices, but may also use crevices in trees, buildings, and tunnels	**Not Likely to Occur.** No suitable habitat is present within the Project site or conduit alignment.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	E/SSC	Historically inhabited the coastal plains of Los Angeles County south to San Diego County. Currently, only one extant population known from Dana Point Headlands, Orange County; and three populations on Camp Pendleton, San Diego County.	Generally found within 2 miles (3 kilometers) of the coast and below 600 feet (183 meters) on fine-grained, sandy substrates within coastal strand, coastal dune, river alluvium, and coastal sage scrub habitats	**Not Likely to Occur.** The Project site lies within the historic range; however, no recent records exist and the frequent and ongoing disturbance of the site, marginal habitat present, and distance to known extant populations indicates an unlikely occurrence.
Marine Mammals				
Humpback whale (Central America DPS) (*Megaptera novaeangliae*)	E/--	At least three separate populations are in the North Pacific, including a California/Oregon/ Washington stock that winters in coastal Central America and Mexico and migrates to areas ranging from the coast of California to southern British Columbia in summer/fall.	While feeding and calving, prefer shallow waters; during calving, usually found in the warmest waters available at that latitude; calving grounds are commonly near offshore reef systems, islands, or continental shores; feeding grounds are in cold, productive coastal waters	**Low in State Waters/ Moderate in Federal Waters.** Given population density and habitat preferences, there is a low potential for occurrence within the Project area in State waters close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
Humpback whale (Mexico DPS) (*Megaptera novaeangliae*)	T/--	At least three separate populations are in the North Pacific, including a California/Oregon/ Washington stock that winters in coastal Central America and Mexico and migrates to areas ranging from the coast of California to southern British Columbia in summer/fall.	While feeding and calving, prefer shallow waters; during calving, usually found in the warmest waters available at that latitude; calving grounds are commonly near offshore reef systems, islands, or continental shores; feeding grounds are in cold, productive coastal waters	**Low in State Waters/ Moderate in Federal Waters.** Given population density and habitat preferences, there is a low potential for occurrence within the Project area in State waters close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.
Blue whale (*Balaenoptera musculus*)	E/--	In the eastern North Pacific Ocean, range from the Gulf of Alaska and California south to Costa Rica.	Spend winters off of Mexico and central America, and feed during summer off the U.S. West Coast	**Low in State Waters/ Moderate in Federal Waters.** Given population density and habitat preferences, there is a low potential for occurrence within the Project area close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.
Fin whale (*Balaenoptera physalus*)	E/--	In U.S. waters, have been divided into four stocks, including one off California/Oregon/ Washington.	Migratory, moving seasonally into and out of high-latitude feeding areas	**Low in State Waters/ Moderate in Federal Waters.** Given population density and habitat preferences, there is a low potential for occurrence within the Project area in State waters close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.
Sei whale (*Balaenoptera borealis*)	E/--	Cosmopolitan distribution and occur in subtropical, temperate, and subpolar waters around the world.	Usually observed in deeper waters of oceanic areas far from the coastline	**Low in State Waters/ Moderate in Federal Waters**. Given population density and habitat preferences, there is a low potential for occurrence within the Project area in State waters close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.
Sperm whale (*Physeter microcephalus*)	E/--	Inhabit all oceans of the world.	Distribution is dependent on their food source and suitable conditions for breeding	**Low in State Waters/ Moderate in Federal Waters**. Given population density and habitat preferences, there is a low potential for occurrence within the Project area in

Species	Status Federal/ State	Geographic Distribution	Habitat Requirements	Potential for Occurrence in the Project Area
				State waters close to shore, but a moderate likelihood of occurrence further offshore in Federal waters.
North Pacific right whale (*Eubalaena japonica*)	E/--	Very small remaining population (100 to 200 adults) mainly centered around the north-central part of the North Pacific Ocean. Two confirmed sightings were made in 2017 in southern California.	This animal's habitat uses remain poorly understood; primarily coastal and shelf waters; however, this species has been detected in deeper water	**Not Likely to Occur.** This species is very rare. Only two recent sightings recorded in southern California. Most observations in north-central Pacific (south of Bering Sea/Aleutian Islands).
Southern sea otter (*Enhydra lutris nereis*)	T/SSC	Occurs approximately from the vicinity of Half Moon Bay south to Gaviota, California. Approximately 20 otters, including pups, are at San Nicolas Island as a result of translocation efforts to establish an experimental population.	Coastal waters, typically within 0.6 mile (1 kilometer) of shoreline; often associated with kelp beds	**Not Likely to Occur.** South of known inhabited range along coastline. San Nicholas population offshore is not within Project area.
Guadalupe fur seal (*Arctocephalus townsendii*)	T/T,FP	Primarily Baja California, Mexico, but occasionally found on San Miguel and San Nicolas islands.	Rocky insular shorelines and sheltered coves	**Not Likely to Occur.** Suitable habitat absent in Project area.

Source: Light et al. 1989, USFWS 2008, AllAboutBirds 2017, CDFW 2019a, CNDDB 2019, eBird 2019, iNaturalist, 2019
Notes:
1. The tricolored Blackbird was granted emergency protection by the California Fish and Game Commission under the California Endangered Species Act as of 12/3/14.

Status explanations:
-- = no listing.
Federal
E = listed as endangered under federal Endangered Species Act (ESA).
T = listed as threatened under ESA.
S = US Forest Service Sensitive species.
State
E = listed as endangered under California Endangered Species Act (CESA).
T = listed as threatened under CESA.
FP = fully protected under California Fish and Game Code.
SSC = species of special concern in California.
WL = Watch List species of California Department of Fish and Wildlife
SA = Special Animal of the California Department of Fish and Wildlife
Potential Occurrence:
High – Suitable habitat is present within or near the proposed site: occurrence records exist for species in proximity to the site; species expected to occur on or near the site.
Moderate – Low quality habitat is present within or near the proposed site; species was not identified during reconnaissance surveys of the site; species may occur on or near site.
Low – Marginal habitat is present on or adjacent to site; no recent records within 5 miles of the site.
Not Likely to Occur – No recent records within 5 miles, no suitable habitat occurs on or near site.

Figure 3.4-1. Designated Critical Habitat for the Western Snowy Plover

As shown in Table 3.4-2, two listed wildlife species, the western snowy plover (*Charadrius alexandrinus nivosus*) and the California least tern (*Sternula antillarum browni*), use habitat present within the Project area; therefore, these species are discussed in the following sections.

Western Snowy Plover

The western snowy plover is federally listed as threatened and is a California Species of Special Concern. The species nests along the Pacific coast from southern Washington to southern Baja California, Mexico. Western snowy plovers breed from April through August on sandy marine and estuarine shores, and roost in these same habitats from September through March. Preferred sandy habitats include sand pits, dune-backed beaches, beaches at creek and river mouths, and saltpans at lagoons and estuaries. Nesting habitat includes sandy, gravelly, or friable soils. The western snowy plover frequently builds its nest near or under objects, such as driftwood or rocks, but will also build nests on barren ground with no nearby cover. The species feeds on insects and amphipods that are gleaned from dry sand of upper beaches, on sand crabs in wet sand, and other small invertebrates that are found in surf- or water-deposited organic debris, like kelp wrack (Rigney 2008, USFWS 2012). The main threats to this species include daily beach grooming, development of sandy dune habitat, heavy recreational use of beaches, vehicular traffic, domestic animals, and human-attracted predators (Ryan et al. 2014).

According to the City of Hermosa Beach Existing Conditions Report, a western snowy plover has not been detected nesting within the City for over 70 years (2014). However, the species is known to roost at Hermosa Beach during the non-breeding season (July through March) (USFWS 2012, Ryan et al. 2010 and 2017, USFWS 2019). In 2012, USFWS designated approximately 27 acres (11 hectares) of critical habitat to support overwintering populations of the western snowy plover in Hermosa Beach (Subunit CA 45D). The critical habitat on Hermosa Beach consists of approximately 0.5 mile of sandy beach habitat between 11th Street and 1st Street (see Figure 3.4-1). This area was selected because it contains physical and biological features essential to the conservation of the species, including a wide sandy beach with occasional surf-cast wrack supporting small invertebrates. However, this site is regularly subject to some of the major threats to this species, such as daily beach grooming and heavy recreational use by beachgoers.

During the survey period from 2014 to 2017, Ryan et al. (2017) detected between 31 and 60 plovers at Hermosa Beach. In 2019, 57 plovers were detected, representing approximately 24 percent of the Los Angeles County non-breeding population (USFWS 2019). This suggests a general increase in individuals over the last 5 years regardless of regular beach disturbance. The winter roost locations are variable from year to year within the general area, and this movement is consistent with other roosting beaches that have high levels of disturbance (Ryan et al. 2014). The majority of plover roosts are found at least 1,500 feet north of the designated critical habitat (USFWS 2012, Ryan et al. 2017).

Based on the roosting location records of this survey period (and from prior years), Ryan et al. (2017) proposed the establishment of two Special Protection Zones in Hermosa Beach. These two zones will be located on the sandy beach between 18th and 22nd Street and 26th and 28th Street. A Special Protection Zone is a designated area where regular beach maintenance, operation of vehicles or heavy machinery, and sand grooming are discontinued or limited during the roosting season (July through April/May). If the beach location is chosen for the OGB installation, the proposed Project area would overlap with the designated critical habitat for the western snowy plover. No record of a breeding pair present within 5 miles of the Project area has been identified since 1949, and due to the highly disturbed nature of the public beach, this area is highly unlikely to be used as a nesting habitat (City of Hermosa Beach 2014, CDFW 2019a). However, the area regularly supports the second largest non-breeding overwinter population of western snowy plovers in Los Angeles County (USFWS 2019). The online bird reporting site, eBird, has recorded sightings of non-breeding snowy plovers within the City and near the proposed Project area as recently as March 2019. Hermosa Beach also has among the highest human use of any roosting beach in Los Angeles County, and western snowy plovers at this beach will move their roosting locations in response to frequent beach disturbances (Ryan et al. 2017). In recent years, most non-breeding roosting areas have been detected north of the designated critical habitat and outside of proposed Project area, between 18th and 22nd Street and between 26th and 28th Street (Ryan et al. 2017).

California Least Tern

California least tern is State and federally listed as endangered. The California least tern is migratory in California, usually arriving at the breeding territories in late April in the southern part of the State and mid-May in the northern part of the State. The wintering sites for the species are thought to be the Pacific coastal areas of South America. California least tern breeding colonies typically occur along marine and estuarine shores in Southern California, as well as the salt ponds and estuarine shores of the San Francisco Bay region. Foraging occurs in nearby shallow estuarine waters where small fish are abundant. Feeding also occurs near shore in the open ocean. Adult individuals roost and nest mainly on the ground on open, sandy, or gravelly shores near their feeding areas, where vegetation is sparse. In areas of harder soils, the species may use artificially created depressions. Nesting colonies occur in areas that are relatively free of human disturbance (Rigney 2008).

California least terns are not known to nest at Hermosa Beach, and no nesting areas have been documented within 5 miles of the proposed OGB location on the beach (Frost 2016, CDFW 2019a). The species is highly unlikely to nest or roost in the Project area, given the heavy recreational use of the public beach; however, the species could potentially forage in the area (Keane & Smith 2016). The online community bird reporting site, eBird, includes recorded sightings of nonbreeding California least terns within the City and near the proposed Project area as recently as September 2013. The closest documented nesting locations are at Venice Beach/Marina del Rey, north of the Project area, and Long Beach to the south. These areas are approximately 7 miles (11.6 kilometers) and 17 miles (27 kilometers) from the Project area, respectively (Frost 2016).

3.4.1.5. Marine Protected Areas

State Marine Protected Areas

In compliance with the Marine Life Protection Act of 1999 (MLPA), the California Department of Fish and Wildlife (CDFW) established a network of Marine Protected Areas (MPAs) to more effectively protect and conserve marine biological resources (CDFW 2008, CDFW 2019b). The proposed cable pathway does not run directly through any of these State MPAs (see Figure 2-15~~Figure 2-15~~).

The closest MPAs to the Project site on the mainland coast (the section of the Project in State waters) are the Point Vicente State Marine Conservation Area (SMCA) (No-take) and Abalone Cove SMCA. These MPAs are located approximately 8 miles downcoast of Hermosa Beach (CDFW 2014, CDFW 2016a, CDFW 2019c, NOAA National Map Center 2017a). The take of any marine resource for recreational or commercial purposes is prohibited within an SMCA. Some exceptions for recreational or commercial activities that are specifically designated as permissible by the managing agency are allowed for specific SMCAs (CDFW 2019c). The Abalone Cove SMCA allows some types of recreational or commercial take to occur, whereas the Point Vicente SMCA (No-Take) only allows take incidental to the permitted operation and maintenance of artificial structures inside the SMCA (Los Angeles Marine Protected Area Collaborative 2018, CDFW 2016b, CDFW 2019c).

The MPAs upcoast and downcoast of Hermosa and Manhattan Beach are comprised of sandy beaches, rocky shores, surfgrass, and kelp habitat (CDFW 2016b, CDFW 2016c, CDFW 2018).

Areas of Special Biological Significance/State Water Quality Protection Areas

Under the Water Quality Control Plan for the Ocean Waters of California (Ocean Plan), the State Water Resources Control Board (SWRCB) (2015) maintains and prohibits discharges in and monitors 34 marine Areas of Special Biological Significance (ASBS) for water quality (see Figure 2-15~~Figure 2-15~~).). The planned cable route does not pass through any of the designated ASBS State Water Quality Protection Areas (NOAA National Map Center 2017b). The closest ASBS State Water Quality Protection Area is the area from Laguna Point to Latigo Point. This ASBS is approximately 23 miles upcoast of Manhattan Beach (NOAA National Map Center 2017b).

Channel Islands National Marine Sanctuary and State Marine Protected Areas

The Channel Islands National Marine Sanctuary (CINMS) was established in 1980 to protect the biological and cultural resources of the Channel Islands and is federally managed by the National Oceanic Atmospheric Administration (NOAA). The Marine Sanctuary is shown in Figure 2-15~~Figure 2-15~~ in relation to the Project area. The CINMS encompasses the area surrounding San Miguel Island, Santa Cruz Island, Santa Rosa Island, Anacapa Island, Santa Barbara Island, Richardson Rock, and Castle Rock, from the Mean High Water (MHW) line to approximately 6 nautical miles offshore (U.S. Department of Commerce 2008). The proposed cable route is located outside the boundary of the CINMS.

Within the federally managed CINMS, a network of State MPAs that are managed by CDFW extends 3 nautical miles from the MHW line. Although the areas surrounding Santa Catalina Island and San Nicholas Island are not a part of the CINMS, nine State MPAs are within 3 nautical miles of Santa Catalina Island and a State Marine Reserve surrounding Begg Rock that is offshore of San Nicholas Island (CDFW 2019d).

Essential Fish Habitat Areas

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 as amended by the Sustainable Fisheries Act of 1996 (Public Laws 104-267 and 104-297) (MSFCMA) requires the National Marine Fisheries Service (NMFS), regional Fishery Management Councils (FMCs), and other federal agencies to identify and protect important marine, estuarine, and anadromous fish habitat. This habitat is designated as Essential Fish Habitat (EFH), and federal agencies must consult with NOAA Fisheries when authorizing, funding, or undertaking activities that may adversely affect EFH (16 U.S. Code [USC] 1855 § 305[b][2]).

EFH is defined as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" (16 USC § 1802 [10]). In 2002, NMFS further clarified EFH with the following definitions:

- "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish.
- "Substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities.
- "Necessary" includes the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (Code of Federal Regulations [CFR], Title 50, § 600.10).

Under the MSFCMA, regional FMCs prepare Fishery Management Plans (FMPs) to identify, protect, and enhance EFH for federally "managed species." In California, the relevant regional FMC is the Pacific FMC (PFMC). The PFMC has developed four FMPs; these are the Coastal Pelagic Species (CPS), Pacific Coast Groundfish (PCG), Pacific Coast Salmon (PCS), and Highly Migratory Species (HMS) FMP. The proposed Project would directly affect benthic (seabed) and pelagic habitats, and species that use these habitats.

EFH designated in the Pacific Coast Groundfish FMP (groundfish EFH) is the primary EFH that would be affected by the proposed Project.

The Pacific Coast Groundfish FMP manages 80-plus species over a large and ecologically diverse area. Because it is considered impractical to have up to date information on both the life history of all the species managed, and the location of habitats that these species inhabit, the Pacific Coast Groundfish FMP includes a general description of groundfish EFH. Amendment 19 to the Pacific Coast Groundfish FMP identifies groundfish EFH as all waters and substrate within the following areas:

- Depths less than or equal to 3,500 meters (1,914 fathoms) to mean higher high water level (MHHW) or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 parts per thousand (ppt) during the period of average annual low flow.
- Seamounts in depths greater than 3,500 meters as mapped in the EFH assessment GIS.
- Areas designated as Habitat Areas of Particular Concern (HAPC) not already identified by the above criteria.

Therefore, the entire length of the proposed cable corridor from the shoreline to 3,500-meter depth is located within groundfish EFH. However, the Pacific Coast Groundfish FMP (PFMC 2005) notes that this very broad definition of EFH is “precautionary”.

Amendment 8 to the Coastal Pelagic Species FMP designates EFH as all marine and estuarine waters from the shoreline along the California coast to the limits of the U.S. Exclusion Economic Zone (200 nautical miles) and above the thermocline where sea surface temperatures range between 10 degrees Celsius (°C) and 26°C (Pacific Fishery Management Council 1998, Pacific Fishery Management Council 2019). The EFH area for coastal pelagic species includes the State coastal waters adjacent to Hermosa and Manhattan Beach and extends into federal waters within the proposed Project area (NOAA NMFS 2018b).

Appendix F of the FMP for U.S. West Coast Fisheries for Highly Migratory Species designates EFH for several species, including Dorado (*Coryphaena hippurus*), Albacore Tuna (*Thunnus alalonga*), Bigeye Tuna (*Thunnus obesus*), Northern Bluefin Tuna (*Thunnus orientalis*), Skipjack Tuna (*Katsuwonus pelamis*), Yellowfin Tuna (*Thunnus albacares*), Blue Shark (*Prionace glauca*), Common Thresher Shark (*Alopias vulpinus*), Pelagic Thresher Shark (*Alopias pelagicus*), Bigeye Thresher (*Alopias superciliosus*), Shortfin Mako (*Isurus oxyrhinchus*), Broadbill Swordfish (*Xiphias gladius*), and Striped Marlin (*Kajikia audax*). The EFH areas are species dependent but encompass areas within State and federal waters adjacent to Hermosa and Manhattan Beach where the cable pathway is planned (Pacific Fishery Management Council 2007, Pacific Fishery Management Council 2018, NOAA NMFS 2018b).

Appendix A of the Pacific Coast Salmon FMP designates estuarine and marine waters extending from the extreme high tide line to the U.S. Exclusive Economic Zone (200 nautical miles) offshore of California north of Point Conception as EFH for Pacific coast salmon (Pacific Fishery Management Council 2014 and 2016b). The Project area, in both State and federal waters adjacent to Hermosa and Manhattan Beach, is outside of the Pacific Coast Salmon EFH (Pacific Fishery Management Council 2014 and 2016b).

Habitat Areas of Particular Concern

Within the category of EFH, regional FMCs are entitled to identify Habitat Areas of Particular Concern (HAPCs) (see Figure 3.4-2~~**Error! Reference source not found.**~~). These subsets of EFH are either spatially explicit areas, or habitat types that have been identified by regional FMCs as having high priority for conservation, management, or research. The HAPC designation is described in the implementing regulations of the EFH provisions (50 CFR § 600.815).

Regional FMCs are encouraged to identify habitat types or areas within EFH as HAPCs, based on one or more of the following considerations:

(a) The importance of the ecological function provided by the habitat
(b) The extent to which the habitat is sensitive to human-induced environmental degradation
(c) Whether, and to what extent, development activities are, or will be, stressing the habitat type
(d) The rarity of the habitat type

As part of the EFH consultation process with NOAA Fisheries, HAPCs encourage increased scrutiny and more rigorous conservation recommendations for reducing adverse impacts on fish habitat.

Five categories of HAPC are designated in southern California. These are estuaries, canopy kelp, rocky reefs, seagrass and areas of interest. Only rocky reefs and areas of interest overlap with the proposed Project area (see Figure 3.4-2). No estuaries are located at Hermosa and Manhattan Beach. The closest estuary to the Project area is in Marina Del Rey, approximately 8 miles up-coast of Hermosa and Manhattan Beach, outside of the pathway of the proposed cable corridor (NOAA NMFS 2019). Kelp canopy habitat is present approximately 5 miles south of Hermosa Beach off Malaga Cove near Palos Verdes Point and approximately 15 miles north of Manhattan Beach off the coast of Tuna Canyon Park (NOAA NMFS 2019). Some canopy kelp is also present forming on the outside wall of the King Harbor Marina breakwall. No seagrass habitat is present within Hermosa and Manhattan Beach, although seagrass is found within the King Harbor marina, but this location is outside of the proposed cable corridor. Seagrass beds were not observed during ROV studies in the Project region. The next closest seagrass habitat lies to the south in Cabrillo Marina and to the north in Marina del Rey, both over 20 miles away (Sherman and DeBruyckere 2018). The proposed cable corridor does not intersect with the designated kelp canopy or seagrass EFH HAPCs.

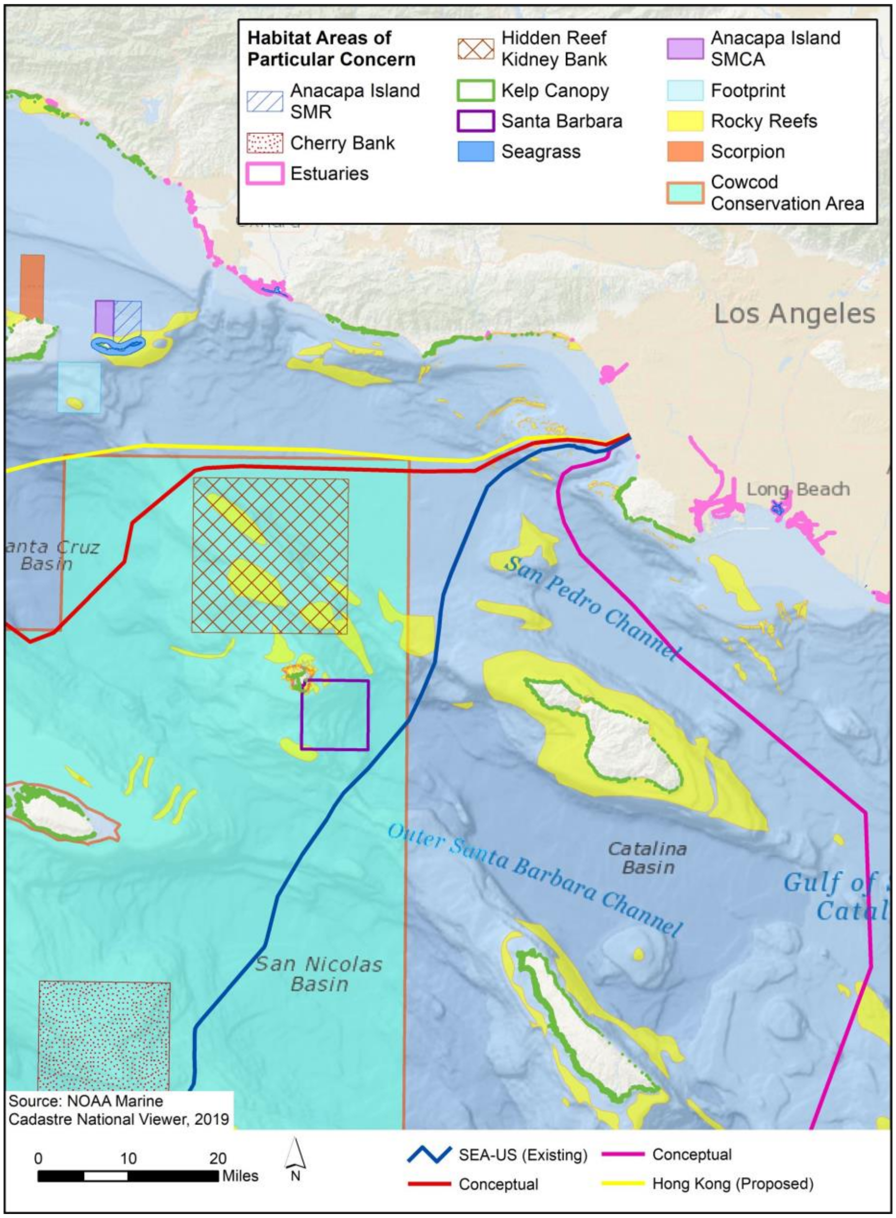
Rocky reef habitat is abundant within State waters (within 3 nautical miles of the MHW line) just south of Hermosa Beach off Malaga Cove and north of Manhattan Beach starting in Santa Monica but is not located within the cable corridor in State waters (NOAA NMFS 2019). Rocky reef HAPC is also abundant in federal waters between Redondo Canyon and Santa Monica Canyon, which falls within the pathway of the proposed cable corridor (NOAA NMFS 2019).

EFH Conservation Areas

EFH Conservation Areas (EFHCAs) are spatially discrete areas closed to bottom trawling and, in some cases, other types of bottom contact gear, to protect the important habitat features found there (50 CFR § 660.306). As described in CFR, Title 50, Section 660.302, "bottom contact gear" are defined as fishing gear designed to make contact or modify the seafloor and include, but are not limited to, beam trawl, bottom trawl, dredge, fixed gear, set net, demersal seine, dinglebar gear, and other gear designed or modified to make contact with the bottom. EFHCAs, established as part of Amendment 19 to the Pacific Coast Groundfish FMP, are one of the management measures developed by the Pacific Coast Groundfish FMC and NMFS to protect habitat, especially those that are important, rare, or vulnerable, from the adverse effects of the groundfish fishery.

The cable route passes through one EFHCA, the Western Cowcod Conservation Area (see Figure 3.4-2). Cowcod rockfish (*Sebates levis*) are a long-lived, slow-growing groundfish species that were historically fished both recreationally and commercially. The first stock assessment of cowcod in 1999 concluded that catches of cowcod must be significantly reduced to effectively manage the cowcod stock (Butler et al. 1999). In 2001, retention of cowcod was prohibited, and two Cowcod Conservation Areas were created, which prohibited bottom-fishing deeper than 20 fathoms (36 meters) to reduce fishing mortality of cowcod. These two areas were incorporated into the FMP via Amendment 16-3 and established in the

Figure 3.4-2. Habitat Areas of Particular Concern



federal regulation in 2005, formally accepting these areas under the MSFCMA as EFHCAs. The larger Western Cowcod Conservation Area covers 4,200 square miles offshore of the Palos Verdes Peninsula, west of Santa Catalina and San Clemente Islands (Dick and MacCall 2014, CDFW 2019e).

3.4.2. Regulatory Setting

3.4.2.1. Federal

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA), the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) are responsible for implementing the federal ESA. USFWS has jurisdiction over federally listed plants, wildlife, and resident fish, and NMFS has jurisdiction over anadromous fish, marine fish, and marine mammals. USFWS also has a “watch list” of species that are designated species of concern.

Under the ESA, a permit to “take” a listed species is required for any federal action that may harm an individual of that species. Take is defined under ESA Section 9 as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Under federal regulation, take is further defined to include habitat modification or degradation that would be expected to result in death or injury to listed wildlife by substantially impairing essential behavioral patterns, including breeding, feeding, or sheltering. This definition includes impacts that may take a species indirectly and impacts on habitat that supports listed species. Critical habitat is designated for federally listed species, which includes but is not limited to habitat occupied by the listed species or is otherwise essential for its continued existence and recovery.

ESA Section 7 outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species.

ESA Section 10 regulates activities affecting ESA-listed species and their habitats. Section 10 allows issuance of an incidental take permit for actions that may potentially harm an ESA-listed species or designated critical habitat. As stated previously, take can mean a range of activities that harm a listed species, including indirect harm to an ESA-listed species.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (MSFCMA) is the primary law governing marine fisheries management in U.S. federal waters. The MSFCMA was passed in 1976 and encourages “long-term biological and economic sustainability of our nation’s marine fisheries out to 200 nautical miles from shore.” The goals of this act are to prevent overfishing, to rebuild overfished stocks, to increase long-term economic and social benefits, and to ensure a safe and sustainable supply of seafood. Congress has twice made substantial revisions to the Magnuson-Stevens Act, first in 1996 with the passage of the Sustainable Fisheries Act, and in 2007, with the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act. This Act is in place to protect our natural resources, to maximize the possible use of these resources, and to make sure it is done in a safe manner. The Act has the capacity to keep people in check as they use natural resources, and to make sure the resources are used in a responsible manner.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 established a moratorium on the taking of marine mammals in U.S. waters. The Act defines "take" to mean "to hunt, harass, capture, or kill" any marine mammal or to attempt to do so. Exceptions to the moratorium can be made through permitting actions for take that is incidental to commercial fishing and other non-fishing activities, such as for scientific research and for public display at licensed institutions, including aquaria and science centers. Sections 101 and 102 of the MMPA prohibit intentional killing or harassment of marine mammals but allow incidental contact in the course of normal vessel operations.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC § 703 et seq.) enacts the provisions of treaties between the U.S., Great Britain, Mexico, Japan, and the former Soviet Union (now Russia) and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. The Act establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC § 703; 50 CFR § 21 et seq.). Most actions that result in taking or permanent or temporary possession of a protected species constitute violations of the MBTA. The Migratory Bird Permit Memorandum, dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA; exceptions include nests of federally threatened or endangered migratory birds, and bald eagles and golden eagles. USFWS is responsible for overseeing compliance with the MBTA. Most bird species and their occupied nests that occur in the Project area would be protected under the MBTA.

Clean Water Act

The federal Water Pollution Control Act Amendments of 1972 (33 USC § 1251–1376), as amended by the Water Quality Act of 1987, and better known as the Clean Water Act (CWA), is the major federal legislation governing water quality. The purpose of the federal CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into waters of the U.S. are regulated under CWA Section 404. Waters of the U.S. include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed as follows:

- Section 303 requires States to develop water quality standards for inland surface and ocean waters and to submit these standards to the U.S. Environmental Protection Agency (USEPA) for approval. Under Section 303(d), the State is required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- Section 304 provides for water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the U.S. to obtain certification from the State that the discharge will comply with other provisions of the CWA. Certification is provided by the respective Regional Water Quality Control Board (RWQCB). A Section 401 permit from the RWQCB would be required for the Project if a Section 404 permit were required.
- Section 404 provides for issuance of dredge/fill permits by the U.S. Army Corps of Engineers (USACE). Permits typically include conditions to minimize impacts on water quality. Common conditions include: (1) USACE review and approval of sediment quality analysis before dredging, (2) a detailed pre- and

post-construction monitoring plan that includes disposal site monitoring, and (3) required compensation for loss of waters of the U.S. The areas of the Project that are located below mean higher high water (MHHW) would be subject to regulation under Section 404.

Rivers and Harbors Appropriation Act

The Rivers and Harbors Appropriation Act of 1899 (33 USC § 403), commonly known as the Rivers and Harbors Act (R&H), prohibits the construction of any bridge, dam, dike, or causeway over or in navigable waterways of the U.S. without congressional approval. Under R&H Section 10, the USACE is authorized to permit structures in navigable waters. Building or modifying wharves, piers, jetties, and other structures in or over the waters of the coastline requires USACE approval through the Section 10 permit process. When reviewing applications for Section 10 permits, the USACE consults with the USFWS or NMFS for compliance with the ESA when a project may affect a federally listed species.

Coastal Zone Management Act of 1972

The Coastal Zone Management Act (CZMA) was established in recognition of the need to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone" (16 USC § 1451 et seq.). This act is administered by NOAA and provides for the management of coastal resources. In addition, the CZMA was established to "encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources in the coastal zone."

The CZMA includes three national programs, the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Land Conservation Program.

National Marine Sanctuaries Act of 1972

The National Marine Sanctuaries Act (NMSA) designates and protects areas of the marine environment with special national significance due to their "conservation, recreational, ecological, historical, scientific, cultural, archeological, educational, or esthetic qualities as national marine sanctuaries" (16 USC § 1431). Management of national marine sanctuaries is the responsibility of NOAA and the Office of National Marine Sanctuaries (ONMS). ONMS has the authority under the NMSA to issue and regulate activities for each sanctuary and the system as a whole. In 2011, ONMS issued final policy and permit guidance for proposed submarine cables crossing marine sanctuaries (15 CFR § 922). The Channel Islands National Marine Sanctuary is the nearest sanctuary to the proposed Project.

National Invasive Species Act

The National Invasive Species Act (NISA) is intended to prevent invasive species from entering inland waters through ballast water carried by ships. Organisms targeted by NISA are categorized as aquatic nuisance species, including zebra mussels and Eurasian ruffe. NISA authorizes regulation of ballast water, funding for prevention and control, and technical assistance programs to achieve compliance with the regulations.

3.4.2.2. State

California Coastal Act

The California Coastal Act (CCA) of 1976 authorizes the California Coastal Commission (CCC) to administer California's coastal zone management program within the coastal zone for the purposes of compliance with the federal CZMA (Public Resources Code [PRC] § 30008). Goals of the CCA include the following:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of coastal zone resources, taking into account the social and economic needs of the people of the State.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.
- Assure priority for coastal-dependent and coastal-related development over other development on the coast.
- Encourage State and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone. (PRC § 30001.5.)

The CCA established a statewide coastal commission to oversee implementation of the Act's goals and objectives. The Act contains policies that guide local and State decision-makers in the management of coastal and marine resources. Jurisdiction of the CCA is the "coastal zone," which includes land and water in the State from the Oregon border to Mexico, extending seaward to the outer limit of State jurisdiction (3 nautical miles [5.6 kilometers]). Please refer to Figure 3.4-3 for an illustration of the Coastal Zone boundaries within the City of Hermosa Beach relative to the proposed Project's design footprint.

A significant element of the federal CZMA is that the Act gives the CCC regulatory control (federal consistency review authority) over federally permitted activities seaward of the coastal zone if the activity affects coastal resources. That authority essentially extends the authority of the CCC beyond the coastal zone, into federally permitted waters to the outer limit of the continental shelf.

Portions of the CCA relevant to the marine biological resources of the Project are as follows:

> Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes. (CCA § 30230).

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams (CCA § 30231).

Figure 3.4-3. Coastal Zone Boundary

California Endangered Species Act

The California Endangered Species Act (CESA) authorizes the California Fish and Game Commission (Commission) to designate endangered, threatened, and rare species and to regulate the taking of these species (California Fish and Game Code [FGC] § 2050–2098). The CESA defines endangered species as those whose continued existence in California is jeopardized. State-listed threatened species are those not presently facing extinction, but that may become endangered in the foreseeable future. FGC Section 2080 prohibits the taking of State-listed plants and animals. The CDFW also designates fully protected or protected species as those that may not be taken or possessed without a permit from the Commission and/or CDFW. Species designated as fully protected or protected may or may not be listed as endangered or threatened. The CESA does not supersede the federal ESA but is intended to operate in conjunction with it. A species may be listed under both Acts, in which case the provisions of both State and federal laws apply, or under one Act. The CESA does not protect habitat, whereas the federal ESA includes protection of critical habitat.

California Fish and Game Code

The FGC is implemented by the Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. The Commission is responsible, under the provisions of Sections 200-220, for regulating the take of fish and game, not including the taking, processing, or use of fish, mollusks, crustaceans, kelp, or other aquatic plants for commercial purposes. However, the Commission does regulate aspects of commercial fishing, including fish reduction; shellfish cultivation; take of herring, lobster, sea urchins, and abalone; kelp leases; lease of State water bottoms for oyster allotments; aquaculture operations; and other activities. These resource protection responsibilities involve the setting of seasons, bag and size limits, and methods and areas of take, as well as prescribing the terms and conditions under which permits or licenses may be issued or revoked by the CDFW. The Commission also oversees the establishment of wildlife areas and ecological reserves, regulates their use, and sets policy for the CDFW.

FGC Sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the State. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, and falcons), including their nests or eggs. The CDFW is the State agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. The CDFW oversees the management of marine species through several programs, some in coordination with NMFS and other agencies. The Southern California Eelgrass Mitigation Policy (SCEMP) is administered by the USFWS, NMFS, and CDFW. In addition, the CDFW jointly manages (with NMFS) the implementation of the *Caulerpa* Control Policy (CCP), which calls for performance of a survey for *Caulerpa* before any bottom-disturbing activities.

California Ocean Plan

The California Ocean Plan (COP) was adopted by the State Water Resources Control Board in 1972 and has undergone subsequent amendments since. The COP is administered by the State Water Resources Control Board with the purpose of preventing the degradation of marine habitats caused by “point” and ”nonpoint” sources of contaminated discharge to marine waters. The COP sets discharge standards to prevent degradation of marine resources.

Ballast Water Management for Control of Nonindigenous Species Act

The Ballast Water Management for Control of Nonindigenous Species Act granted authority to the California State Lands Commission to regulate ballast water discharges through its Marine Invasive Species Program in conjunction with the CDFW and State Water Resources Control Board (SWRCB), as well as cooperating with the U.S. Coast Guard (USCG) for federal compliance. The Marine Invasive Species Program requires that if vessels do not intend to hold their ballast water, they must perform a ballast water exchange 200 nautical miles from shore when arriving at a California port from outside the Pacific Coast Region, or preform ballast water exchange 50 nautical miles from shore if arriving at a California port from within the Pacific Coast region.

Marine Invasive Species Act

The Marine Invasive Species Act reauthorized and expanded the Ballast Water Management for Control of Nonindigenous Species Act which expanded the scope of the Marine Invasive Species Program to include research, management and policy development related to vessel fouling and ballast water treatment technologies.

3.4.2.3. Local

PLAN Hermosa

PLAN Hermosa serves as the City's Integrated General Plan and Coastal Land Use Plan to guide the City's physical development and to maintain and preserve the City's natural biological resources. Within this plan, coastal policies and standards are incorporated throughout the various elements of the plan. All development activities must consider the effect, and minimize potential impacts, on all wildlife and natural resources within the City.

The following PLAN Hermosa policies related to biological resources are relevant to the proposed Project (City of Hermosa Beach, 2017):

Chapter 2: Land Use and Design

Goal 9: Local energy independence through renewable energy generation.

- **Policy 9.3:** Ecosystem preservation. Ensure that any future proposed offshore activities do not have unacceptable adverse effects on the integrity, stability, and complexity of the marine ecosystem, important marine habitat, and areas important to fisheries, navigation, recreation, and aesthetic enjoyment.

Chapter 5: Parks and Open Space

Goal 9: Coastal and marine habitat resources and wildlife are protected.

- Policy 9.1: Protect critical habitats. Preserve, protect, and improve remaining open space areas to the greatest extent possible to improve on existing limited habitats and further extirpation of species.
- Policy 9.3: Beach Habitat. Ensure beaches can function as a quality habitat for permanent and migratory species.
- Policy 9.5: Minimal activity impacts to habitat. Protect coastal and marine habitats from impacts from maintenance, construction, recreation, and industrial activities.

- Policy 9.6: Tree protection. Protect existing trees and trees copses that may provide temporary or permanent bird habitat and encourage replacement with specimen trees whenever they are lost or removed.

3.4.3. Potential Environmental Impacts

3.4.3.1. Methodology/Approach

Consistent with the requirements of CEQA, the significance of potential impacts is evaluated through the application of the significance criteria described in Section 3.4.3.2, Significance Thresholds. Impacts have been evaluated for the construction, operation, and decommissioning phases of the proposed Project. The objective of the biological resources analysis is to identify potential adverse effects and significant impacts on biological resources. Avoidance is the preferred approach for the management of biological resources but is not always possible. If impacts can be avoided through Project design, establishment of exclusion zones, or other means, then specific mitigation measures may be unnecessary. However, appropriate mitigation measures to avoid or minimize impacts are identified as needed to reduce impacts below a level of significance. The following factors were considered in the analysis of potential impacts:

- The duration, frequency, intensity, and spatial extent of the impact;
- The sensitivity/vulnerability of the habitat;
- Habitat functions that might be altered by the impact; and
- The timing of the impact relative to when species may use or need the habitat.

Direct and indirect impacts on biological resources along the terrestrial portion of the Project would be minor, as construction areas would be very limited in extent (one small landing site, an OBG site, access points for the underground boring along the cable route) and would be located in already disturbed areas.

Direct impacts on marine biological resources may result from vessel operations and through disturbance of soft- and hard-bottom habitats and associated organisms located in the path of the proposed cables during the pre-deployment, installation, and decommissioning phases. Indirect impacts may result in reduction in habitat quality, interference with foraging or impaired growth, diminished reproduction, or interruption of wildlife movement by decreasing marine water quality or releasing contaminants into the water column during installation, as well as potential scouring of hard-bottom habitat following installation. These impacts are further analyzed in the following sections in relation to the significance thresholds discussed below.

3.4.3.2. Significance Thresholds

Based on the findings of the Initial Study, an impact on biological resources would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold BIO-1:** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish & Wildlife Service (USFWS).

- **Threshold BIO-2:** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW, USFWS, or National Marine Fisheries Service (NMFS). Sensitive natural communities are vegetated communities that are listed in the California Natural Diversity Database (CNDDB) due to the rarity of the community in the State or throughout its entire range (globally) (CDFW, 2020).

- **Threshold BIO-3:** Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- **Threshold BIO-4:** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- **Threshold BIO-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy/ordinance.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following threshold:

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to this threshold. The impacts assessment below focuses on Thresholds BIO-1 through BIO-5 identified above.

3.4.3.3. Impact Analysis

Effects on Candidate, Sensitive, or Special-Status Species (Threshold BIO-1)

The terrestrial portion of the proposed Project would be constructed on open, sandy beaches, City streets, the Hermosa Valley Greenbelt ~~(Veterans Parkway),~~, bikeways, residential communities, and commercial properties. Habitat along the proposed terrestrial conduit alignments consists of disturbed, developed, and landscaped areas. Special-status plants have no potential to occur, and most special-status wildlife are unlikely or have a low potential to occur in these areas. However, if the proposed beach OGB site is selected, the Project area would overlap with designated critical habitat for the federally listed western snowy plover. Measures to mitigate potential impacts to less than significant are described under Impact BIO-1.

Although California brown pelican (fully protected in California), black skimmer (California Species of Special Concern), and double-crested cormorant (California Species of Special Concern) are likely to fly over or forage near/within the Project, no nesting or roosting habitat for these species is within or adjacent to Project impact areas. Black skimmers nest on sandy beaches, but the high levels of recreation and beach management disturbance make the Project area unlikely to support nesting. Project activities are not expected to interfere with foraging California brown pelicans, black skimmers, or double-crested cormorants. Impacts on listed shorebirds are also described under Impact BIO-1.

A large portion of the proposed Project's terrestrial conduit would be within the Greenbelt, a regularly maintained green space that is characterized by a mulched trail and benches, and lined with landscaped trees and shrubs. Although comprised predominantly of nonnative and ornamental vegetation, the Greenbelt still can provide habitat to disturbance-tolerant wildlife species that are accustomed to an urbanized setting. Impacts on the Greenbelt are anticipated to be minimal and are described in more detail under Impacts BIO-2 and BIO-6.

Special-status marine species are discussed under "Benthic Communities and Organisms" and "Pelagic Communities and Organisms" below.

Impact BIO-1:	***Project construction/installation and decommissioning may adversely affect western snowy plover and California least tern.***

Western snowy plover and California least tern are known from the region. Western snowy plover is federally listed as threatened and a California Species of Special Concern. If the beach site is chosen for OGB installation, the equipment would be within designated critical habitat (Subunit CA 45D) for this species (USFWS 2012, Figure 3.4-1). California least tern is a State and federally listed endangered species and is Fully Protected in California. Neither of these listed birds are known to nest within 5 miles of the OGB beach location (USFWS 2012, Frost 2016, CDFW 2019a). Based on the level of existing activity on the beach, including routine grooming, recreation, and patrolling, these species are expected to have a low potential to nest in the Project area. During winter, western snowy plovers are known to roost on Hermosa Beach and are regularly observed near the potential beach OGB site (Ryan et al. 2014, Ryan et al. 2017). California least tern may also be present occasionally during winter.

If the OGB is installed under the beach, the equipment would be located approximately 20 feet west of and parallel to the existing wall at The Strand (a pedestrian and bicycle boardwalk along the beach). Upon completion of installation, all construction materials would be removed, and the original top sand would be spread back over the site and groomed to its original condition. Construction/installation activities, including the use of a well-drilling machine, would not be expected to create a substantial source of noise and visual disturbance to any listed bird that may be roosting or foraging in the area. If the work is completed at the beach during the wintering season, snowy plovers or least terns may be present in the general area. Neither species is expected to nest near the Project area. The proposed Project would have a very low potential to directly affect a western snowy plover or California least tern roost site because the Project area is heavily traveled by recreationists and in close proximity to The Strand and beach volleyball courts. Western snowy plovers have been recorded to frequently move their roosting locations in response to heavy human activity (Ryan et al. 2010, Ryan et al. 2017). Therefore, any birds foraging or roosting in the area would move away from any Project disturbance during construction/installation.

The Project would not result in permanent impacts on designated critical habitat or Special Protection Zones. Although the potential terrestrial OGB site on the beach is within western snowy plover critical habitat, disturbance would be temporary, and the existing beach sand surface would be restored to pre-Project conditions following construction. No permanent visible features would remain after construction.

Although Project activities would pose a low risk to western snowy plovers, because they are known to roost near and potentially within the proposed Project site, measures to avoid disturbing roosting snowy plovers would be required. These measures would also minimize potential disturbance to California least terns if present. Mitigation Measure (MM) BIO-1 requires conducting construction/ installation activities at the beach site outside of the western snowy plover roosting season (September through March) to avoid impacts. If activities at the beach site cannot be avoided during the roosting season, MM BIO-1 requires coordination with the USFWS and CDFW, surveys and construction monitoring by a qualified biologist, and exclusion fencing. With implementation of MM BIO-1, the proposed Project would not create a substantial adverse impact on nesting, roosting, or foraging western snowy plovers or California least terns. Impacts would be reduced to less than significant with mitigation (Class II).

Mitigation Measure

BIO-1 **Avoidance of Roosting Western Snowy Plovers or California Least Terns.** To protect nesting birds that may occur adjacent to the Project boundary, CDFW recommends that no construction activities occur from February through September. If the beach Ocean Ground Bed (OGB) site is selected, and beach construction/installation activities must be completed during the roosting season (~~September~~ October through March), a qualified biologist approved by the ~~City~~ California Coastal Commission will contact USFWS and CDFW to determine if the site is within a Special Protection Zone for roosting western snowy plovers. If the beach OGB site is within a Special Protection Zone, construction activities will not be allowed until western snowy plovers are no longer present. If the area is not within a Special Protection Zone, a qualified biologist will survey the beach OGB work area plus a 300-foot buffer for western snowy plovers and California least terns using established protocols. If present, no work will be completed within the 300-foot buffer ~~without coordination~~. The Lead Agency will notify and consult with the CDFW and USFWS if a roost is detected in the Project Area. The buffer may be adjusted by the qualified avian biologist based on existing conditions, planned construction activities, and the behavior of the birds. If western snowy plovers and California least terns are not detected within the 300-foot buffer, work may proceed as long as the qualified biologist is present during all work activities to ensure that western snowy plovers or California least terns are detected should they arrive in the area subsequent to work commencing. The beach OGB site will include fencing/walls that will prevent western snowy plovers or California least terns from entering the work areas. The biologist will conduct daily site visits to ensure that fence/walls are intact until construction activities are finished at the site and all equipment is removed from the beach. The results of the preconstruction survey will be submitted to the City prior to the establishment of the beach OGB site. All biological monitoring efforts will be documented in monthly compliance reports to the City.

Impact BIO-2: Project construction/installation and decommissioning may adversely affect nesting birds.

Native birds could nest in ornamental plantings, on buildings or other structures, or on the ground along the terrestrial cable routes and other work areas. The beach area is subject to ongoing disturbance, making it unlikely that birds would nest along the beach. Nests, nestlings, and eggs of native birds are protected by the Migratory Bird Treaty Act and Fish and Game Code Sections 3503 and 3513.

If present, adult birds would flee from equipment during Project construction/installation. However, nestlings and eggs of ground-nesting birds or birds nesting in ornamental trees, landscaping, or equipment and facilities would be vulnerable to injury or mortality during Project construction. Construction and demolition activities conducted during the nesting season could destroy bird nests, including eggs or nestling birds, or could disturb nesting birds to the point of nest failure. Project activities would be completed in small, localized areas at the landing site and at periodic access points for underground boring. Work at the PFE facility would be entirely within an existing building and would not disturb nesting birds. Outdoor installation activities would be completed within a developed, urbanized area and would be generally consistent with current human activity levels from recreationists, traffic, and other sources of noise and disturbance. Any birds nesting in the Project area are expected to be acclimated to and tolerant of human disturbance, and Project activities are not expected to result in substantial adverse impacts. Nonetheless, noise and vegetation removal in the Greenbelt may result in the loss of nests, eggs, or nestlings without mitigation.

MM BIO-2 requires preconstruction surveys for active nests if construction would be completed on the beach, in the Greenbelt, or adjacent to trees and other landscaping during the nesting season (March 15 to August 31). A 50-foot, no-disturbance buffer would be established around each active nest to minimize potential impacts from vegetation trimming and construction noise. Impacts on nesting birds would be less than significant with implementation of MM BIO-2 (Class II).

Mitigation Measure

BIO-2 **Preconstruction Surveys for Nesting Raptors and Other Birds.** Prior to the commencement of construction, the Applicant shall retain a qualified avian biologist approved by the City of Hermosa Beach to conduct pre-construction surveys for nesting birds within 100 feet of work areas along urban ROWs, on the beach, and along the Greenbelt. The preconstruction survey for active nests will be conducted within 1 week of the start of construction activities if construction activities in these areas would be completed between March 1 and August 31 (the period covering the nesting season for most birds). If an active nest is identified during the survey, a 50-foot (15-meter) buffer zone will be established around the nest to minimize potential impacts on nesting activities from vegetation trimming and construction noise.

The prescribed buffers may be adjusted by the qualified avian biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified avian biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The avian biologist shall be responsible for documenting the results of the surveys, nest buffers implemented, and the results of ongoing monitoring and shall provide a copy of the monitoring reports for impact areas to the City on a monthly basis.

Work is anticipated to be required on the Greenbelt but just behind the curb line of Ardmore Avenue where no vegetation occurs. Therefore, no trees or vegetation are anticipated to be removed or trimmed within the Project area. However, if trees or any existing structures with nests are to be removed as part of Project-related construction activities, they shall be done so outside of the nesting season to avoid impacts on nesting raptors and other birds. If removal during the nesting season cannot be avoided, all trees shall be inspected for active nests by the biologist. If nests are found within these structures and contain eggs or young, no activities within a 50-foot buffer shall be completed until the young have fledged the nest.

Impact BIO-3: Marine mammals may be disturbed by vessel activities or noise.

Vessel Activities

All marine mammals are protected under the Marine Mammal Protection Act (MMPA), which prohibits the harassment or killing of marine mammals. Section 3(18)(A) of the MMPA defines the term "harassment" as any act of pursuit, torment, or annoyance which:

i. has the potential to injure a marine mammal or marine mammal stock in the wild, (Level A harassment), or

ii. has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Seals and sea lions frequently haulout on vessels, particularly when they are moored overnight, in coastal waters. During the nearshore Project work, which includes directional bore operations, cable pulling, and diver post lay burial, a 100- to 200-foot workboat would be anchored for several days, approximately 1 mile from the shoreline. During this time, seals and sea lions may haulout onto the vessel, particularly overnight. California sea lion (*Zalophus californianus*) is the most common species observed hauling out on vessels in southern California (personal observation by Joe Phelan; based on recent experience at the

Wheeler North Reef Phase III Expansion). Harbor seals (*Phoca vitulina richardii*) are also relatively common in the area, although they are less common and typically more timid than sea lions, and so are less likely to haulout.

The Project is located within the geographic range of Guadalupe fur seals (*Arctocephalus townsendii*), listed as 'threatened' under the federal Endangered Species Act. These species may also haulout onto vessels. However, they are not common in the area. Breeding grounds for Guadalupe fur seals are almost entirely on Guadalupe Island, approximately 500 kilometers south of the Project off the Pacific coast of Mexico. Recent re-colonization off the San Benito Archipelago (650 kilometers south of the Project) has also been observed. A small number of Guadalupe fur seals have also been reported birthing pups on San Miguel Islands (170 kilometers west-northwest of Hermosa and Manhattan Beach).

Section 101(a)(4) of the MMPA allows for the non-lethal deterrence of nuisance animals by the owner of a vessel. Implementation of MMs BIO-3, B10-4, and BIO-5 would ensure that no significant impacts on marine mammals would result from workboat operations through the implementation of deterrence measures.

Vessel strikes of large cetaceans, such as blue, fin, humpback, and gray whales, are an ongoing cause of marine mammal mortality (e.g., Redfern et al. 2017). However, most incidents of ship strike to marine mammals involve large ships, such as cargo and tanker vessels. These vessels travel nearly 15 knots and are unable to rapidly alter their speed or direction to avoid a collision with a whale. During the cable-laying process (including initial cable laying, regular maintenance, and decommissioning), the cable-laying vessel would be moving at 2 knots, and therefore, the vessel is unlikely to collide with a marine mammal due to its slow transit speed. Furthermore, the Applicant has committed to compliance with the USEPA voluntary vessel speed reduction program and would limit the vessel speeds to 9 knots during the relocation and transit to the marine workstations. The lower vessel speeds would reduce the potential for collisions with marine mammals.

As discussed above, with implementation of MMs BIO-3, BIO-4, and BIO-5, impacts on marine mammals from vessel activities would be reduced to less than significant (Class II).

Mitigation Measures

BIO-3 **Marine Mammal and Sea Turtle Monitoring During All Vessel Activities.** A biologist familiar with marine mammal and sea turtle behavior will be present on the vessel during all marine cable laying, post-lay burial, inspection activities, and decommissioning that would be required within the continental shelf of California. The biologist will have access to berthing and direct communication with the ship's captain or controlling officer. In the event marine mammals or sea turtles are present in the immediate area of the Project vessels or are approaching the work area such that interactions may occur, the biologist will have the authority to halt vessel operations until any risk of collision has passed. A report documenting the monitoring activities, including the number and type of marine mammals or turtles observed and any avoidance actions required, will be submitted to the U.S. Fish and Wildlife Service ~~City~~ within 30 days of cable-laying operations on the continental shelf.

BIO-4 **Modification of Vessel Operations When Marine Mammals and Sea Turtles Are Present.** If marine mammals or sea turtles are present in the area, the vessels will modify their operations to reduce the potential for collisions.

- Maintain species-appropriate distances from marine mammals and sea turtles (100 yards for whales, 50 yards for sea turtles, seals, sea lions, dolphins, and porpoises).

- When paralleling whales or sea turtles, support vessels will operate at a constant speed that is not faster than the whales or sea turtles that are present within the species-appropriate buffers.
- Female whales will not be separated from their calves.
- Support vessels will not be used to herd or drive whales or sea turtles.
- If a whale or sea turtle engages in evasive or defensive action, Project vessels will drop back until the animal calms or moves out of the area.

BIO-5 **Collision Reporting.** Collisions with marine mammals or sea turtles will be reported to the City within 8 hours and to federal and State agencies pursuant to each agency's reporting procedures. Should a vessel collide with an animal and require assistance (as determined by the on-board biologist), the Applicant shall provide all required funds to ensure the recovery and management of the animal as determined by the responsible agency.

Noise

Noise impacts on marine mammals are not expected to result in adverse effects. Vessel movement and noise during each Project activity (geophysical survey, biological survey, pre-lay grapnel run, cable installation, or decommissioning) have the potential to temporarily disturb marine mammals in the area. Many of the potential impacts, such as disruption of a migration route or increased noise during installation, would last for only a few hours (along the sea route installation) to a few days (at the cable landfall location) in any one location. These effects would not cause substantial disruptions to marine mammals or adversely affect their behavior compared to baseline conditions from normal ship traffic (e.g., noise) through the area (AMS 2015). Although vessel noise could affect the behavior of marine mammals in the immediate area, the impact would not be significant because of the isolated and short-term nature of the noise (Class III).

Effects on Riparian Habitat or Other Sensitive Natural Community (Threshold BIO-2)

Riparian or Other Natural Terrestrial Communities

The terrestrial Project components would be completed entirely within developed and disturbed areas. Although the Greenbelt is an open space park area, the area does not support any native vegetation communities. The proposed OGB on the beach would be located on an unvegetated sandy beach area. This area is heavily used by recreationists and is subject to frequent disturbance from grooming and foot traffic. Riparian or other natural terrestrial communities do not occur in the Project area and would not be affected by the Project; therefore, the Project would result in no impacts on these communities.

Spread of Invasive or Non-Native Marine Organisms

The spread of invasive or non-native marine organisms introduced from vessel ballast water are known to adversely affect marine ecosystems. However, for Project the construction, support vessels would likely be ships of opportunity hired from the region and based out of local harbors, such as the nearby King Harbor. The use of local vessels would not pose a risk or be a potential source of invasive species. The specialized cable-laying vessel and other Project vessels would not be of local origin and may travel from regions across the globe. However, these vessels are required to comply with U.S. Coast Guard regulations regarding ballast water and biofouling (33 CFR § 151). In addition, other federal and State laws exist to help control the introduction of invasive species, including the National Invasive Species Act and the California Ballast Water Management for Control of Nonindigenous Species Act. These require ships entering federal or State waters to comply with their regulations by managing their ballast water. Vessels in State waters are prohibited from discharging their ballast water unless the master has carried out a mid-ocean ballast water exchange or is using environmentally sound alternative shipboard treatment technology. Removal of hull-fouling organisms from the submerged portions of ships is required to be performed at defined intervals (PRC § 71204), which is accomplished either with dry-docking or in-water cleaning. Therefore, measures already exist to minimize and/or avoid potential impacts associated with invasive species. Because the Project is already required to comply with existing measures under federal and State regulations, the Project would result in no impacts related to the spread of invasive or non-native organisms.

Essential Fish Habitat

Potential impacts on Essential Fish Habitat (EFH) are discussed below under Threshold BIO-4 (Migratory Fish or Wildlife Species Movement, Native Resident or Migratory Wildlife Corridors, and Native Wildlife Nursery Sites) – Impact BIO-6. As discussed below, impacts would be less than significant with mitigation (Class II).

Effects on State or Federally Protected Wetlands (Threshold BIO-3)

Impact BIO-4:	***U.S. Coastal Waters would be disturbed by marine cable installation and repair.***

The marine portion of the Project would be located in State and federal waters and is anticipated to require a federal permit from the U.S. Army Corps of Engineers and a certification pursuant to Section 307 (c)(3)(A) of the Coastal Zone Management Act. The Applicant would obtain all applicable permits and would abide by the terms and conditions contained therein to minimize impacts on jurisdictional waters. Compliance with existing regulations requires the Applicant to implement Best Management Practices to reduce the potential for contamination or sediment from entering State or federal waters. These measures include the use of containment devices, implementation of erosion control plans, and routine monitoring and inspection, which would ensure impacts on waters of the U.S. and waters of the State are less than significant (Class III). This topic is also further addressed in Section 3.8, Hydrology and Water Quality.

Effects on Migratory Fish or Wildlife Species Movement, Native Resident or Migratory Wildlife Corridors, and Native Wildlife Nursery Sites (Threshold BIO-4)

The terrestrial portion of the proposed Project would be constructed entirely within developed areas, and the cable routes would be underground. No impacts on terrestrial wildlife movement, wildlife corridors, nursery sites, or passage routes would result from the Project. Impacts on migratory or nesting birds are addressed under Impact BIO-2 and would be reduced to less than significant with mitigation. Therefore, the following discussion of impacts on migratory species is focused on marine species.

Impact BIO-5:	***Migrating gray whales could be disturbed by vessel activities or collision with the cable.***

Vessel Activities

Gray whales migrate through the coastal waters of southern California. They migrate in a northerly direction in the months of February through May, and they migrate south along the southern California coast from August through December. The northerly migration in the spring and early summer months is likely to include mother and calf pairs. Gray whales are protected under the Marine Mammal Protection Act from harassment (see discussion for Impact BIO-3 above).

Nearshore portions of work have the potential top result in interactions with gray whales and the crew boat as it transports the construction crew to the moored workboat. Although these animals regularly transit through areas with numerous other vessels successfully each year, a small risk of vessel collisions with marine mammals and sea turtles remains. Any collisions with marine mammals or sea turtles would be considered a significant impact. To reduce the potential for collisions, MMs BIO-3 through BIO-5 above would be implemented to require monitoring by a qualified biologist and modification of vessel operations when marine mammals and sea turtles are present. If a marine mammal or sea turtle is observed, the crew boat shall verify their speed/course to ensure they do not disturb the animals and maintain a minimum distance of 100 yards. In addition, the measures require reporting any collisions to the appropriate federal and State agencies. Implementation of these measures would reduce the potential for collision impacts on gray whales, other marine mammals, and sea turtles to less than significant (Class II).

Mitigation Measures

BIO-3 **Marine Mammal and Sea Turtle Monitoring During All Vessel Activities.** See above for the full text of this measure.

BIO-4 **Modification of Vessel Operations When Marine Mammals and Sea Turtles Are Present.** See above for the full text of this measure.

BIO-5 **Collision Reporting.** See above for the full text of this measure.

Entanglement with Suspended Cables

Of the 11 known commercial fiber-optic cable landings in coastal California waters installed since 2000, no entanglements between whales and fiber-optic cables are known or have been reported (AMS 2015). While a small risk of marine mammal entanglement remains, unlike fishing nets and other fishing gear, which are known to entangle animals, fiber-optic cables are thicker (approximately 2 inches [5 centimeters] in diameter) and consist of a single strand, which reduces the likelihood of entanglement (Read et al. 2006). In addition, the cable would be laid across the seafloor. In nearshore areas, the cable would be buried along most of the route. In hardbottom areas, the cable would have a very low profile (e.g., 1 to several inches). Also, cable slack would be stabilized at a level within the range of 2 to 3 percent in areas where the cable cannot be buried, to ensure that the cable conforms to the slopes and peaks of the seabed so that it is not suspended substantially (e.g., more than 1 foot) above the bottom. This would prevent any spans from developing that could potentially entangle marine mammals or impede movement (e.g., whales). Therefore, potential impacts would be considered less than significant (Class III).

Impact BIO-6:	***Pacific Groundfish Essential Fish Habitat (EFH) would be disturbed due to marine cable installation and repair.***

The proposed cable route passes across a narrow northern portion of the Western Cowcod Conservation Area. The cable route also passes through designated rocky reef Essential Fish Habitat (EFH) and Pacific groundfish EFH. The areas where the cable route passes through these areas are outside State waters. The following sections discuss the potential impacts of disturbance to these EFHs from the Project.

Rocky Reef EFH

Direct disturbance to hard-bottom communities may result from the pre-lay grapnel run, sea-plow, and remotely operated vehicle (ROV) activities. These hard-bottom habitat areas may contain higher diversity and abundance per unit area than soft-bottom habitats, and species within rocky reef habitats may take several years to recover, particularly in deepwater habitats. By comparison, direct disturbance to soft-bottom benthic communities during the pre-lay grapnel run, sea-plow, and ROV activities can be expected to fully recover in months (Merkel and Associates 2010 cited in Aspen 2015). These effects would result from the Project over a very small area, relative to the extent of this habitat in the Southern California Bight.

Direct impacts may also result from increased turbidity. These effects would result from sediments that become suspended in the water column during the pre-lay grapnel run, sea-plow, and ROV activities and could result in short term declines in water quality and some minor smothering of soft-bottom communities. Sediments may contain contaminants that could cause additional damage to marine benthic organisms and associated fishes. This could result in indirect disturbance of these communities. These effects would result from the Project over a very small area relative to the extent of this habitat.

Impacts on hard-bottom communities are more severe than soft-bottom communities. The biota associated with hard-substrate habitat is predominantly sessile, slow growing, and susceptible to crushing, dislodgement, and other physical disturbances. High-relief hard-bottom habitat typically harbors a higher number and diversity of erect, branching forms of invertebrates. These include crinoids, gorgonians, and erect sponges. These invertebrates in turn provide structural habitat for fishes and their prey. As a result, rocky reef communities are diverse and abundant areas compared to most soft sediment habitats. Recovery of disturbed areas by immigration, asexual propagation, or larval recruitment should begin within months of the disturbance, although a study performed in the Point Arguello area suggests that the small areas of hard bottom habitat that might be disturbed by cable-laying operations could take years to recover (AMS 2015). The estimated mean time for recovery in areas disturbed by dragging anchors during pipe-laying operations was 23 years for the solitary cup coral (*Paracyathus stearnsi*) and 19 years for the red gorgonian (*Leptogorgia chilensis*) (Aspen 2015).

The erect nature of these benthic invertebrates makes them particularly vulnerable to damage from the cable-laying process, as they are easily broken off when cables or cable-laying equipment (e.g., an ROV) sweep across or land on top of these areas. Methods and equipment used to install undersea cables have improved over the years to greatly reduce horizontal movement during installation. Aspen (2015) assumed an impact width of 0.25 feet (3 inches; 7.6 centimeters) for the MC GLOBAL BP4 Transpacific Fiber-Optic Cables Project caused by side-to-side (lateral) movement of the cable during deployment. The cable cannot be buried in hard-bottom habitat areas and would be laid on top of rocky substrate. The cable could move side-to-side (lateral movement) due to currents or wave swell, and this may result in persistent impacts on these areas as the cable moves with the current. However, according to Carter et al. (2009), studies that have compared communities adjacent to cables and communities not adjacent to cables have failed to observe differences, suggesting cable movements after installation have a negligible effect on seabed communities.

Repairing damaged cables requires the recovery of cable section by deploying a grapnel hook. This hook is deployed from the surface and dragged across the seabed to acquire the cable and haul it aboard the boat where it can be repaired by splicing in a new cable. The process of grapnel hooking the cable is likely to damage hard-bottom communities if the hook is pulled across a reef. If the cable is dragged across a reef as it is pulled by a grapnel hook, then the cable itself may damage the reef community. A cable pulled laterally across a reef may result in more damage than a grapnel hook because of the lateral sweeping action of the cable as it is dragged sideways across the habitat.

The bathymetry of the area crossed by the proposed routes and observations from previous fiber optic projects indicate that complete avoidance of hard-bottom substrate and high-relief, hard-bottom substrate is not possible. However, all efforts would be made to avoid as many areas of high-relief, hard-bottom substrate as possible, especially those areas that constitute rocky reef EFH. In particular, the current cable corridor appears to pass through an area of designated rocky reef EFH in the middle of Santa Monica Bay. Surveys of the area available via the National Oceanic and Atmospheric Administration (NOAA) Deep-Sea Coral and Sponge Portal indicates that these areas of rocky reef contain gorgonians, sponges and *Lophelia* spp. branching corals. An ROV survey of the seabed for a previous cable project in the area (AMS 2016) focused on a cable-laying corridor to the south of the proposed route that more closely follows the northern rim of the Redondo Canyon. This area does not include designated rocky reef habitat, and very little high relief rocky reef was observed by the ROV. With the implementation of MMs BIO-6 and BIO-7, impacts on rocky reef EFH will be less than significant (Class II).

Mitigation Measures

BIO-6 **Minimized Crossing of Hard-Bottom Substrate Communities.** The proposed cable routes will be set to minimize crossing of high-relief rocky outcroppings. Sections that cross high-relief rocky outcroppings that may have suitable habitat for sensitive species and communities (e.g., deep-sea coral communities, chemoautotrophic communities) will be identified during geophysical surveys. Attempts will be made to adjust the cable alignment within boundaries of the surveyed route to avoid or reduce crossing these habitats. The Applicant will include in the burial report a detailed account of all hard-bottom substrate communities crossed during the cable-laying activities, including the measures taken to reduce and/or minimize the amount crossed.

To avoid the damage caused to hard-bottom habitats and communities during cable repairs, grapnel hooks should be deployed on soft sediment habitat and far enough away from these areas, such that there is limited risk of dragging the cable across habitat whenever feasible.

BIO-7 **Compensation to Hard Bottom Mitigation Fund.** The following mitigation shall be applied for damage to slow-growing, hard-bottom organisms.

- Areas of impact will be limited to the width of the cable and a narrow area around the cable, for an approximate total width of 20 feet (6.1 centimeters).
- California Coastal Commission (CCC) compensation fees (based on past projects) will be required that fund the University of California, Davis (UC Davis) Wildlife Health Center's California Lost Fishing Gear Recovery Project, or other conservation programs at $100,000 per 5,500 square feet of high-relief, in response to the hard-bottom substrate impacts from the Project.

A final determination of the amount of high-relief, hard-bottom substrate affected (used to calculate the total compensation fee) will be determined 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 ~~City~~ California Coastal Commission for their review and approval. The City will also be provided with documentation of the total amount of mitigation paid, and the activities for which the funds will be used.

Soft Sediment EFH

Soft sediment habitat is also included in the Pacific Coast Groundfish Fishery Management Plan (PCG FMP) as EFH. However, this habitat is included under the general description: "Depths less than or equal to 3,500 m to MHW". This is noted within the PCG FMP as a "precautionary" designation because it does not take into account the considerable variation in life history and habitat used by the 80 plus species of groundfish that are covered in the FMP. Subsequently, this designation should be considered a less strict constraint on the degree to which a project could affect the habitat type in relation to the magnitude of effect.

The use of a cable plow to create a temporary furrow along the seafloor into which the fiber-optic cable is placed and immediately buried would result in a temporary disturbance of benthic infauna (animals living in the sediments of the seafloor) and epifauna (animals living on the surface of the seafloor). Possible effects to sessile, less mobile organisms would also include temporary burial by relocated sediment during cable plow operation and possible crushing or dislodgement. Similar to benthic infauna, recovery can typically be expected within a year. Because of the relatively small area of disturbance, no effect on the general productivity of the area would be expected. The actual area of disturbance is estimated to be less than 8 meters wide, the size of the plow itself, with the most severe effects being limited to the 3.3-foot (1 meter)-wide trench. Most mobile invertebrates and fish can be expected to avoid the plow and return to the area shortly after the plow has left. Any benthic infauna inhabiting the upper biotic sediment layers disturbed by the plow and then replaced into the furrow on top of the cable can be assumed to be smothered and killed.

The proportion of this habitat affected by the cable corridor is so small as to be negligible. As one means of comparison, a conservative estimate of the size of Santa Monica Bay is about 226.5 square miles, and the majority of the Bay's seafloor consists of soft sediments. The total distance of the Project's longest proposed marine cable route across the Bay is 11.6 miles, which would result in a direct impact on about 202,118 square feet (3.3 feet wide by 11.6 miles long) of the seafloor, or 0.0032 percent of the Bay's bottom area. In addition to being a relatively small area of disturbance, the benthic infauna that would be affected in the soft-bottom areas are common species that would readily repopulate the disturbed area after the cable is laid. During the 2007 ROV survey of the AAG S-5 cable route, several other buried telecommunications cables were crossed. No detectable differences in benthic macrofauna were noticeable at these locations. At one cable crossing, a slight depression in the seafloor was detected (Aspen 2015).

In any coarse sand, shallow water areas of a cable route where divers or ROVs are typically used to bury the cable, the disturbance is expected to be similar to the deeper finer sediment areas of the route where a cable plow is used. In the very nearshore areas of the route, in water depths less than 100 feet (30 meters), the seafloor and associated biota experience frequent and regular disturbance from wave action. As a result of this high-energy, constantly changing environment, the associated biological community has adapted to frequent exposure and burial. The infaunal community is typically limited in species diversity and consists primarily of filter feeders (e.g., tube worms, sand dollars, sand anemones) and detrital feeders (e.g., shrimp and crabs). Most of these species are highly mobile and would either avoid the plow or quickly re-colonize the site post disturbance. Because of these factors, any effects to the habitat and associated biota would be undetectable within a few days or months of cable installation. Furthermore, the cable would be buried in soft sediment seabed, and therefore, lateral movement during operation would presumably not be required in these areas. Therefore, impacts would be less than significant (Class III).

Compliance with Local Policies or Ordinances Protecting Biological Resources (Threshold BIO-5)

Impact BIO-7:	***Project construction/installation and decommissioning may conflict with local policies protecting biological resources.***

Construction/Installation

PLAN Hermosa, the City's General Plan and Local Coastal Land Use Plan, is intended to guide the City's physical development, as well as to maintain and preserve the City's natural biological resources. Specific to PLAN Hermosa are requirements for the protection of coastal and marine habitat resources, urban forests, wildlife, special-status species, native plants, beach areas, and the Santa Monica Bay watershed. In addition, projects conducted in the City must comply with State and federal requirements. PLAN Hermosa also identifies requirements for conducting site specific biological evaluations and field observations to identify environmentally sensitive habitat areas (ESHA) and other sensitive resources, and where needed, to mitigate for unavoidable impacts per the PLAN Hermosa document.

Construction of the proposed Project has the potential to result in temporary disturbance to native wildlife and to temporarily degrade habitat conditions along the beach and Hermosa Valley Greenbelt ~~(Veterans Parkway).~~. Construction activities may also temporarily disrupt bird use.

The terrestrial portion of the proposed Project would be in developed rights-of-way within the City of Hermosa Beach, and the beach OGB location could be on sand that is regularly subject to disturbance associated with heavy recreational use. Additionally, this portion of the beach overlaps with designated critical habitat for the western snowy plover. Conduit installation could disturb areas at the beach, along developed ROWs, and along the Greenbelt that provide habitat for common and some sensitive wildlife species, which are protected under PLAN Hermosa.

The Project would comply with Land Use and Design Policies and Parks and Open Space Policies in the PLAN Hermosa document through the implementation of MMs BIO-1 through BIO-7 (discussed above). MMs BIO-1 through BIO-5 require pre-construction surveys and monitoring for western snowy plovers and least terns, monitoring for nesting birds, and avoidance measures for marine mammals and sea turtles. In addition, MMs BIO-6 and BIO-7 include measures that would reduce and minimize direct impacts on hard bottom areas. Implementation of these measures would reduce impacts to less than significant and would ensure that the Project is consistent with the requirements of PLAN Hermosa (Class II).

Mitigation Measures

BIO-1 **Avoidance of Roosting Western Snowy Plovers or California Least Terns.** See above for the full text of this measure.

BIO-2 **Preconstruction Surveys for Nesting Raptors and Other Birds.** See above for the full text of this measure.

BIO-3 **Marine Mammal and Sea Turtle Monitoring During All Vessel Activities.** See above for the full text of this measure.

BIO-4 **Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present.** See above for the full text of this measure.

BIO-5 **Collision Reporting.** See above for the full text of this measure.

BIO-6 **Minimized Crossing of Hard-Bottom Substrate Communities.** See above for the full text of this measure.

BIO-7 **Compensation to Hard Bottom Mitigation Fund.** See above for the full text of this measure.

Decommissioning

Upon retirement of the Project, the Applicant's intent is to abandon the terrestrial cable systems in place, meaning the cables would not be removed (see Section 2.7, Retirement, Abandonment, or Removal of the Cable Systems). If the cables are completely abandoned in place, no impacts on biological resources would result from the decommissioning phase. If the terrestrial cable is removed from the buried conduit as part of the retirement of the Project, a truck with a reel puller would be used to pull the terrestrial cable from the existing manhole locations. This activity is not expected to disrupt local wildlife or result in substantial impacts on biological resources; therefore, impacts would be less than significant (Class III).

3.4.3.4. Cumulative Effects

Introduction

The region of influence for cumulative impacts on biological resources varies by resource. Terrestrial Project impacts on biological resources would be minor and localized within an urban environment. However, the marine Project components would have greater and farther-reaching impacts on biological resources, and therefore the geographical scope for the marine portion of the Project is substantially wider.

Geographic Scope for Cumulative Effects on Terrestrial Biological Resources. For the terrestrial portion of the proposed Project, the geographical scope for analysis includes the potential beach OGB site, underground cable routes, and the existing PFE facility with a 500-foot buffer. Beyond 500 feet, impacts from the proposed Project are not expected to combine with any other projects' impacts because the proposed Project's impacts are limited to noise and other direct disturbance within the immediate vicinity of construction activity. No permanent habitat loss would result from the Project.

Geographic Scope for Cumulative Effects on Marine Biological Resources. The geographical extent for considering the cumulative effects of the proposed Project and other projects within the marine environment encompasses the nearshore coastal area from the Palos Verdes Peninsula to Malibu Beach.

Project Contribution to Cumulative Impacts

None of the cumulative projects are expected to have marine construction activities that would coincide with those of the proposed Project; therefore, only minimal, if any, cumulative impacts on marine biological resources are anticipated. The closest cumulative projects consist of housing remodels, commercial development, hotels, and other buildings. Impacts on terrestrial biological resources would be similar to those of the proposed Project and would be limited to disturbance to common birds nesting within the urban environment and possibly displacement of common urban-adapted wildlife species. However, even if construction activities would overlap with construction/installation or operational maintenance activities of the Project, the cumulative projects are not close enough to the terrestrial work areas to overlap with Project activities and to substantially contribute to cumulative impacts on biological resources. In addition, MMs BIO-1 through BIO-7 would be implemented to further reduce any of the Project's contribution to cumulative impacts on both marine and terrestrial biological resources. Therefore, impacts would not be cumulatively considerable.

3.4.3.5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Biological Resources

Table 3.4-3, below, provides a summary of the Project's impacts related to biological resources. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.4-3. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Biological Resources

Impact	Mitigation Measures	Significance Conclusion
Threshold BIO-1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish & Wildlife Service (USFWS).		

Impact	Mitigation Measures	Significance Conclusion
Impact BIO-1: Project construction/ installation and decommissioning may adversely affect western snowy plover and California least tern.	BIO-1 Avoidance of Roosting Western Snowy Plovers or California Least Terns	Class II
Impact BIO-2: Project construction/ installation and decommissioning may adversely affect nesting birds.	BIO-2 Preconstruction Surveys for Nesting Raptors and Other Birds	Class II
Impact BIO-3: Marine mammals may be disturbed by vessel activities or noise.	BIO-3 Marine Mammal and Sea Turtle Monitoring During All Vessel Activities BIO-4 Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present BIO-5 Collision Reporting	Class II (Vessel Activities)
	None required	Class III (Noise)
Threshold BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW, USFWS, or National Marine Fisheries Service (NMFS). Sensitive natural communities are vegetated communities that are listed in the California Natural Diversity Database (CNDDB) due to the rarity of the community in the State or throughout its entire range (globally) (CDFW, 2020).		
Refer to Impact BIO-6 below.	BIO-6 Minimized Crossing of Hard-Bottom Substrate Communities BIO-7 Compensation to Hard Bottom Mitigation Fund	Class II
Threshold BIO-3: Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.		
Impact BIO-4: U.S. Coastal Waters would be disturbed by marine cable installation and repair.	None required	Class III
Threshold BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.		
Impact BIO-5: Migrating Gray whales could be disturbed by vessel activities or collision with the cable.	BIO-3 Marine Mammal and Sea Turtle Monitoring During All Vessel Activities BIO-4 Modification of Vessel Operations When Marine Mammals and Sea Turtles Are Present BIO-5 Collision Reporting	Class II (Vessel Activities)
	None required	Class III (Entanglement with Suspended Cables)
Impact BIO-6: Pacific Groundfish Essential Fish Habitat (EFH) would be disturbed due to marine cable installation and repair.	BIO-6 Minimized Crossing of Hard-Bottom Substrate Communities BIO-7 Compensation to Hard Bottom Mitigation Fund	Class II (Rocky Reef EFH)

Impact	Mitigation Measures	Significance Conclusion
	None required	Class III (Soft Sediment EFH)
Threshold BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy/ordinance.		
Impact BIO-7: Project construction/ installation and decommissioning may conflict with local policies protecting biological resources.	BIO-1 through BIO-7 (see above)	Class II (Construction/ Installation)
	None required	Class III (Decommissioning)
Cumulative Effects	BIO-1 through BIO-7 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant**. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant**. A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant**. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact**. Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.4.4. References

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3.5. Cultural and Tribal Cultural Resources

Cultural resources can reflect the history, diversity, and culture of the region and people who created them. They are unique in that they are often the only remaining evidence of activity that occurred in the past. Cultural resources can be natural or built, purposeful or accidental, physical or intangible. They encompass archaeological, traditional, and built-environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Cultural resources include sites of important events, traditional cultural places and sacred sites, and places associated with an important person. In the submerged environment, including offshore and nearshore areas, cultural resources are found in the form of shipwrecks, sunken and abandoned boats, failed wharves and docks, their remnant pilings and support structures, shipways, and the remains of various types of maritime-related industries. Cultural resources may be present in the Project area, both in terrestrial and marine contexts that could be affected by development without adequate protections in place.

Tribal Cultural Resources are the sites, features, places, cultural landscapes, sacred places, and objects with cultural value to California Native American tribes that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR or California Register) or included in a local register of historical resources. As discussed in Section 3.5.3.1 below, Native American tribes were contacted with requests to provide information on such resources within the Project area.

Information for this analysis was gathered from the California Shipwreck Inventory and archival maritime-related resources. The following reports were also used for the cultural resources analysis:

- RTI-I Transpacific Fiber-Optic Cables Project Initial Study, City of Hermosa Beach (Aspen 2019);
- Marine Archaeological Survey Report, RTI-New Zealand Transpacific Fiber Optic Cable System (Macfarlane 2018);
- Marine Archaeological Survey Report, SEA-US Transpacific Fiber Optic Cable System (Macfarlane 2016a);
- Underwater Cultural Resources Avoidance Plan for SEA-US Submarine Cable Network Route Offshore Hermosa Beach, Los Angeles County, California (Macfarlane 2016b);
- Marine Archaeological Survey Report, Jupiter Transpacific Fiber Optic Cable System (Macfarlane 2016c); and
- MC Global BP4 Transpacific Fiber-Optic Cables Project Final EIR (City of Hermosa Beach 2016).

3.5.1. Environmental Setting

Hermosa Beach is located along the Santa Monica Bay, a large concave portion of the coast that has extensive sandy beaches. In Santa Monica Bay, the continental shelf varies from less than 1.3 miles (2 kilometers) wide at Point Mugu on the north and Palos Verdes on the south, to a maximum of 12.4 miles (20 kilometers) wide in the middle (MMS 1987:55). The Project area lies within what may have been the exposed continental shelf circa 18,000 years ago (Johnson 1983 in MMS 1987:55). Three submarine canyons – Dume, Santa Monica, and Redondo – cut into the shelf. Redondo and Dume reach to within 0.5 kilometer (0.3 mile) of the shore. On the shelf leading into Redondo Canyon, three large, buried channels were backfilled with sediments approximately 12,000 years ago (Osborne et al. 1980). Fluctuations in sea level at that time resulted in the complex wave-cut platform that is seen in Santa Monica Bay today (Nardin et al. 1981). The only outcrops in this area are in the walls of the submarine canyons, on the outer shelf off Santa Monica, and at the rocky foreshores of the Palos Verdes Peninsula and the Point Dume headland (MMS 1987:57). The proposed Project's marine cable routes traverse coastal submerged lands within the City's jurisdiction (mean high tide line to 3 nautical miles [3.5 statute miles or 5.6 kilometers] offshore) and the offshore waters above the continental shelf (from 3 nautical miles [3.5 statute miles or

5.6 kilometers] offshore to a distance where the seawater depth is approximately 5,904 feet [1,800 meters] or about 151 nautical miles [174 statute miles or 280 kilometers] offshore).

3.5.1.1. Study Area

The study area for marine cultural resources includes the four potential cable routes and a 10-nautical mile buffer encompassing each route, beginning at the mean high tide line of Hermosa Beach in Santa Monica Bay at either the onshore landing site at 6th Street or the optional onshore landing site at 10th Street. The broad-scale buffer allows for inaccuracies inherent in the reported locations of historic shipwrecks. The buffers around each route have some overlap. The study includes marine areas within California's jurisdiction, as well as marine areas under federal jurisdiction on the continental shelf where the submarine cables would be buried to the extent feasible. The continental shelf in this study includes areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). The proposed cable routes cross Santa Monica Bay and several offshore basins, ridges, and escarpments located on the California Borderland before reaching the edge of the outer continental shelf (E&E 2001), the location of which is variable, with a maximum distance of approximately 151 nautical miles (174 statute miles or 280 kilometers) offshore in the study area.

The study area for terrestrial cultural resources includes the proposed location of a buried terrestrial conduit system. The conduit would be installed using trenchless construction within public street rights-of-way to connect the landing facilities at either 6th Street or 10th Street to the existing power feed equipment (PFE) facility located in the Hermosa Pavilion at 1601 Pacific Coast Highway, Hermosa Beach.

3.5.1.2. Prehistoric Setting

At the height of the Wisconsin glaciation, approximately 18,000 to 24,000 years ago, the sea level was as much as 394 feet (120 meters, 66 fathoms) below its present altitude (Milliman & Emory 1968). At that time, the former California shoreline was near the edge of the continental shelf, approximately 6 nautical miles offshore from the present shoreline within the study area.

Human populations have occupied the California coast for at least the past 13,000 years and enjoyed the products of the littoral zone for much of that time (Jones 1992). Sea level, 11,000 years ago, was at about 151 feet (46 meters, 25 fathoms) below present level. Prehistoric occupation sites as far out as what is now the continental shelf are reasonably assumed to have been abandoned, as they were inundated by the rising sea level during the Holocene transgression (Nardin et al. 1981, Richards 1971, Bloom 1977). Former estuaries, bay mouth bars, tombolos, and backshore beaches, as well as nearby bluffs, would be sensitive locations for offshore prehistoric archaeological sites.

Prehistoric sites on the paleo landscape of the outer continental shelf would have been subjected to the erosive effects of water as rising sea levels advanced the shoreline of the Pacific Ocean to the east. Nevertheless, the study area has the potential for as yet undiscovered prehistoric archaeological deposits. Zones within the study area of moderate to high potential for such deposits are highly localized, and identification of these localities would require a sophisticated analysis of the pre-submergence landscape within the study area, and modeling of subsequent conditions of submergence and rate of deposition throughout the marine transgression.

The culture-historical chronological sequence for the Project area consists of four major periods: the Pleistocene-Holocene Transition (14,000 to 10,000 years before present [B.P.]); Early Holocene (10,000 to 7,000 years B.P.); Middle Holocene (7,000 to 4,000 years B.P.); and Late Holocene (4,000 to 200 years B.P.). Years B.P. is a time scale to specify when events occurred relative to the origin of practical radiocarbon dating in the 1950s; because "present" time changes, standard practice is to use January 1, 1950 as the commencement date of the age scale.

Humans arrived in what is now California prior to the shift between the late Pleistocene and early Holocene, approximately 12,000 years B.P. This interval of time is also called the **Paleo-Indian Period**. During this period, the climate became progressively warmer and wetter, and most of California's megafauna, including mammoths, bison, horses, and ground sloths, became extinct. Archaeological evidence from the Pleistocene-Holocene Transition is scarce and usually only dated by the presence of diagnostic artifacts, such as fluted Clovis projectile points and crescent-shaped flaked stone tools. Resources that date to the earliest portion of this period are located primarily near the coast (Erlandson et al. 2007, Rondeau et al. 2007). At this time, sea levels were at least 164 feet (50 meters) lower than the present day, so what is now the Santa Monica Bay was a broad coastal plain with rocky shores and a water course running through what is now the Redondo Submarine Canyon (Masters and Aiello 2007).

The **Early Holocene** (10,000 to 7,000 years B.P.) was characterized by warming temperatures, rising sea levels, and shifting environments. Large, precipitation-fed lakes covered areas of the California deserts and valleys, providing rich hunting grounds for people during the Early Holocene. These lakes and the wetlands surrounding them began to dry out during this period. In the Early Holocene, people focused on the exploitation of small game, waterfowl, and freshwater shellfish found around lakes and wetlands, especially in the Mojave Desert in southeastern California. This is the time that the earliest tools for processing starchy plant foods appeared, consisting of a flat stone slab (millingslab) and a stone used to pulverize the plant material (handstone). These tools were likely used for grinding grass seeds into flour. In some areas near the end of this period, people increasingly ate acorns as their staple food and lived in year-round settlements, a pattern characteristic of the Middle and Late Holocene.

The **Middle Holocene** (7,000 to 4,000 years B.P.) was warmer and drier than the periods before or after it, continuing the environmental shift across much of California. Throughout this period, a high dependence on plant foods is indicated by a profusion of stone milling tools. Cobble mortars and pestles appeared at the end of the Early Holocene but became more common between 6,000 and 5,000 years B.P., implying a greater reliance on acorns in the diet (Arnold and Walsh 2010, Jones and Klar 2007). Small game, such as rabbits and quail, appears to have been important as well, leading to a reduction in the size of projectile points used (Arnold and Walsh 2010). The Millingstone Tradition of the Southern Coast consisted of seasonally mobile groups that relied heavily on plant and near-shore marine resources. The olivella shell bead trade appears during this period and signals the beginning of long-distance trade networks (Glassow et al. 2007). During this period (around 5,000 years B.P.), sea levels ceased to rise at approximately the location of the modern coast. In addition, dunes formed in what is now Hermosa Beach (Masters and Aiello 2007).

The **Late Holocene** (4,000 to 200 years B.P.) was the period where the environment and human cultures settled into the pattern that was recorded at the time of European contact. Sea levels stabilized at modern levels, and the climate became cooler and wetter, with the exception of a severely hot and dry period between approximately 1,150 to 650 years B.P. (Arnold and Walsh 2010). This climatic disruption led to technological and sociocultural changes in many regions. By this period, Native Californians appeared to have been engaged in widespread environmental management using tools, such as controlled burning, resulting in larger harvests and an increase in small and large game animals, such as rabbits and deer (Arnold and Walsh 2010). Year-round settlement increased, accompanied by more complicated religions, governments, and economies. Territoriality appears to have increased, leading to greater intergroup violence in some areas. Regional exchange networks spread, linking much of the State with eastern Oregon, Nevada, Utah, and Arizona through the trade of olivella, dentalia, and clamshell beads. By the time of sustained European contact at the end of the 18th century, at least 300,000 Native Californians organized into over 600 social groups, known as tribelets (Arnold and Walsh 2010).

3.5.1.3. Historic Setting

Terrestrial History

The terrestrial history of California has traditionally been divided into three historical periods: the Spanish Period (1769–1821), the Mexican Period (1821–1848), and the American Period (1848 to present). During the **Spanish Period** (1769–1821) from the time of the overland Portolá expedition until the culmination of the Mexican War of Independence, the Hermosa Beach area was a portion of Rancho San Pedro, but likely experienced little Spanish presence, other than possibly cattle grazing. The area was a considerable distance from the centers of population and commerce. The Pueblo de los Angeles was 15 miles to the north-northeast, Mission San Gabriel was about 22 miles to the northeast, Mission San Fernando was about 28 miles to the north, and Mission San Juan Capistrano was about 48 miles to the southeast (Clark and Archer 2014).

The **Mexican Period** (1821–1848) began at the end of the Mexican War of Independence in 1821. The missions continued to operate as under Spanish control until 1833 when the Secularization Act was passed. This Act withdrew ownership of the mission lands from the Catholic Church, putting their extensive holdings into private hands. While the lands were supposed to go to the Native Californian neophytes, most were either granted away as ranchos to prominent and wealthy families of Mexico and to reward soldiers for their service during the revolution. The number of ranchos increased from 30 to over 450 by 1845. Hermosa Beach was part of the *Rancho Sausal Redondo* Mexican land grant, established in 1837.

The **American Period** (1848 to present) began with the end of the Mexican-American War and the ceding of California to the United States (U.S.). The discovery of gold in 1848 began the mass influx of immigrants to the region and quickly ushered in statehood by 1850. The initial influx of immigrants from eastern portions of the continental U.S. was limited by the distance and hazardous journey to reach California. The first Transcontinental Railroad was completed in 1869 and ushered in an era of increased immigration. This mass immigration westward only increased in the 20th century with the completion of transcontinental highways, such as Route 66.

History of Hermosa Beach

The land upon which Hermosa Beach resides was historically part of the *Rancho Sausal Redondo* (translated as "round clump of willows") land grant given in 1822 by the King of Spain, via Captain Jose Arrega – the Comandante of Santa Barbara – to Antonio Ygnacio Avila. Upon Avila's passing in 1858, the land was sold by his heirs. By the late 1800s, much of the Rancho was owned by a Canadian, Daniel Freeman, who grew barley for livestock grazing.

The Hermosa Beach Land and Water Company was organized by Moses Sherman and Eli P. Clark on 1,500 acres of the former Sausal Redondo rancho, which they had purchased in 1900 for $35 per acre. That same year, the selling agents – Burbank and Baker – subdivided what would become Hermosa Beach. The City's first residents would move to the area in 1901. Also in 1901, the first official citywide survey was undertaken, establishing the locations of the City's wooden boardwalk, in addition to Hermosa and Santa Fe Avenues. The boardwalk was eventually repaved in concrete and became known as The Strand by 1914 (Miller et al. 2005:20). The first Hermosa Beach Pier was constructed in 1904 and lasted until storms destroyed the pier in 1913. The City of Hermosa Beach was formally created on January 14, 1907. During these early years, Hermosa Beach developed as a seaside resort town, with numerous small cottages and bungalows.

Commercial development began around 1908 at the corner of Hermosa and Pier Avenues with the Morse and Morse general store. The intersection remains a primary commercial node in the City. During this period, grazing gave way to carnation growing as an early local cottage industry (Miller et al. 2005:17). Poultry, vegetable, and truck farms were also common across the South Bay, including in Hermosa Beach (Miller et al. 2005:41).

In 1914, the Marina Del Rey to Redondo line of the Los Angeles Pacific Railway was sold to Henry Huntington and his company, Pacific Electric, which operated the ubiquitous "Red Car" light rail system. Red Car service would continue until 1939 within Hermosa Avenue, the light rail system's only alignment through the City. Early developers attempted to market the City's northern portion as an artist's community; hence, many of the streets were named after poets, such as Longfellow, Ruskin, Browning, and Hawthorne, all within the "Shakespeare Tract." The entirety of this northern portion was known as Shakespeare Beach during the early part of the twentieth century.

During the early years, the City's primary commercial endeavor was the Hermosa Biltmore Hotel. Constructed in 1924, the massive, multi-story block of a building was a shoreline landmark for many years and hosted dignitaries and celebrities alike. As in similar resort towns, the Hermosa Biltmore was an economic generator, with various entertainment and commercial endeavors appearing along Pier Avenue to take advantage of its popularity.

Largely as a result of the baby boom generation, between 1940 and 1950, the population of Hermosa Beach grew from 7,197 to 11,826. Though surfing appears in Hermosa Beach in the 1930s, during the immediate postwar era, surfing became a significant recreational activity for which the City became well known.

The 1960s and 1970s were a peculiar and a somewhat difficult time for Hermosa Beach. The construction of King Harbor to the south and Marina del Rey to the north had the effect of crippling the surf and adversely affecting the beaches for which Hermosa Beach had become known (Miller et al. 2005:58). The Hermosa Biltmore Hotel, which had fed many of the smaller nearby businesses, was demolished in 1969, and the Del Amo Center shopping mall in nearby Torrance also affected local businesses after it opened in the early 1960s.

However, the era's changes were not wholly negative. During this same period, Hermosa Beach saw the advent of a recreational activity for which it is world renowned: beach volleyball. The City's first volleyball court dates from the mid-1940s on the Seawright family's property (Miller et al. 2005:39). By the late 1960s and early 1970s, the sport began to flourish, and by the late 1980s, professional beach volleyball became a global phenomenon, with Hermosa Beach as one of its primary nodes. The City hosts professional beach volleyball tournaments on a regular basis, and the sport has become a part of the City's culture, with training camps, multiple permanent beach courts, and a Beach Volleyball Hall of Fame Museum, located within the Hermosa Beach Museum.

Hermosa Beach is currently a thriving, affluent and dense community with a culture still strongly tied to and identified with the beach. Among its residents are many players and staff of the Los Angeles Kings Hockey Team, which upon winning the 2014 Stanley Cup, held a parade through Hermosa Beach and other South Bay communities.

Maritime History

The maritime history of California can be organized into slightly different historical periods: the Maritime Exploration Period (1542 and 1775), the Spanish/Mexican Colonial Period (1769 to 1846), and the American Period and development of the coastline (1846 to the present).

The **Maritime Exploration Period** begins in June of 1542 when Juan Rodriguez Cabrillo, a Portuguese pilot and navigator, commanded an expedition to explore the California Coast, north of Cedros Island in Baja

California, in hopes of locating the fabled northwest passage (Bancroft 1886:1). Cabrillo's was the first European expedition to explore along the California coast.

Other explorers followed the Cabrillo expedition, including Pedro de Unameno, who opened the Acapulco-Manila trade route between the Philippines and Mexico in 1565, allowing Spain to realize Columbus' dream of a new trade route with the Indies, resulting in the inclusion of the west coast into global trade (BOEM 2013:188). The Manila galleon trade lasted until 1815 (Schurz 1939, Keistman 1964, Hole and Heizer 1973). (A galleon is a sailing ship that was originally used as a warship and then later used for trade.) Schurz (1939) states that over 30 Manila galleons were lost over the 250 years of trade. A few were wrecked on the westward passage and others shortly after leaving Manila. At least a dozen Manilla galleons remain unaccounted for.

The years of the **Spanish-Mexican Colonial Period** in California saw increasing numbers of vessels arriving on the California coast. These vessels engaged in the sea otter fur trade, smuggling, and the legal trade of China's goods in exchange for California's abundant hides and tallow from the vast herds of cattle kept at various private ranchos (Ogden 1923).

The sea otter trade, existing roughly from 1784 to 1848, though declining markedly after 1830, and the hide and tallow trade of the 1830s and 1840s, were the major international commercial activities that brought ships to California until the Gold Rush of 1849. While certain Spanish and later Mexican citizens were authorized to conduct business on behalf of the government, most commerce consisted largely of smuggling by Yankee ships from East Coast ports.

To the inhabitants of colonial locations like California, participating in these smuggling ventures was the only way to acquire some common conveniences and luxury goods. Smugglers in the otter trade would buy as many skins as possible in California and then sail to China and trade them for goods that brought high prices in New England or Europe. Otter furs were initially supplied by Native Americans working for the missions. Later, Aleut Islanders from Alaska working for the Russians competed for this lucrative trade.

The hide and tallow trade consisted of buying cattle hides from the vast ranchos in California and shipping them to New England's expanding industrial base for the production of leather goods for domestic use and export. Most of the hide and tallow trade took place in Southern California. The Mexican-American war of 1846 and the gold rush of 1849 permanently changed the character of California shipping (MMS 1987:82). Clipper ships and side-wheel steamers soon eclipsed the outdated sailing brigs, and what had in Hispanic times been a sparsely populated coast with a livestock-raising economic base supplemented by some fur trading, was transformed into a thriving, densely populated, American state with a diverse economy.

The discovery of gold in California in 1848 launched the **American Period** of California's maritime history. The primacy of San Francisco as the principal port on the West Coast was confirmed, as thousands of vessels made their way to San Francisco as part of the Gold Rush. The Pacific depended on ships bringing raw and manufactured goods, immigrants, and capital, until the completion of the transcontinental railroad in 1869 offered an alternative method of transportation for commerce (Delgado 1989:8). California waters were soon alive with clipper ships and side-wheel steamers. Lumber, bricks, food, machinery, and labor were provided by vessels because San Francisco and the rest of California had only scarce agricultural and industrial output. Soon, however, reciprocal trade burgeoned with the establishment of lumber mills, farms, factories, and ranches. Lumber, hay, dairy products, produce, and meat were shipped up and down the coast. California's burgeoning economy, coupled with the natural physical barrier of the mountains of the Sierra Nevada to terrestrial commerce, resulted in coastal growth at an unparalleled rate (Caughey 1970 in MMS 1987:82).

Rapid industrial growth and the advent of rapid technological development in the shipping industry in the latter half of the nineteenth century resulted in larger and larger wood, iron and steel ships. Southbound sidewheel steamers carried gold shipments from the gold fields. Spanish ships bringing grain from Chile were common during the last half of the 19th century. In the last quarter of the 19th century, lumber schooners were bringing lumber and railroad ties from the north, while huge British iron barks were bringing rails and heavy machinery round the horn (Caughley 1970). The increasing need for coal brought in British ships from Newcastle, which were later used, along with San Francisco ferryboats, as fishing barges up and down the coast. A large percentage of these ships sank along the California coast and constitute a significant element of the cultural resources that may be found in the study area. From the latter quarter of the 19th century, the Japanese dominated the California fishing industry with vessels of traditional Japanese design. During the first quarter of the 20th century, the Japanese fishing communities were gradually supplanted by Portuguese and Italian fisherman, and were finally displaced altogether when World War II brought about their relocation (USDOI, BLM 1979:IV-115). By the end of the 19th century, steamships were replacing sailing vessels as the primary mode of transportation, and the Pacific coast of the United States became prominent in shipbuilding. By World War I, the diesel engine and the oil-burning steam turbine had replaced sail for all but bulk cargoes. As steam replaced sail, the internal combustion engine became popular.

California became the American gateway to the Pacific world, and virtually every type of ship, large and small, was seen in California waters. Through the years separating the two World Wars, two additional shipping phenomena were added to southern California: the ‘Hollywood Navy’ and the U.S. Navy’s Pacific Fleet.

The Hollywood Navy encompasses several vessels and barge mock-ups created to look like historic vessels and/or portions of historic vessels that were used in movies and/or destroyed during filming. Several of these may be in or near the Project area.

Historic Sea Routes and Shipwreck Distribution

Coastal and overseas routes in use in Southern California today are those first established by the Spanish. While traversing coastal waters without stops, ships pass just seaward of the Channel Islands. Local traffic passes between the islands and the mainland. Overseas ships bound directly to or from a specific port will usually take a route south of the northern Channel Islands. Motorized ship traffic traverses within these shipping lanes. Sailing vessels, however, must constantly tack and jibe to make headway up the coast because of the prevailing northwesterly wind pattern. Sailing ships running down the coast usually will not tack or jibe because they are running before the wind. These routes are compiled from descriptions in the historic record and idealized depictions taken from route charts published by various shipping lines (MMS 1987:85). While historic shipping lanes can be plotted, they are not always adhered to, and vessel losses may occur within the lanes or shoreward. The density of losses increases with the occurrence of natural hazards, such as rocky shoals, headlands, reefs, as well as in the vicinity of ports-of-call.

The coastal shipping lane that serves local ports runs between the mainland and the offshore islands. This system is now separated into northbound and southbound lanes to reduce traffic accidents. These lanes occupy the historic coastal shipping lane. Ports-of-call continue to be accessed from the coastal shipping lane. This configuration has changed little since the first Spanish explorations and the Philippine Manila galleon trade.

A large number of vessels whose coordinates were never reported were lost enroute along the California coast. The planned cable routes would cross through known historic shipping lanes, and any of these vessels may be located within or near the deep-water portion of the study area. While the distribution of shipwrecks is influenced by environmental factors (e.g., wind, weather and nearshore hazards), their location is influenced even more by vessel traffic patterns. Due to the vagaries of wind and weather, these sea routes could include a “sea lane” (an established sea route) more than 150 nautical miles wide. The sea lanes established historically are still in use today and appear on modern navigational charts.

The Manila galleons that were reported to be lost offshore of California could be located anywhere in the Pacific; however, given the southerly destination of Mexican ports, they may be potentially encountered within the deep-water portions of the proposed Project cable routes.

3.5.1.4. Marine Cultural Resources

Three categories of marine cultural resources, all of which are currently submerged, may be encountered during the marine installation of the Project. These include historic period shipwrecks (including downed aircraft and unidentified debris), prehistoric period watercraft, and prehistoric archaeological resources. The historic and prehistoric period watercraft and downed aircraft may currently be partially or wholly obscured by sediments of the ocean floor. The prehistoric period archaeological sites and isolated artifacts were deposited during occupation of what is now ocean floor, but what was dry land at the time of their deposition. These sites and/or isolated artifacts may be buried at varying depths, depending on their age and the depositional history of the location in which each is found.

Historic period shipwrecks include the remains of watercraft that were employed as early as the 16th century to cross the waters of the study area, remains of downed aircraft, and unidentified debris.

Prehistoric period watercraft may include the stitched-plank *tomol* (canoe) and the balsa reed bundle craft that were used during the approximately 13,000 years of Native American navigation through the Project area.

Prehistoric archaeological resources are places that Native Americans inhabited before sustained contact with Europeans began in the 1770s. These resources may include features, as well as artifacts and subsistence remains. Additionally, the resources may contain human remains in the form of burials, cairns, or cremations.

3.5.2. Regulatory Setting

The regulatory setting for cultural resources and Tribal Cultural Resources comprises various sets of local, State, and federal ordinances serving as the legal framework in which cultural resources are identified, analyzed, and protected. These laws and regulations establish a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies. In some instances, the settings apply to both onshore and offshore cultural resources. In other instances, certain settings would only apply to one or the other of such resource types.

3.5.2.1. Federal

In the event that the Project would require federal environmental review (e.g., if previously unidentified submerged cultural resources, shipwrecks in particular, are encountered during Project construction), certain federal regulations may come into effect. Among these are the following:

National Historic Preservation Act of 1966

Federal protections for scientifically significant cultural resources primarily derive from the National Historic Preservation Act of 1966 as Amended (NHPA). If a project involves a federal property, federal permit, or federal funding, the project may be considered a federal undertaking and then is required to comply with Section 106 of the NHPA (Code of Federal Regulations [CFR], Title 36, § 800). This regulation sets forth the responsibilities that federal agencies must meet in regard to cultural resources. Federal agencies must conduct the necessary studies and consultations to identify cultural resources that may be affected by an undertaking, evaluate those cultural resources to determine if they are eligible for the National Register of Historic Places (NRHP or National Register), assess the potential of the undertaking to affect NRHP-eligible resources, and take action to resolve any adverse effects that may result from the undertaking. The NRHP eligibility criteria are very similar to those for the California Register of Historical Resources (see below).

Outer Continental Shelf Lands Act

The Outer Continental Shelf Lands Act (OCSLA) of 1953 provides that the subsoil and seabed of the outer continental shelf are subject to U.S. jurisdiction, and as such, triggers other laws, including NHPA (BOEM 2014:53).

Antiquities Act

The Antiquities Act of 1906, enacted to protect cultural resources on lands owned or controlled by the U.S. government, has successfully been used to protect important cultural resources on the outer continental shelf in national marine monuments and other federal marine protected areas, but has not yet been applied on the outer continental shelf outside of such areas (BOEM 2013:31-32).

Native American Graves and Protection and Repatriation Act

The Native American Graves and Protection and Repatriation Act (NAGPRA) of 1990 was enacted for the protection and repatriation of the remains of Native Americans and associated grave objects, and applies on tribal and federal lands, defining federal lands as any land other than tribal lands that are controlled or owned by the U.S. government. Although no case has yet been recorded of the application of NAGPRA in the marine context in the study area, NAGPRA would reasonably appear to apply to the remains of Native Americans and associated objects on the outer continental shelf, when discovered during intentional excavation, and as a result of inadvertent discoveries (BOEM 2014:47-48).

Within the waters of the State of California and federal waters from the 3-nautical-mile limit to the continental shelf margin, the U.S. Army Corps of Engineers, Los Angeles District (Section 404, Clean water Act, Nationwide 57 Authorization) and the U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM) may have jurisdiction over submerged cultural resources within the study area. The policy of the U.S. Army Corps of Engineers and BOEM is to consult with the appropriate State Historic Preservation Officer regarding all federally permitted offshore activities.

Abandoned Shipwreck Act

The Abandoned Shipwreck Act (ASA) enacted by Congress in 1987 transferred ownership of submerged historic shipwrecks embedded in the bottomlands of a State's waters to State ownership. Under this law, submerged historic shipwrecks within 3 nautical miles of a State's shoreline are owned by that State. The ASA provides authority for States to protect and manage submerged, abandoned shipwrecks through State law (BOEM 2014:42).

Within federally owned waters, including all waters within 3 nautical miles of federally owned shorelines, such as the Channel Islands National Park and marine sanctuary, preservation (marine sanctuary) areas of Santa Barbara and Santa Catalina Islands, and U.S. Navy controlled San Nicholas and San Clemente Islands, submerged shipwrecks remain the property and responsibility of the federal government. Historic shipwrecks located within 3 nautical miles of these federally owned lands are the property of the federal government and cannot be disturbed by any activity without the effects of such action first being considered by the appropriate federal agency under Section 106 of the National Historic Preservation Act (United States Code [USC], Title 54, § 306108) (amended 19 December 2014).

3.5.2.2. State

California Environmental Quality Act (Public Resources Code § 21000 et seq.) (1970)

The State of California CEQA Guidelines require that historical resources and unique archaeological resources be taken into consideration during the CEQA planning process (California Code of Regulations [CCR], Title 14(3), § 15064.5; Public Resources Code [PRC] § 21083.2). If feasible, adverse effects on the significance of historical resources must be avoided or the effects mitigated (CCR, Title 14(3) § 15064.5(b)(4)). The State CEQA Guidelines require that all feasible mitigation be undertaken even if the prescribed mitigation does not mitigate impacts to less than significant (California Office of Historic Preservation (OHP) 2001b:6; see also CCR, Title 14(3) § 15126.5 (a)(1)).

The term that CEQA uses for significant cultural resources is "historical resource," which is defined as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing, in the California Register; (2) listed in a local register of historical resources as defined in PRC Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project's Lead Agency (PRC § 21084.1 and State CEQA Guidelines, Section 15064.5(a)). A historical resource consists of:

> *Any object, building, structure, site, area, place, record, or manuscript which a Lead Agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…. Generally, a resource shall be considered by the Lead Agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.*

State CEQA Guidelines Section 15064.5(a)(3)

In accordance with the State CEQA Guidelines, Section 15064.5(b), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a significant effect on the environment.

CEQA requires a Lead Agency to determine if an archaeological resource meets the definition of a historical resource, a unique archaeological resource, or neither (State CEQA Guidelines, Section 15064.5(c)). Prior to considering potential impacts, the Lead Agency must determine whether an archaeological resource meets the definition of a historical resource in the State CEQA Guidelines, Section 15064.5(c)(1). If the archaeological resource meets the definition of a historical resource, then the resource is treated like any other type of historical resource in accordance with the State CEQA Guidelines Section 15126.4. If the archaeological resource does not meet the definition of a historical resource, then the Lead Agency determines whether the resource meets the definition of a unique archaeological resource, as defined in the CEQA Statutes, Section 21083.2(g). In practice, most archaeological sites that meet the definition of a unique archaeological resource also meet the definition of a historical resource. If the archaeological resource meets the definition of a unique archaeological resource, then the resource must be treated in accordance with the CEQA Statutes, Section 21083.2. If the archaeological resource does not meet the definition of a historical resource or a unique archaeological resource, then effects on the resource are not considered significant effects on the environment (State CEQA Guidelines, Section 15064.5(c)(4)).

California Health and Safety Code Section 7050.5

The California Health and Safety Code (HSC), Section 7050.5, states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code Section 5097.5

PRC Section 5097.5 provides for the protection of cultural resources. This PRC section prohibits the removal, destruction, injury, or defacement of archaeological features on any lands under the jurisdiction of State or local authorities.

California Register of Historical Resources Criteria of Evaluation

The State of California Historical Resources Commission has designed the California Register for use by State and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register is the authoritative guide to the State's significant historical and archaeological resources.

The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for State and local planning purposes, determines eligibility for State historic preservation grant funding, and affords certain protections under CEQA. The following criteria are used when determining if a particular resource has architectural, historical, archaeological, or cultural significance.

Criterion 1: Is the resource associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States?

Criterion 2: Is the resource associated with the lives of persons important to local, California, or national history?

Criterion 3: Does the resource embody the distinctive characteristics of a type, period, region, method of construction, or represent the work of a master or possess high artistic values?

Criterion 4: Has the resource yielded, or have the potential to yield, information important to the prehistory or history of the local area, California, or the nation?

Assembly Bill 52 and Tribal Cultural Resources

Assembly Bill (AB) 52 creates and defines a specific type of cultural resource under CEQA, called "Tribal Cultural Resources." The bill also establishes a formal role for California Native American tribes in the CEQA process and the identification of such resources through consultation with the Lead Agency (PRC § 21080.3.1(a)). A California Native American tribe is defined as a "Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission" (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073). Provided that a California Native American tribe has requested it, CEQA lead agencies are required to consult with tribes about potential Tribal Cultural Resources in the project area, the potential significance of project impacts, the development of project alternatives, and the type of environmental document that should be prepared.

Tribal Cultural Resources, as defined by CEQA, Section 21074(a)(1)-(2), includes either of the following:

~~1.~~6. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.

   b. Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

~~2.~~7. A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the Lead Agency shall consider the significance of the resource to a California Native American tribe.

Tribal representatives are considered experts that are appropriate for providing Lead Agencies with substantial evidence regarding the locations, types, and significance of Tribal Cultural Resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)). Consultation in the context of AB 52 is defined as the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Any information shared between the tribes and the Lead Agency representatives is protected under confidentiality laws and subject to public disclosure (Government Code [GC] § 6254(r); GC § 6254.10) and can be disclosed only with the written approval of the tribes who shared the information (PRC § 21082.3(c)(1-2)).

A project that may cause a substantial adverse change in the significance of a Tribal Cultural Resource is a project that may have a significant effect on the environment (PRC § 21084.2). Consultation with tribes is considered the best way for Lead Agencies to determine if a project could result in significant environmental impacts on Tribal Cultural Resources (PRC § 21080.3.1(a); GC § 65352.4).

3.5.2.3. Local

The City of Hermosa Beach Municipal Code, Chapter 17.53, is the Hermosa Beach Preservation Ordinance. According to Section 17.53.020, the purpose and intent of the City's Preservation Ordinance is to: "promote the public health, safety, and general welfare by providing for the identification, protection, enhancement, perpetuation, and use of historic resources such as buildings, structures, sites, and places within the City that reflect special elements of the City's architectural, artistic, cultural, historical, political, and social heritage […]"

As set forth in Section 17.53.060, a City historic resource may be designated a landmark, pursuant to Sections 17.53.070 through 17.53.120, if the resource meets one or more of the following criteria:

A. It exemplifies or reflects special elements of the City's cultural, social, economic, political, aesthetic, engineering, or architectural history; or

B. It is identified with persons or events significant in local, state, or national history; or

C. It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship; or

D. It is representative of the notable work of a builder, designer, or architect; or

E. Its unique location or singular physical characteristic(s) represents an established and familiar visual feature or landmark of a neighborhood, community, or the City. (Ordinance 98-1186, Section 4.)

3.5.3. Potential Environmental Impacts

3.5.3.1. Methodology/Approach

Terrestrial Cultural Resources Records Search

The EIR preparers conducted an archaeological records search for the Project's terrestrial component at the South-Central Coastal Information Center (SCCIC) at the California State University, Fullerton, on November 7, 2019. The records search included a review of all cultural resource studies and recorded archaeological sites within a 1/4-mile radius of the terrestrial portion of the Project area, as well as examining historical maps and land patents on file at the SCCIC. This search was conducted to compile information on known cultural resources and previously conducted cultural resource studies pertinent to the Project area. These records include individual archaeological site record forms (i.e., DPR 523 series forms) for known cultural resources, as well as the survey and excavation reports from previous investigations.

The records searches included information on the following resources:

- National Register of Historic Places (NRHP)
- California Register of Historical Resources (California Register or CRHR)
- Office of Historic Preservation (OHP)
- Archaeological Determinations of Eligibility (ADOE)
- OHP Historic Property Directory (HPD)

Twenty cultural resource studies have been conducted within the 1/4-mile records search area (see Table 3.5-1). One prehistoric/historic archaeological site, three historic structures, and one historic district have been recorded within the 1/4-mile records search area (see Table 3.5-2).

Marine Cultural Resources Records Search

An extensive records search was conducted for maritime cultural resources for the MC Global BP4 SEA-US Submarine Cable Network Route Project (i.e., the first cable installed as part of the MC Global BP4 Transpacific Fiber-Optic Cables Project approved in 2016), which encompassed the proposed offshore cable corridors for the proposed RTI-I Transpacific Fiber-Optic Cable Project. Sources consulted included cultural resource inventories (shipwreck and downed aircraft listings) provided by the California State Lands Commission, U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM) (Pacific Outer Continental Shelf Region) (BOEM, 2013), Minerals Management Service (MMS), and National Oceanic and Atmospheric Administration (NOAA) Automated Wreck and Obstructions Information System (AWOIS) database (1988). The National Register of Historic Places, California Historical Landmarks, California Inventory of Historical Resources, and local archives were also consulted.

Other sources consulted include the U.S. Army Corps of Engineers Los Angeles District, National Maritime Museum in San Francisco, Los Angeles Maritime Museum, Commerce Department files at the National Archives in Washington D.C. and San Bruno, Regional Records Centers at Laguna Nigel and San Bruno, Huntington Library in San Marino, U.S. Department of Commerce Merchant Vessels of the United States and the U.S. Coast Guard Merchant Vessels of the United States at the University of California Library, University of California at Santa Barbara and Long Beach Library, and State Library and State Archives and Records Office.

Table 3.5-1. Previous Cultural Resource Studies Conducted within Records Search Area

Report Number	Authors	Year	Title	Company	Resources
LA-02189	Demcak, Carol R.	1990	Archaeological Assessment of the Property Located at 8111 North Catalina Avenue, Redondo Beach, County of Los Angeles, CA	Archaeological Resource Management Corp.	19-001872
LA-02190	Van Wormer, Stephen R.	1990	Historical Assessment of the Property Located at 811 North Catalina Avenue, Redondo Beach, County of Los Angeles, CA	Archaeological Resource Management Corp.	19-001872
LA-02197	Romani, Gwendolyn R.	1990	Archaeological Investigations at 811 North Catalina Avenue for the Proposed Commercial/industrial Mini-storage Located in Redondo Beach, Los Angeles County, CA	Greenwood and Associates	19-001872
LA-02201	Greenwood, Roberta S.	1990	Historical and Architectural Evaluation, 811-819 North Catalina Avenue, Redondo Beach, CA	Greenwood and Associates	19-001872, 19-177518
LA-02499	McKenna, Jeanette A.	1991	Results of a Standard Prehistoric Archaeological Records Check, City of Redondo Beach, Los Angeles County, California - General Plan EIR	McKenna et al.	19-000100, 19-000127, 19-000137, 19-000282, 19-001872
LA-02904	Stickel, Gary E.	1993	Draft Report a Phase I Cultural Resources Literature Search for the West Basin Water Reclamation Project	Environmental Research Archaeologists: A Scientific Consortium	
LA-03265	Hatheway, Roger G.	1983	Cultural Resources Assessment of the General Plan and Zone Changes for the Hermosa Beach School District Properties Hermosa Beach, CA	Jim Hinzdel & Associates	
LA-05166	Unknown	1983	Cultural History Appendix 1: Redondo Beach Breakwater Emergency Repair History of Redondo Beach King Harbor	City of Redondo Beach	
LA-05167	Sturm, Bradley L.	1987	Redondo Beach Harbor Feasibility Study-Cultural Resources Analysis	U.S. Army Corps of Engineers	
LA-05251	Romani, Gwendolyn R.	1990	Archaeological Investigations at 811 North Catalina Avenue for the Proposed Commercial/industrial Mini-storage Located in Redondo Beach, Los Angeles County, CA	Greenwood & Associates	19-000127, 19-000137, 19-000383, 19-001872
LA-05915	Mason, Roger D.	2001	Cultural Resources Records Search and Literature Review Report for an American Tower Corporation Telecommunications Facility: Number La_990_n1 Anita Prospect in the City of Redondo Beach, Los Angeles County, CA	Chambers Group, Inc.	

Report Number	Authors	Year	Title	Company	Resources
LA-06205	Pletka, Nicole	2003	Cultural Resource Assessment at & T Wireless Services Facility No. D158 Hermosa Beach, Los Angeles County, CA	LSA Associates, Inc.	
LA-06208	Bonner, Wayne H.	2002	Cultural Resources Monitoring Tyco Global Network (TGN) Transpacific Fiber Optic Cable and Hermosa Beach Landing Project, City of Hermosa Beach, Los Angeles County, CA	W. H. Bonner Associates	
LA-09875	Wayne Bonner	2009	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate LA03370G (Redondo Beach Lattice Tower), 896 North Prospect Avenue, Redondo Beach, Los Angeles County, CA	Michael Brandman Associates	
LA-10069	Wlodarski, Robert J.	2005	Records Search and Pedestrian Survey for Cingular Wireless Telecommunication Site El-0131-02 (SCE - 190th & Paulina) Located at 895 East Paulina Avenue, City of Redondo Beach, Los Angeles County, CA	Cellular, Archaeological Resource, Evaluations	
LA-10132	Johnson, Ken	1965	Fun, Frustration and Fulfillment, an Historical Study of the City of Redondo Beach	Unknown	
LA-10852	Dreizler, Patricia, Gloria Snyder, Harry Johnson, and Pat Botsai	1986	Historic Resources Survey - City of Redondo Beach	Thirtieth Street Architects	
LA-12288	Bonner, Wayne and Crawford, Kathleen	2013	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA03370G (SCE Redondo Beach Tower), 896 North Prospect Avenue, Redondo Beach, Los Angeles County, CA	Michael Baker International	19-190298
LA-12595	Smallwood, Josh	2014	Historical Resource Evaluation of the Redondo Beach Generating Station and SEA Lab, 1021 and 100 North Harbor Drive, Redondo Beach, Los Angeles County, CA	Applied EarthWorks	19-190801
LA-13025	Bonner, Diane F. and Carrie D. Wills	2014	Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate LA0197 (Speyer & Harper), 1102 Aviation Boulevard, Hermosa Beach, Los Angeles County, California, CASPR No. 355184432	Environmental Assessment Specialists, Inc.	

Notes: CA = California; Corp. = Corporation; et al. = and others; LLC = Limited Liability Company; Inc. = Incorporated; SCE = Southern California Edison

Table 3.5-2. Previously Recorded Resources Within Records Search Area

Primary Number	Resource Name	Other IDs	Resource Type	Age	Attributes	Recorded By	Reports
P-19-001872	G&A-1	Resource Name - G&A-1	Site	Prehistoric, Historic	AH07 (Roads/ trails/railroad grades); AH15 (Standing struc-tures); AP02 (Lithic scatter); AP15 (Habitation debris)	1990 (John M. Foster, Greenwood & Associates)	LA-02189, LA-02190, LA-02197, LA-02201, LA-02499, LA-03544, LA-05251
P-19-177518	Weddle Woodcraft, Redondo Planing Mill	OHP Property Number - 028196; Resource Name - Weddle Woodcraft, Redondo Planing Mill	Building	Historic		1990 (Portia Lee, California Archives)	LA-02201
P-19-177599	Sweetser Residence	OHP Property Number - 028277; Resource Name - Sweetser Residence	Building	Historic	HP02 (Single family property)	1984 (C. McAvoy, Johnson Research Associates)	
P-19-177602; 177668; 177669	Redondo Beach Original Townsite Historic District	OHP Property Number - 028347; Resource Name - Redondo Beach Original Townsite Historic District	District	Historic		1987 (S. Dyan, Redondo Beach Historical Society)	
P-19-186927	Hermosa Valley School	Resource Name - Hermosa Valley School; Other - Valley Vista School	Building	Historic	HP15 (Educational building)	2004 (J. Marvin)	LA-10068

Notes: & = and; OHP = Office of Historic Preservation

Submerged Prehistoric Resources

The records search yielded seven maritime finds, all of which were individual artifacts, within the larger 10-nautical mile study area, but none of these are within the proposed cable routes. The artifacts included three stone mortars and a metate (a hand-held grinding stone) reported in 1976 by divers near Redondo Beach (Hudson 1976:6). The exact location and context of these finds are unknown.

The incidence of these finds, and others both inside and in the immediate vicinity of the study area, supports the theory that prehistoric peoples once occupied the continental shelf that is now Santa Monica Bay and left behind evidence of those occupations. The isolated nature of each find suggests that only the largest and most obvious artifactual evidence (e.g., mortars and pestles) has been visible on the ocean floor and noted by divers. The presence of deposits typical of prehistoric archaeological sites that may include smaller and/or less obvious artifacts, such as fire-affected rock, flaked stone tools and chipping debris, bone and shell tools and ornaments, ash and charcoal, faunal bone, midden soils, and shellfish debris, has not yet been confirmed.

Although the results of the records search confirm the potential for the presence of prehistoric-era sites within the Project area, none have been identified to date.

Submerged Historic Resources

The locations of historic period shipwrecks, as recorded in data currently available in most archival records, is generally inaccurate. Consequently, many such submerged cultural resources have not been located or assessed for eligibility for listing in the CRHR.

The 10-nautical mile buffer included in the study area that was subject to analysis in the MC Global BP4 SEA-US Submarine Cable Network Route Project reflects the most conservative interpretation of the potential accuracy of the shipwreck location reporting for that project, as well as for the RTI-I Transpacific Fiber Optic Cable Project. Databases of the State Lands Commission, BOEM, NOAA AWOIS, the cities of Hermosa Beach and Redondo Beach, and in-house shipwreck databases were checked for listings within the study area. Those shipwrecks fairly accurately located within the protected waters of Anacapa, Santa Cruz, Santa Catalina, Santa Barbara and San Clemente Islands were excluded from this listing because those resources would not be affected. It should be noted that all of the alignments have some unavoidable overlap of vessels cited as lost within the nearshore area (Hermosa and/or Redondo Beach).

Shipwrecks were mapped based on their reported coordinates. Depending upon the degree of accuracy for each reported resource location, coordinates may indicate an exact location or one that is within a 100-yard (91-meter) radius, a 1-nautical mile (1.8-kilometer) radius, or a 10-nautical mile (18-kilometer) radius of the route coordinates. These levels of accuracy were provided for each listing in the BOEM and MMS databases. The following describes the shipwrecks anticipated to be located within the maximum 10-nautical-mile radius of the proposed routes. The MMS (1987, 1990) databases include eligibility for listing in the California Register only in terms of historical significance. Three levels of significance were assigned to listings, ranging from insignificant to moderately significant, and significant. These assessments do not follow the guidelines for the CRHR, and in recognition of this, the BOEM (2013) database lists resources as “probably eligible for listing in the National Register of Historic Places (NRHP)”, “may be eligible for listing in the NRHP”, and “most likely not eligible for listing in the NRHP.” These designations are recommendations based on an assessment internal to the BOEM, but the designations have not yet been submitted to the SHPO for concurrence. For the purposes of this EIR, any property listed in the NRHP is also eligible for listing in the CRHR.

A total of 101 shipwrecks and 3 aircraft were identified in the submerged cultural resources research conducted for the study area, which encompassed the alignments of the routes proposed for the RTI-I Transpacific Fiber Optic Cable Project. Seven shipwrecks (*Fish Haven, Majestic Swan, Silver Gate, Unknown 471, Unknown 497, Unknown 523*, and *Unknown 524*) have accurate coordinates. One shipwreck (*Sea Witch*) may be mapped to within 300 feet (91 meters) of the coordinates cited. Four shipwrecks (*Abboroka, Retriever, Sacramento*, and *Thomas P. Emigh*) have locations cited as accurate to within 1 nautical mile (1.8 kilometers). *Retriever’s* location has been tentatively placed in about 120 feet (37 meters, 20 fathoms) of water about 1 nautical mile offshore of the Redondo Beach Jetty. The *Thomas P. Emigh* was towed offshore and sunk at the head of Redondo Canyon in about 60 feet (18 meters, 10 fathoms) of water close to where the old commercial wharves were located and is represented largely by the ship’s fasteners and metal fittings (hinges, pipes and plumbing). The wreck is generally covered by 2 to 6 feet of sediment (Cardone and Smith 1989:61).

Three of the shipwrecks (*Columbia Contract 41, Georgia*, and *Mabel Grey*) and the three downed aircraft (*Unknown Jetliner 563, Unknown Jetliner 564*, and *Unknown Large Aircraft 571*) are located within the 10-nautical mile radius of the proposed routes. The accuracy of the locations for the remaining shipwrecks remains unknown.

Four shipwrecks (*Santa Cecilia, Santa Marta, Santa Maria* and *Unknown Junk*) have been previously cited as significant. Thirty-one shipwrecks (*Abboroka, Adriatic, Advance, Charcas, Charles F. Crocker, City of Florence, Claremont, Emperor, Empress, Fullerton, Gardiner City, H.M. Storey, Irene, Katie Flickinger,* *Kennebeck, Kingfisher, Lady Alta, Mabel Grey, Mississippi, National City, Nedra, Phyllis, Sacramento, Silver Gate, Southland, Taurus, Thomas P. Emigh, Tillicum, William G. Irwin, Wm Bowden*, and *W.T. Co. No. 8*) have been previously cited as moderately significant. Of these, nine shipwrecks (*Abboroka, American Fisher, Charcas, Claremont, Irene, Kennebec, Mississippi, Phyllis, US Saratoga*) are reported as having been removed or refloated. Thirty of the shipwrecks (*American Beauty, American Fisher, Anaconda, Aquila, Benji Boy, Chicago, Columbia Contract 41, Darfield, Elsie II, Genevieve H II, Hwa Tung, Liberty Girl, Lottie Carson, LSM 455, Majestic Swan, Novus, Reliant, Retriever, Rocona, Unknown 163, Unknown 471, Unknown 497, Unknown 524, Unknown 564, Unknown 571, US Burrfish, US Saratoga, USS Moray, Vashon,* and *West Maco*) have been previously evaluated as insignificant. The remaining shipwrecks are listed as "significance undetermined." Three shipwrecks (*Nuestra Senora (de) Ayude, San Pedro*, and *Sea Witch*) and the *Unknown Large Aircraft 571* have been subjected to unauthorized pilferage.

Summary

In summary, numerous shipwrecks, three downed aircraft, and other resources are listed within the study area. The references consulted as part of the records search for submerged historic period cultural resources provided information on shipwrecks, downed aircraft, unknown wreckage, and debris locations. Causes of losses include fire, explosion, stranding, or foundering. Stranding generally results when a vessel runs aground, becomes caught on a sand bar or reef, is becalmed or runs out of fuel or has engine trouble, although this term is often misused by mariners to indicate trouble with the engine or ship's machinery, rather than with the vessel itself. Vessels that foundered are those that took on water and sank below the surface of the water.

The accuracy of the coordinates provided for the shipwrecks varies. Of the 104 resources listed, only seven are described in MMS 1990 and BOEM 2013 as being accurately located, one shipwreck is listed as located to within 100 feet (81 meters), four shipwrecks are listed as located to within 1 nautical mile (1.8 kilometers), three shipwrecks and the three downed aircraft are listed as located to within 10 nautical miles (18 kilometers), and the remaining 96 shipwrecks are listed as having an undetermined accuracy of location. All resources that could be placed to within 10 nautical miles of the proposed cable routes have been included for consideration and are listed in Table 3.5-3.

Eligibility for Listing in the California Register of Historical Resources

With reference to their potential eligibility for listing in the NRHP and, by extension, the CRHR, the MMS 1990 reference uses the terms significant, probably significant, and not significant. Alternative terminology, employed by the BOEM 2013 reference, includes probably eligible, may be eligible, and not eligible for inclusion in the National Register. Unless the resource has been evaluated according to the criteria established for inclusion in the National Register, these statements of significance and eligibility remain informal suggestions.

Thirty-five of the resources identified within the study area for the MC Global BP4 SEA-US Submarine Cable Network Route Project and included in the RTI-I Transpacific Fiber Optic Cable Project have been previously listed (informally) as significant and moderately significant. The remainder have either been evaluated as insignificant, or not evaluated at all. With the advent of small boat archaeology and the newly updated significance of many ships built during World War II, some of these vessels may be determined with further research to have battle stars, construction, loss of life, or other historic associations that would qualify them as potentially significant and thus potentially eligible for listing on the NRHP and CRHR. The majority of these more recent shipwrecks, however, have been informally designated as "insignificant" in the latest BOEM 2013 database as a means of eliminating them from consideration, should they appear in the results of sonar, magnetometer, autonomous underwater vehicle (AUV), or multibeam surveys.

Native American Consultation

The NAHC maintains two databases to assist cultural resources specialists in identifying cultural resources of concern to California Native Americans, referred to by NAHC staff as Tribal Cultural Resources. The NAHC Sacred Lands File (SLF) database has records for places and objects that Native Americans consider sacred or otherwise important, such as cemeteries and gathering places for traditional foods and materials. The NAHC Contacts database has the names and contact information for individuals, representing a group or themselves, who have expressed an interest in being contacted about development projects in specified areas.

The EIR preparers contacted the NAHC by email on November 19, 2019, with a request for information on known cultural resources and traditional cultural properties, and to learn of any concerns Native Americans may have about the proposed Project, along with contact information for Native American tribes who have cultural ties to the study area.

On December 5, 2019, the NAHC responded, indicating their search of the sacred lands database was negative for the Project area. Included in the response was a list of four Native American tribal representatives and one individual Native American whom the NAHC indicated may have additional knowledge of cultural resources in the Project area. On December 6, 2019, the EIR preparers contacted those on the list via certified mail, providing a Project Description and map, and requesting additional information they might have about cultural resources in the Project area. No responses were received. Two subsequent telephone calls were made to each entity on the list. Two contacts responded with a request to have the letter resent. Calls to the remaining three were not answered. No subsequent responses have been received.

3.5.3.2. Significance Thresholds

CEQA Section 15064.5 stipulates that if a project causes a substantial adverse change in a historical resource, the project may have a significant effect on the environment. By definition, a historical resource is a resource listed in or determined to be eligible for listing in the California Register of Historical Resources, or listed in a local register of historical resources, or identified as significant in a historical resource survey. The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources, or identified in an historical resources survey does not preclude a Lead Agency from determining that the resource may be an historical resource. An adverse change in the significance of a historical resource can result from the demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of the resource would be materially impaired.

The significance of an historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of the historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources, or that account for its inclusion in a local register of historical resources or its identification in an historical resources survey, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant. A Lead Agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The Lead Agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures.

Based on the Initial Study, an impact on cultural resources would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold CULT-1:** Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines.
- **Threshold CULT-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.
- **Threshold CULT-3:** Disturb any human remains, including those interred outside of formal cemeteries.

An impact on Tribal Cultural Resources would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold CULT-4:** 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:

  1. 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(k), or
  2. 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.

3.5.3.3. Impact Analysis

Historical Resources (Threshold CULT-1) and Archaeological Resources (Threshold CULT-2)

Impact CULT-1:	***Project-related ground-disturbing activities have the potential to disturb or destroy previously unknown or inaccurately recorded submerged prehistoric archaeological resources or historic shipwrecks along the marine cable routes.***

The four proposed cable routes for the RTI-I Transpacific Fiber-Optic Cables Project have been subject to, or encompassed by, previous marine archaeological surveys that employed side scan sonar, sub-bottom profiling, and marine magnetometry to survey other proposed cable-laying routes (e.g., Jupiter Transpacific Fiber Optic Cable System [Jupiter]; MC Global BP4 SEA-US Submarine Cable Network Route [SEA-US]; and RTI-New Zealand Transpacific Fiber Optic Cable System [SX-NEXT]). No evidence of submerged prehistoric archaeological sites in the four cable routes was identified in the remote sensing results. The results of the Jupiter Cable System remote sensing data found one aircraft that was listed as significant (i.e., recommended as eligible to the NRHP), as well as 19 vessels that were listed as moderately significant (i.e., recommended as possibly eligible to the NRHP). The survey of that project corridor encompassed the alignment of the proposed Hong Kong cable project. The remote sensing survey conducted for the SEA-US Cable Network project identified two possible shipwrecks in the side-scan sonar data that potentially were associated with nearby magnetic anomalies. These potential resources were avoided during the installation of the SEA-US cable. In the remote sensing survey conducted for the SX-NEXT Cable System project, one shipwreck and two possible shipwreck locations were identified in the survey data.

Because existing resources have been identified through previous marine archaeological surveys, any resources that are located within the Project area and that overlap with the SEA-US cable route or the SX-

NEXT cable route can be avoided with the implementation of mitigation, as identified in Mitigation Measure (MM) CULT-1 below. Therefore, potential impacts on submerged cultural resources or shipwrecks can be reduced to less than significant with the implementation of mitigation (Class II).

Mitigation Measure

CULT-1 **Cultural Resources Avoidance Plan.** Prior to the beginning of the offshore cable laying along either cable route, a qualified maritime archaeologist who meets the Secretary of the Interior's Professional Qualification Standards will prepare an Underwater Cultural Resources Avoidance Plan (plan) similar to Macfarlane (2016b). The elements of the plan will ensure that all resources identified in Macfarlane (2016a) or Macfarlane (2018 will be avoided) and will provide methods for addressing discoveries of previously unidentified resources encountered during marine construction and provide mitigation monitoring if deemed necessary during construction to ensure compliance.

Impact CULT-2: Unknown and potentially significant buried archaeological or ethnographic historical resources could be inadvertently encountered during ground-disturbing activities associated with Project construction in the terrestrial portion of the Project area.

No historical resources, unique archaeological resources, or Tribal Cultural Resources have been identified within the proposed Project area. However, buried, previously unknown cultural resources that could be affected by the Project may be present. These may include flaked stone tools, lithic debitage, stone milling tools, midden soils (discolored soil from deposits of ash, charcoal, and food remains), the presence of food remains, such as mammal, fish and bird bone, shell fragments, and ceremonial objects, such as beads and ornaments. Historic cultural materials associated with the long history of Euro-American occupation in the area may also be encountered. These materials may include sheet refuse, privies, structural foundations, and features that are related to railroad construction, operation, and use, particularly within the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ within which a significant portion of the proposed conduit system would be installed.

Mitigation measures have been identified in the event that unknown historical resources, unique archaeological resources, or Tribal Cultural Resources are encountered during Project construction in the terrestrial portion of the Project area. Therefore, potential impacts on these resources would be reduced to less than significant with the implementation of MMs CULT-2 through CULT-4 (Class II).

Mitigation Measures

CULT-2 **Construction Crew Training.** Prior to the beginning of Project construction, an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards will conduct a cultural resources training session. The training session will be provided to all construction personnel, including the Project superintendent and key members of all major excavation and trenching operations. The training will advise all personnel to be alert for the possible destruction of buried cultural resource materials, will instruct all personnel to recognize signs of historic and prehistoric use of the Project area, and the process of reporting any such finds (or suspected finds) to the Project's Archaeological Monitor immediately, so damage to such resources may be prevented. If construction personnel rotate throughout the life of the Project, the Archaeological Monitor will conduct additional training sessions to provide new personnel the appropriate training.

CULT-3 **Archaeological Monitoring Plan.** Prior to the beginning of Project construction, an archaeologist who meets the Secretary of the Interior's Professional Qualification

Standards will prepare an Archaeological Monitoring Plan (AMP). The AMP will define what procedures to follow if historical, archaeological, or cultural resources not previously known to be on site or in the area are discovered during construction. The AMP will include methods to assure the protection of known or discovered resources, identify lines of communication between construction personnel, the archaeological monitor, and construction supervisors. The AMP will include the details of environmental monitoring requirements under the pertinent laws and regulations and a description of how monitoring will be accomplished. The AMP will include what actions must be taken if inadvertent discoveries (e.g., artifacts, features, or potential human remains) are made during Project construction.

CULT-4 **Cultural Resource Monitor.** Any Project-related ground-disturbing activities, with the exception of trenchless construction or directional boring, that will affect naturally occurring sediments below any artificial fill must be done in the presence of an archaeological monitor who meets the Secretary of the Interior's Professional Qualification Standards. Although it is not possible to monitor trenchless construction, directional boring, or conventional boring, the excavation of the entry/exit sites for these construction methods will be monitored.

If, during the course of monitoring, a potentially significant resource is discovered, the archaeological monitor will have the authority to stop or redirect ground-disturbing activities away from the resource until it can be evaluated. The monitor shall identify, record, evaluate, and determine appropriate treatment for any resources inadvertently discovered during ground disturbance. If cultural resources are encountered inadvertently, treatment shall be implemented as provided for in the Archaeological Monitoring Plan (see MM CULT-3).

Disturbance of Human Remains (Threshold CULT-3)

Impact CULT-3: Project ground-disturbing activities could result in the disturbance or destruction of human remains.

No human remains are known to be located within the Project area. However, unmarked burials could be inadvertently unearthed during excavation activities, which could result in damage to these human remains.

Mitigation has been identified to avoid impacts in the event of the unanticipated discovery of human remains during ground-disturbing activities. Therefore, potential impacts on inadvertently discovered human remains can be reduced to less than significant with the implementation of MM CULT-5 (Class II).

Mitigation Measure

CULT-5 **Treatment of Human Remains.** In accordance with Section 7050.5 of the California Health and Safety Code (HSC) and Section 5097.98 of the Public Resources Code (PRC), if human remains are found, all ground-disturbing activities shall halt within 165 feet (50 meters) of the discovery. The Archaeological Monitor and the construction supervisor shall be notified. The construction supervisor shall contact the Los Angeles County Coroner within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie potential remains shall take place until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are or are believed to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) within 24 hours. In accordance with PRC Section 5097.98, the NAHC must immediately notify those persons it believes to be the Most Likely Descendent (MLD) of the deceased Native American. The MLD shall complete their inspection within 48 hours of being granted access to the site. The MLD shall then determine, in consultation with the Lead Agency, the disposition of the human remains.

Tribal Cultural Resources (Threshold CULT-4)

Impact CULT-4: Project ground-disturbing activities could result in the disturbance or destruction of Tribal Cultural Resources.

No Tribal Cultural Resources are known to be present within the Project area. Tribal Cultural Resources are sites, features, places, or cultural landscapes that are 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 are listed or eligible for listing in the California Register of Historical Resources; or in a local register of historical resources; or determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant.

Mitigation has been identified to avoid impacts in the event of the unanticipated discovery of Tribal Cultural Resources during ground-disturbing activities. Therefore, potential impacts on previously unknown Tribal Cultural Resources can be reduced to less than significant with the implementation of MM CULT-6 (Class II).

Mitigation Measure

CULT-6 **Treatment of Tribal Cultural Resources.** In the event that unanticipated Tribal Cultural Resources are encountered during ground-disturbing or other construction activities, work must cease within 20 feet (6 meters) of the discovery, and the Project's archaeological monitor, construction supervisor, and local tribal representatives shall be notified that work may continue only after the resources are recorded and evaluated by the archaeological monitor and examined by tribal representatives qualified to identify Tribal Cultural Resources as defined in Assembly Bill 52 (PRC § 21080.3.1(a)).

3.5.3.4. Cumulative Effects

Introduction

The geographic extent of the cumulative analysis for terrestrial cultural resources within the Project area is limited to the proposed linear alignments that cross Hermosa Beach and either extend east along 6th Street, north along Valley Drive, and east along 16th Street to the PFE facility (Option A), or east along 10th Street, north along Loma Drive, east along 11th Street, north along Valley Drive, then east along 16th to the PFE facility (Option B). The geographic area for the analysis of cumulative impacts for submerged cultural resources includes the offshore submerged lands from the Mean High Water line, across the bottom of Santa Monica Bay to the outer limit of the continental shelf. For the purposes of this cumulative analysis, impacts on cultural resources could result from ground-disturbing activities associated with construction.

As discussed in Section 3.5.3, the types of resources that are found within the Project area are similar to those found within the broader geographic region analyzed and discussed in the MC Global BP4 SEA-US Submarine Cable Network Route Project EIR. The condition of these cultural resources varies considerably and depends on the types and extent of human and natural factors that may have affected them. The most prevalent impacts on cultural resources in the Project area result from human activities that include settlement and urbanization, recreational use, ranching, and the development of roads and other infrastructure. Natural agents, such as erosion, sedimentation, and soil deflation, also play a role in adversely affecting cultural resources. The effect of these natural processes may be aggravated by human activities that increase their level of impact. For example, construction activities can destabilize sediments, thereby increasing erosion at archaeological sites.

Installation of the fiber-optic cable in either the proposed Hong Kong or Jupiter alignments would have no cumulative effects, as no potential historic resources were identified in either of those routes. Installation of the proposed fiber-optic cable along the SEA-US Submarine Cable route would have a cumulative effect if implementation of the Underwater Cultural Resources Avoidance Plan (Macfarlane 2016b) were unsuccessful in avoiding known cultural resources in that alignment. The outcome of that plan's implementation is unknown.

Project Contribution to Cumulative Impacts

The proposed Project would not have a direct impact on any known terrestrial cultural resource. Therefore, construction and operation of the Project is not expected to contribute to cumulative impacts on cultural resources. However, unknown and unrecorded cultural resources may be found during construction. Should potential historic resources be discovered during Project construction, they would be protected through existing legal regulations, thereby reducing the possibility that they would be subject to impact. The terrestrial portion of the Project area is fully developed, and construction is unlikely to make a substantial contribution to cumulative impacts on terrestrial cultural resources or Tribal Cultural Resources with implementation of MMs CULT-2 through CULT-6. Implementation of MM CULT-1 would avoid impacts on cultural resources that may exist on the sea floor. Consequently, the successful implementation of MM CULT-1 would preclude any substantial Project contribution to cumulative impacts on submerged cultural resources in the Project corridor. Therefore, impacts would not be cumulatively considerable.

3.5.3.5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Cultural and Tribal Cultural Resources

Table 3.5-4, below, provides a summary of the Project's impacts related to cultural resources and Tribal Cultural Resources. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.5-3. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Cultural and Tribal Cultural Resources

Impacts	Mitigation Measures	Significance Conclusion
Threshold CULT-1: Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines. **Threshold CULT-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines.		

Impacts	Mitigation Measures	Significance Conclusion
Impact CULT-1: Project-related ground-disturbing activities have the potential to disturb or destroy previously unknown or inaccurately recorded submerged prehistoric archaeological resources or historic shipwrecks along the marine cable routes.	CULT-1 Cultural Resources Avoidance Plan	Class II
Impact CULT-2: Unknown and potentially significant buried archaeological or ethnographic historical resources could be inadvertently encountered during ground-disturbing activities associated with Project construction in the terrestrial portion of the Project area.	CULT-2 Construction Crew Training CULT-3 Archaeological Monitoring Plan CULT-4 Cultural Resource Monitor	Class II
Threshold CULT-3: Disturb any human remains, including those interred outside of formal cemeteries.		
Impact CULT-3: Project ground-disturbing activities could result in the disturbance or destruction of human remains.	CULT-5 Treatment of Human Remains	Class II
Threshold CULT-4: 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: (1) 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(k), or (2) 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.		
Impact CULT-4: Project ground-disturbing activities could result in the disturbance or destruction of Tribal Cultural Resources.	CULT-6 Treatment of Tribal Cultural Resources	Class II
Cumulative Effects	CULT-1 through CULT-6 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

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3.6. Geology and Soils

This section describes geologic, seismic, and soil conditions in the proposed Project area and analyzes environmental impacts related to these issues that may result from Project implementation. The following discussion addresses existing environmental conditions in the marine and terrestrial portions of the proposed Project area, identifies and analyzes environmental impacts, and includes measures to reduce or avoid adverse impacts. In addition, laws and regulations relevant to geological and seismic hazards are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise result from implementation of the Project.

3.6.1. Environmental Setting

3.6.1.1. Regional Geology

Terrestrial

The City of Hermosa Beach is located within the southwest geologic block (i.e., an area of the Earth's surface that is broken up by faults and contains distinct rock types) of the Los Angeles Basin. The City is bounded on the southwest by the Palos Verdes Fault and on the northeast by the Newport-Inglewood Fault. The southwestern block of the basin is the exposed portion of a much larger geographic area, most of which is located under the Pacific Ocean. Most of the block is a low plain that extends from Santa Monica in the northwest to Long Beach in the southeast. The Palos Verdes Hills are the most prominent topographic feature of the block; a line of elongated low hills and mesas (underlain by the Newport-Inglewood Fault Zone) extends from northwest to southeast along the inland margin of the plain (Yerkes et al. 1965).

The Los Angeles Basin is located within the Peninsular Ranges, a series of mountain ranges that includes the Los Angeles Basin and several Channel Islands. The basin of coastal Southern California is an alluviated lowland, also referred to as the coastal plain. The basin is bounded on the north by the Santa Monica Mountains and by the Elysian, Repetto, and Puente Hills on the east. The area is bounded to the southeast by the Santa Ana Mountains and San Joaquin Hills. The coastal plain slopes gently south towards the ocean but is interrupted by the Coyote Hills on the northeast, and by mesas to the south and west that extend from Newport Bay northwest to Beverly Hills. The Palos Verdes Peninsula is located at the basin's southwest extremity (Yerkes et al. 1965). The proposed Project area is located approximately 0.2 mile to the northwest of the Torrance Oil Field (DOC 2014).

Marine

The proposed marine cable routes cross Santa Monica Bay and several offshore basins, ridges, and escarpments off the coast of California before reaching the edge of the outer continental shelf. The shallow Santa Monica shelf and continental slope are deeply carved by three submarine canyons: the Dume, Santa Monica, and Redondo Canyons. A low-angle continental slope on the northwest portion of Santa Monica Canyon gives way abruptly across the canyon to the San Pedro Escarpment, and farther southeast lie the steep Palos Verdes Hills. The steep slope continues to the southeast. Under Santa Monica Bay, a subsurface basement ridge made up of Catalina Schist extends northwest-southeast beneath the continental shelf and slope. This ridge separates the onshore Los Angeles sedimentary basin from deep-water basins off the coast of California (Fisher et al., 2003). Figures 3.6-1 (Offshore Geologic Features) and Figure 3.6-2 (Offshore Geologic Features Detail: Santa Monica Bay) illustrate the Project alignment relative to the undersea geographical features.

Figure 3.6-1. Offshore Geologic Features

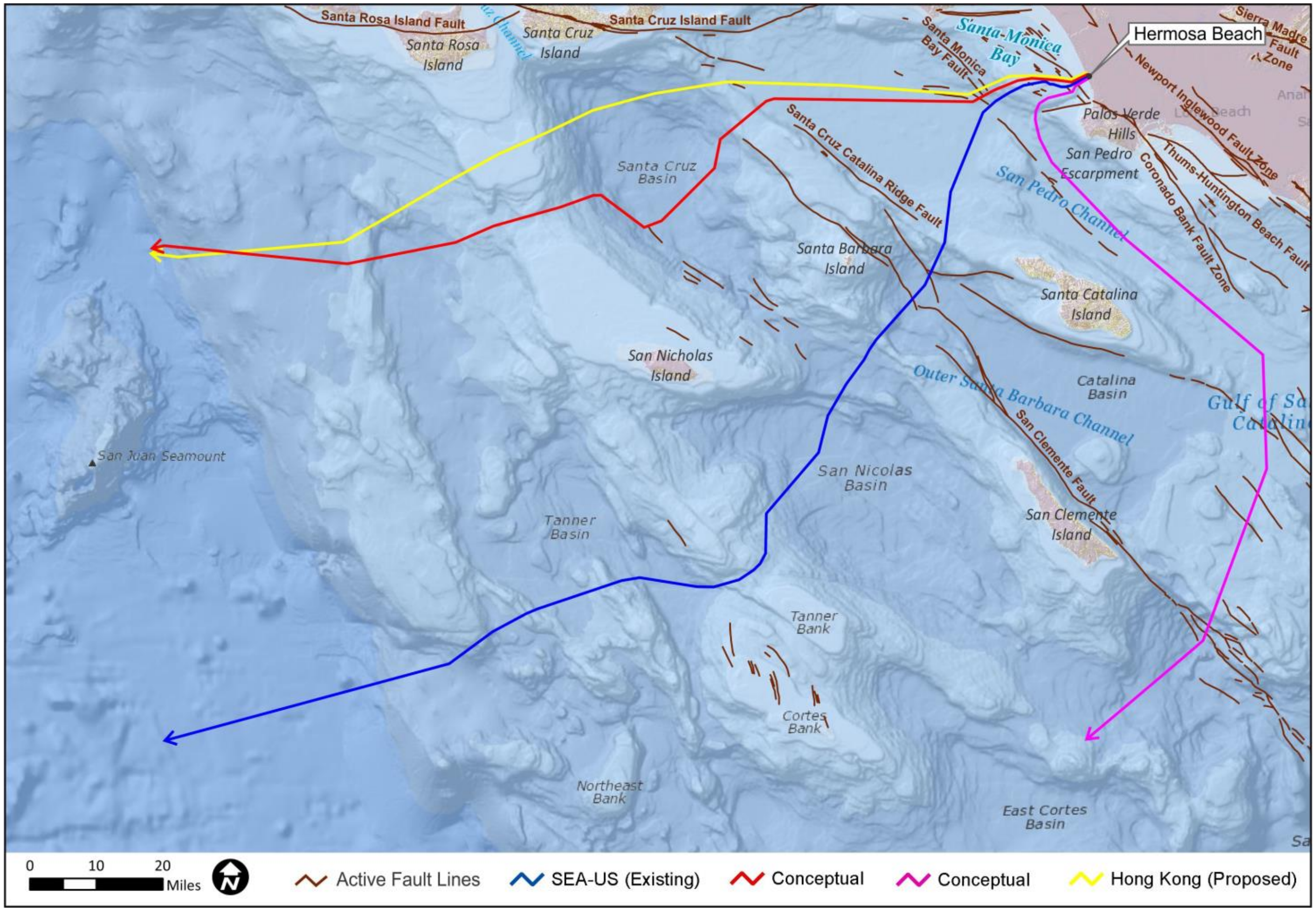
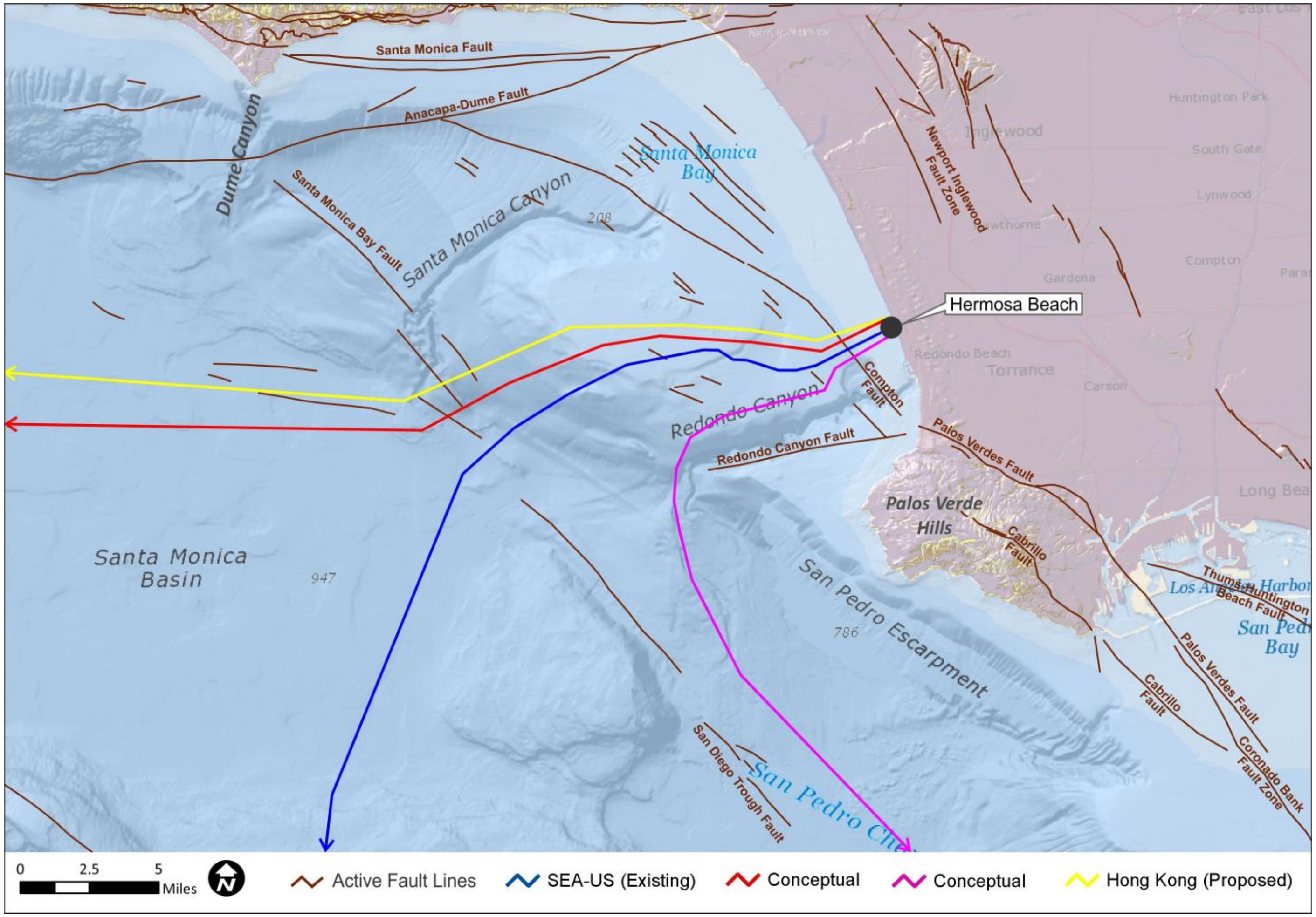


Figure 3.6-2. Offshore Geologic Features Detail: Santa Monica Bay



Deformation has created tight folding of rocks under the shelf south of Santa Monica Canyon. The folding extends eastward nearly to the location of the Palos Verdes Fault. Rocks are deformed into numerous short-wavelength folds and underlie most of the continental shelf between the Santa Monica and Redondo Canyons.

3.6.1.2. Seismicity and Major Faults

Faults

No active faults are within the proposed Project footprint or within 1 mile (1.6 kilometers) of the terrestrial portions of the Project. The closest known active faults are the Palos Verdes Fault Zone, approximately 2 miles (3.2 kilometers) west of the 6th Street and 10th Street landing site options; and the Newport-Inglewood Fault Zone, approximately 7 miles (11.3 kilometers) northeast of the 6th Street and 10th Street landing site options.

The Palos Verdes Fault is within a mile of the Palos Verdes Peninsula and is considered an active fault with slip rates of approximately 0.04 to 0.20 inch (1 to 5 millimeters) per year and a maximum credible earthquake magnitude of 7.3 (City of Rancho Palos Verdes 2018). The width of the zone of potential surface ruptures is variable and estimated to range from approximately 1,640 feet (500 meters) to as narrow as about 246 feet (75 meters). No known earthquakes have occurred along the Palos Verdes Fault in the past 200 years.

The Newport-Inglewood Fault has been the source of several earthquakes in the last 70 years, with magnitudes ranging from 4.7 to 6.4 on the Richter scale. The largest of these was the 1933 Long Beach quake, a magnitude 6.4 quake that caused surface fault rupture. The vertical fault strikes northwest-southeast and is a right-lateral strike slip fault with a minor reverse component. The fault separates the Southwestern Block from the Central Plain of the Los Angeles Basin. This fault is considered an active fault with slip rates of approximately 0.04 to 0.06 inch (1 to 1.5 millimeters) per year and a maximum credible earthquake magnitude of 7.1 (City of Rancho Palos Verdes 2018). Therefore, the Newport-Inglewood Fault has the highest probability of affecting the proposed Project area.

Liquefaction

When loosely packed soils in proximity to water (such as groundwater or ocean water) are subjected to seismic shaking, a process called liquefaction can occur. This phenomenon typically occurs in loose, saturated sediments of primarily sandy composition with ground accelerations over 0.2 g (peak ground acceleration can be expressed in fractions of g, which is defined as the standard acceleration due to Earth's gravity and is equivalent to g-force). When this occurs, the sediments involved have a total or substantial loss of shear strength, and they behave more like a liquid or semi-viscous substance. This can cause ground settlement, foundation failures, and the buoyant rise of buried structures. When soil liquefies, loss of bearing strength may occur beneath a structure, possibly causing the building to settle or tilt.

The beach areas located along the coasts near Hermosa Beach have liquefaction potential because of their sandy substrate, and both proposed cable routes cross this liquefaction zone heading seaward (City of Hermosa Beach 2017) (DOC 2019b). The United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) has not completed a soil survey for this area. A significant portion of the shoreline of southern California has been dredged, filled, or reshaped for the development of marinas, harbors, jetties, and other developments (E&E 2001). Consequently, the beach sands in these areas, including Hermosa Beach, have been compacted and reworked. The exact composition of soils east of the coast is unknown, and therefore, the liquefaction propensity of specific areas, including the soils within the Project's proposed alignments, is unknown at this time.

Tsunamis

Tsunamis are large ocean waves caused by significant seismic events. Tsunamis, like tides, produce waves of water that move inland, but in the case of tsunamis, the inland movement of water is much greater and lasts for a longer period than normal tides. Typically, oceanic tsunamis are the result of sudden vertical movement along a fault rupture in the ocean floor, submarine landslides, subsidence, or volcanic eruption, where the sudden displacement of water sets off transoceanic waves with wavelengths of up to 125 miles (200 kilometers) and with periods generally from 5 to 60 minutes. The trough of the tsunami wave arrives first, leading to the retreat of water from the shore as the ocean level drops. This is followed by the arrival of the crest of the wave, which can run up on the shore in the form of bores or surges in shallow water or simple rising and lowering of the water level in relatively deeper water, such as in harbor areas. According to the General Plan of the City of Los Angeles, Safety Element, hazardous tsunamis along the Los Angeles coast are rare, but major storms at sea also can generate heavy waves. These waves have caused considerable damage to properties and beaches along the ocean perimeter in the past.

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. However, even weaker tsunamis in the form of abrupt tidal swells, or surges, may cause coastal flooding in the event of a large submarine earthquake or landslide. In the process of incoming surges, the onshore flow can have tremendous force on onshore structures. The subsequent draw-down (i.e., return of waves to the ocean) of the water after run-up exerts the often crippling opposite drags on the structures and washes loose/broken debris to sea; the floating debris brought back on the next onshore flow has been found to be a major cause of extensive damage after successive run-up and draw-down. The potential loss of human life in this process can be great if such events occur in populated areas.

The Pacific plate boundaries have high seismic activity, as well as a history of Pacific-wide tsunamis every 10 to 20 years. Therefore, a tsunami has potential to occur during the lifetime of the cable proposed under the Project (E&E 2001).

3.6.1.3. Soils and Surficial Sediments

The USDA has not completed a soil survey for this area; thus, information on subsurface soil conditions in the Project area is limited. According to the Seismic Hazard Zone Report for the Redondo Beach 7.5-minute quadrangle (DOC 1998), Holocene deposits located in the upper northeast area of the quadrangle (including parts of Hermosa Beach, Manhattan Beach, Redondo Beach, and Torrance) consist of three surficial units that crop out in bands parallel to the coast and undifferentiated alluvium along some of the stream channels. In the west, closest to the Project area, a narrow band of modern marine beach deposits are present. The beach deposits extend from the northern boundary of the quadrangle, southward to Malaga Cove, and in Lunada Bay, east of Long Point and in Abalone Cove.

Slope Stability

Landslides are movements of relatively large landmasses, either as nearly intact bedrock blocks or as jumbled mixes of bedrock blocks, fragments, debris, and soil. Landslides are common throughout southern California's mountain ranges, particularly near major fault zones where the rock has been weakened by fracturing, shearing, and crushing. Landslides may occur due to seismic shaking, local climatic conditions, or human-made modifications to the slide mass. Ocean wave action, undercutting of slopes during construction, improper compaction, or oversaturation can also trigger landslides. Immediate dangers from landslides include destruction of property and possible fatalities from rocks, mud, and water sliding downhill or downstream. Other dangers include broken electrical, water, gas, or sewage lines.

Given the proximity of the marine routes to active fault zones, the potential for underwater landslides exists. Earthquakes can move loose sediments during seismic events and thus threaten the integrity of Project components. The terrestrial components of the proposed Project are not located near any slopes or features subject to landslides.

Erosion

Erosion is a condition that could substantially and adversely affect development on any site. Structures located above or below actively eroding natural slopes or manufactured slopes would be susceptible to the effects of erosion. In addition, development could exacerbate erosion conditions by exposing soils and adding additional water to the soil from irrigation and runoff from new impervious surfaces.

Unstable and Expansive Soils

Compressible soils are fine-grained soils (silts and clays) that are susceptible to compression when weight is placed on them. Settlement of compressible silts and clays is referred to as consolidation and occurs when groundwater is squeezed from soil pores by added surface loads, such as fills or building foundations. The amount and rate of settlement can vary greatly, depending upon a number of factors, including natural moisture and density, the thickness of the compressible layer, the amount of fill placed over the compressible material, and the ability of pore water to escape from soil pores via drainage paths, such as sand lenses and soil fissures.

Fine-grained soils (silts and clays) may contain variable amounts of expansive minerals. These minerals can undergo substantial volume changes as a result of changes in moisture content; that is, they expand when they get wet and shrink as they dry out. This expansive behavior can damage foundations and other building components. Fine-grained sediments with high clay content would be most susceptible to potential expansive soil impacts. While no expansive clays or soils exhibiting shrink-swell characteristics appear to be present within the City, no citywide soil report exists for the City of Hermosa Beach (City of Hermosa Beach 2014).

3.6.1.4. Regional Paleontology

As described in Section 3.6.1.1, Regional Geology, the City of Hermosa Beach is located within the Los Angeles Basin. The basin was formed approximately 15 million years ago during the Neogene Period (from 20.45 to 2.58 million years ago), when the land was underwater. A disruption in the Earth's crust caused a shift in the surrounding mountains, which led to the formation of a large basin and sediment from the sea and rivers accumulated in thick layers in the undersea basin. Approximately 5 million years ago, the crustal stretching collapsed, forcing the basin to the surface. Geologic maps indicate that the City of Hermosa Beach is underlain by ancient and recently active paralic sediments (i.e., a combination of marine and continental deposits), consisting of eolian deposits (sand dune), tidal marsh deposits, and alluvium (clay, silt, sand and gravel deposits) and range in age from firm Pleistocene (2.58 million years ago to 11,700 years ago) to loose Holocene deposits (11,650 years ago to present). From the bottom of these paralic deposits to a depth of about 500 feet below sea level is the Pleistocene San Pedro Formation, consisting of massive and poorly consolidated marine sand deposits. Beneath the San Pedro Formation to a depth of several thousand feet below ground surface are marine sedimentary units extending from the Pliocene (5.333 to 2.58 million years ago) to the Miocene (23.03 to 5.333 million years ago).

A paleontological records search conducted by Gavin Archer, MA, RPA, of PCR Services Corporation, identified no records of vertebrate fossils within the City of Hermosa Beach. The City is located within surface deposits of active beach sands, younger Quaternary dune sands, and older Quaternary dune sands (2.58 million years ago to present). These deposits are not known for containing vertebrate fossils in the uppermost layers, and no vertebrate fossil localities exist within the City boundaries. Older Quaternary terrace deposits, both marine and terrestrial, may underlie the surficial material in the study area. These deposits are known to have yielded vertebrate fossils at depths from 15 feet to 35 feet below the surface, approximately 2.5 miles east of the City boundary (Clark and Archer 2014).

3.6.2. Regulatory Setting

3.6.2.1. Federal

No federal regulations relating to geology, soils, and paleontological resources are relevant to the proposed Project.

3.6.2.2. State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (USGS 2019) was passed in 1972 to mitigate surface faulting hazards on structures meant for human occupancy. Under the Alquist-Priolo Act, the California State Geologist identifies areas in the State that are at risk from surface fault rupture. The primary purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Alquist-Priolo Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Act requires the State Geologist to establish regulatory zones (known as earthquake fault zones or Alquist-Priolo zones) around the surface traces of active faults and issue appropriate maps. The maps are distributed to all affected cities, counties, and State agencies for their use in planning and controlling construction to reduce losses from surface fault rupture. Local agencies must regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy. Local agencies can be more restrictive than State law requires (DOC 2019a).

Before a project can be permitted, a geologic investigation is required to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. An active fault, for the purposes of the Alquist-Priolo Act, is one that has ruptured in the last 11,000 years. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet [15 meters]) (DOC 2019a).

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 (Public Resources Code [PRC] Chapter 7.8, § 2690–2699.6) addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides. Through it, California establishes city, county, and State agency responsibilities for identifying and mapping seismic hazard zones and mitigating seismic hazards to protect public health and safety. The Act requires the California Department of Conservation, Division of Mines and Geology, to map seismic hazards and establishes specific criteria for project approval that apply within seismic hazard zones, including the requirement for a geological technical report (DOC 2019c).

California Coastal Act

The California Coastal Act (CCA) establishes a comprehensive approach to govern land use planning along the entire California coast. Section 30253, minimization of adverse impacts, states that new development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

California Public Resources Code

PRC 5097.5 affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Under PRC 30244, any development that would adversely affect paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the State or city, county, district, or other public agency.

California Penal Code

Section 622.5 sets the penalties for damage or removal of paleontological resources.

3.6.2.3. Local

PLAN Hermosa

The City of Hermosa Beach General Plan, PLAN Hermosa, includes goals and polices that address geotechnical hazards and paleontological resources.

Goal

1. Injuries and loss of life are prevented, and property loss and damage are minimized.

Policies

1.1 *Evaluate risks*. Buildings and infrastructure will be periodically evaluated for seismic, fire, flood, and coastal storm hazard risks and identified risks will be minimized by complying with California Building Code standards and other applicable regulations.

1.2 *Prepare geotechnical reports*. Geotechnical reports will be prepared for new development projects in areas with the potential for liquefaction or landslide.

1.3 *Tsunami Playbook*. Work with Los Angeles County and utilize resources such as the Tsunami Playbook in the evaluation and response of tsunami risk.

1.10 *Consider site-specific soil conditions*. Require new structures to consider site-specific soil conditions.

Goal

10. A strong sense of cultural and architectural heritage.

Policy

10.10 *Archaeological and paleontological resources*. Recognize the prehistory and history of the city and strive to identify, protect, and preserve archaeological and paleontological resources.

Specifications for Public Works Construction

These specifications were adopted by the City of Hermosa Beach in 2004. Backfill material must be compacted to eliminate erosion and soil settlement in conformance with these Specifications.

3.6.3. Potential Environmental Impacts

3.6.3.1. Significance Thresholds

Based on the findings of the Initial Study, an impact related to geology or soils would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold GEO-1:** 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, or based on other substantial evidence of a known fault (Refer to DM&G Pub. 42); or, (ii) strong seismic ground shaking; or, (iii) seismic-related ground failure, including liquefaction; or, (iv) landslides.
- **Threshold GEO-2:** Result in substantial soil erosion or the loss of topsoil.
- **Threshold GEO-3:** 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
- **Threshold GEO-4:** Be located on expansive soil, as defined in Table 18-1-B of the 1994 UBC, creating substantial direct or indirect risks to life or property.
- **Threshold GEO-5:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following threshold:

- 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 wastewater.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to this threshold. The impacts assessment below focuses on Thresholds GEO-1 through GEO-5 identified above.

3.6.3.2. Impact Analysis

Fault Rupturing, Strong Seismic Ground Shaking, and Seismic-Related Ground Failure and Landslides (Threshold GEO-1)

Impact GEO-1:	***The proposed Project would be subject to strong seismic ground shaking and seismic-related ground failure, including liquefaction and landslides.***

Terrestrial

The proposed Project would be located in a seismically active area that could be prone to ground shaking and other seismic-related ground failure. However, according to the Department of Conservation, the Project area is not located within an Alquist-Priolo fault zone. The majority of the terrestrial portions of the Project (i.e., landing pipes, ocean ground bed, conduits, innerducts, fiber-optic cables) would be installed underground beneath public street rights-of-way using directional boring methods. In the event of strong seismic ground shaking, the terrestrial cables would not affect public safety because of their location underground. The power feed equipment would be located within an existing facility, and intermediate and landing manhole would be installed in street rights-of way to provide access to the underground components. No buildings or other ground-level structures would be constructed and, thus, the Project would not result in the potential for structures to collapse and endanger human life in the event of strong seismic activity. Ground shaking is not expected to affect the terrestrial components in a way that would adversely affect the safety of people.

Implementation of the proposed Project would not expose people or structures to substantial adverse effects from seismic-related ground failure, including liquefaction. Liquefaction occurs when saturated, low-density, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Portions of the proposed Project would traverse known liquefaction zones in the City of Hermosa Beach. The California Geological Survey identifies the entire beach and city blocks west of Hermosa Avenue within liquefaction zones (DOC 2019). The conduit system and other buried Project components would not pose a safety hazard during a liquefaction event because of their subterranean location. The Project would not involve the construction of any substantial surface structures that could collapse due to liquefaction and result in injury or death. Further, the topography of the Project area is relatively flat and graded, with no steep geological features that could result in a landslide due to liquefaction. Therefore, liquefaction hazards are not expected to be significant.

Either the Palos Verdes Fault or the Newport-Inglewood Fault could cause seismic shaking and strong ground motion at the proposed Project site. No new housing, offices, or other facilities attracting visitors would be constructed that would pose a major hazard to the safety of the public in the event of an earthquake. Therefore, the Project would not draw a substantial amount of people to the area, either during construction activities or permanently, and the small number of personnel required for occasional routine maintenance of the power feed equipment (PFE) facilities would be on site temporarily. Thus, the potential risk to the occasional personnel visiting the site would be extremely limited. Therefore, terrestrial Project components are not expected to result in substantial adverse effects on public safety from liquefaction or other seismic-related ground failure. Impacts would be less than significant (Class III).

Marine

The marine portion of the proposed Project would consist of laying the marine cables on the ocean floor along a predetermined route. The potential danger to a submarine cable in seismically active areas is not from the immediate surface rupture or ground-shaking caused by an earthquake, but from the effects that these actions can have on loose sediments found on slopes near the earthquake epicenter. Earthquakes can set these sediments in motion, causing debris flows that can be extremely dangerous to a cable. Because of the proximity of the routes to active fault zones, the potential for underwater landslides exists (E&E 2001). The principal cause for failure for rock and soil falls is the loss of cohesion or strength of the near-surface material on a very steep slope. As shown in Figure 3.6-1, routes were selected to avoid steep slopes by threading the routes around undersea mounts and ridges to the degree feasible rather than going up and over them. Additionally, as stated in Section 2.5.3, Marine Alignments, the routes were selected by the Applicant to avoid the geologically active Santa Monica Canyon and Redondo Canyon (see Figure 3.6-2). Where the avoidance of steep slopes is not feasible, the cables would be laid on the seafloor rather than placed in a trench. Because of these precautions and the added requirements stipulated in Mitigation Measure (MM) GEO-1 below, the likelihood for cable damage due to an underwater landslide is small and, therefore, unlikely to occur.

Because the precise alignment of the cables would not be determined until final design, MM GEO-1 would require a geotechnical report to be prepared for the marine portion of the Project to more precisely identify potential geotechnical hazards and to avoid areas subject to ground failure. With implementation of this measure, the risk of cable damage from ground failure would be substantially reduced, which would avoid potential significant impacts associated with repairing the cable. Because the need for cable repairs is considered very unlikely, impacts related to undersea ground failure would be reduced to less than significant (Class II).

Mitigation Measure

GEO-1 **Geotechnical Study Prior to Construction.** Prior to construction, the Applicant will conduct a geotechnical study evaluation of sea floor conditions and geologic hazards for the marine portion of the Project area. Using this information, the Applicant shall re-align the cable where possible to avoid unstable areas or hazards.

The geotechnical study will be prepared by a qualified engineer and must contain bathymetry data, characterization of sub-surface sediments, and grain size of sub-surface sediments of the seabed at representative areas. The marine geotechnical survey will be conducted using an accurate electronic positioning system (accuracy of 3 meters or less), and a side-scan sonar at a minimum. Vessel speed should not exceed 4 knots. The side-scan sonar should have a resolution capability of 600 kilohertz (KhZ) operating at 50 meters or less per channel. The Applicant will use these studies to determine the appropriate engineering for the marine portions of the Project to minimize geotechnical hazard impacts.

Soil Erosion (Threshold GEO-2)

Impact GEO-2: The terrestrial boring procedures could result in soil erosion or loss of topsoil.

Construction activities have the potential to exacerbate erosion conditions by exposing soils during trenching and excavation of bore pits. Erosion control measures would be utilized to prevent sediments and pollutants from leaving the site. Trench and bore pit backfilling would begin immediately after the conduits are installed. Backfill material would be compacted to eliminate erosion and soil settlement in conformance with Specifications for Public Works Construction, adopted by the City of Hermosa Beach in 2004. In unpaved areas, restoration would entail grading to restore original contours; installing erosion control devices at locations susceptible to erosion; and seeding, mulching, and fertilizing to return the site to preconstruction conditions. California Coastal Act (CCA), Section 30253, requires that new developments consider multiple criteria to ensure the minimization of adverse impacts, including assuring that a proposed Project does not contribute significantly to erosion or require the use of protective devices which would result in alteration of natural landforms. As stated above, erosion would only have the potential to occur during construction of the proposed Project. By implementing standard best management practices (BMPs) required by the City and identified above, consistency with CCA, Section 30253, would be maintained, and impacts related to erosion would be avoided. Therefore, impacts would be less than significant (Class III).

Unstable Geologic Units or Soils (Threshold GEO-3)

Impact GEO-3:	***The marine cable-laying components would traverse areas of the seafloor that are potentially unstable.***

The Project area may include locations along the proposed marine fiber-optic cable routes where the sea floor is unstable, with potential for steep areas susceptible to slumping. Cable-laying and plowing activities would disturb these unstable areas and potentially cause slope failure. However, because the plow would only be able to operate in areas of soft sediment on low or moderate slopes, the probability of substantially disturbing unstable slopes is extremely low. The plow would be pulled at a speed of approximately 1.2 miles per hour (approximately 1 knot or 1.9 kilometer per hour) and would primarily trench straight up and down slopes instead of traversing and potentially undercutting a slope. The plow would not be utilized on steep slopes, as the plow cannot operate efficiently in those areas. The cable would be buried using alternative post-lay burial methods, including diver-assisted jet burial and remotely operated vehicle burial, in areas where plow burial is not feasible.

Because information regarding the exact composition of soils in the marine Project area is limited, and the precise alignments of the marine cable routes would be determined during final design, implementation of MM GEO-1 would require a geotechnical report to be prepared for the marine portion of the Project to identify and avoid unstable areas. By complying with MM GEO-1, by either avoiding unstable areas or implementing appropriate design, impacts would be reduced to less than significant (Class II).

Mitigation Measure

GEO-1 **Geotechnical Study Prior to Construction.** See above for the full text of this measure.

Expansive Soils (Threshold GEO-4)

Impact GEO-4:	***Expansive soils may damage terrestrial Project components, causing direct or indirect risks to life or property.***

Changes in the water content of a highly expansive soil can result in severe distress for structures constructed on or against the soil. The majority of the proposed Project is located in the ocean; therefore, soils and sediments remain saturated. Without water content changes in the soils and sediments on the seafloor, the cable would not experience impacts from expansive soils in the marine environment.

The Project's terrestrial components include cables buried in underground conduits in public rights-of-way and an expanded PFE facility. The terrestrial portion of the proposed Project is generally underlain by soils consisting of sandy substrate, which have a low expansion potential. Because local soils have an extremely low potential for expansion, Project components would not be subjected to the types of potential damage that can be caused by expansive soils. Further, the construction of Project components would not change the low expansion potential of the local soils and, therefore, would not create or exacerbate hazards associated with expansive soils. As a result, the Project's impacts related to expansive soils would be less than significant (Class III).

Paleontological Resources (Threshold GEO-5)

Impact GEO-5:	***The terrestrial boring and excavation activities could disturb potentially important paleontological resources.***

The City of Hermosa Beach is underlain by surface deposits of active beach sands, younger Quaternary dune sands, and older Quaternary dune sands. According to the Natural History Museum of Los Angeles County (NHMLAC), these Quaternary dune sand deposits are not known to contain vertebrate fossils in the uppermost layers. No vertebrate fossil localities exist within the City boundaries. Therefore, the possibility of encountering buried paleontological deposits within active beach sands and younger Quaternary dune sands within the City is considered low. The paleontological records search, as described in Section 3.6.1.4, Regional Paleontology, indicated that three fossil localities outside of the City boundaries have been found in similar sedimentary deposits (older Quaternary dune sands) as those which occur within the City, and thus, the potential to encounter buried paleontological resources within older Quaternary deposits within the City is considered at least moderate. The NHMLAC recommends monitoring of any deep substantial excavations of older Quaternary deposits.

Terrestrial activities would include directional boring and excavation to install terrestrial components that may expose and disturb important buried paleontological resources. However, the Project site is in a highly developed area that may have likely been surveyed or excavated. The likelihood of encountering important paleontological resources would be low in this urban environment. The proposed terrestrial land disturbance depth would range between 4 and 8 feet. Three vertebrate fossil localities within older Quaternary dune sands nearby but not within the City boundaries were found between depths of 15 to 35 feet. Therefore, encountering important paleontological resources during Project activities would be unlikely given the relatively shallow depth of soil disturbance and excavation. The portions of the Project area that traverse the beach are not expected to disturb paleontological resources, as the substrate is sandy and has low potential for containing fossil-bearing rock. In the unlikely event that paleontological resources are present in the Project site, MMs GEO-2 and GEO-3 would be implemented to reduce impacts on potential paleontological resources to less than significant (Class II).

Mitigation Measures

GEO-2 **Evaluation and Treatment of Incidentally Discovered Paleontological Resources.** If paleontological resources are encountered during terrestrial subsurface construction, all ground-disturbing activities within 25 feet (7.6 meters) will be halted or redirected to avoid additional impact, and a qualified paleontologist will be contacted to assess the situation, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. Project personnel will not collect or move any paleontological materials. Adverse effects on such deposits will be avoided by Project activities.

Upon completion of the assessment, a report documenting methods, findings, and recommendations will be prepared and submitted to the City of Hermosa Beach and, if paleontological materials are recovered, they would be stored at a paleontological repository, such as the Natural History Museum of Los Angeles County.

GEO-3 **Monitoring for Paleontological Resources.** A paleontological monitor will be present during excavation when a depth of approximately 8 feet (2.4 meters) or greater is reached to monitor for paleontological resources that may be encountered in the older Quaternary terrace deposits that underlie the surficial dune and beach deposits. The paleontological monitor will be able to: (1) recognize fossils and paleontological deposits, and deposits that may be paleontologically sensitive; (2) take accurate and detailed field notes, photographs, and locality coordinates; and (3) document Project-related ground-disturbing activities, their locations, and other relevant information, including a photographic record.

3.6.3.3. Cumulative Effects

Introduction

The marine components of the cable systems are located in Santa Monica Bay between the Mean High Water (MHW) line and the outer limit of the continental shelf – that is, areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). Santa Monica Bay is a semi-enclosed shelf centrally located in the Southern California Bight. The region surrounding Santa Monica Bay has been substantially altered over time as terrestrial areas have developed and the population has increased. This development has subsequently altered the marine environment, including adverse effects on marine sediment as a result of polluted urban runoff, dumping of waste, and other forms of contamination. Marine activities have also contributed to a degraded environment through pollution and dumping.

All cumulative projects listed in Table 3-1 are terrestrial and do not include any projects that contribute to impacts associated with the marine components of the proposed Project. The proposed Project's terrestrial components would be located in an area that has experienced substantial changes due to extensive development and urbanization. The Project area has already been graded, developed, and stabilized, and has a low potential to be unstable; therefore, the Project is unlikely to exacerbate geologic hazards.

Project Contribution to Cumulative Impacts

The marine and submarine nature of the Project components are distinctly separated geographically from the terrestrial projects listed in Table 3-1 and would not contribute to cumulative effects. Any disturbances to the seafloor during construction of the proposed Project would be temporary and localized. With implementation of MM GEO-1, the unlikely disturbance of geologic features associated with marine construction equipment would be avoided to the extent possible by identifying sensitive locations in the geotechnical study. Therefore, the Project would not substantially contribute to any cumulative impacts in the marine environment. Impacts would not be cumulatively considerable.

The ground disturbance involved with the proposed terrestrial boring procedures and conduit installation would be minimal and temporary. Most major terrestrial Project components would be located underground and would not pose a public safety hazard during a seismic event. The nearest cumulative projects (e.g., housing remodels, commercial development, hotels, and other buildings) would not combine with or exacerbate the Project's seismic impacts, which are less than significant. The lack of steep slopes and loose or unstable soils further reduces the risk of liquefaction, landslides, and mudslides. The low expansion potential of the area's soil would not cause the Project to substantially contribute to the overall cumulative impact of nearby projects. The terrestrial projects listed in in Table 3-1 would not cause any cumulative effects because of their distance from the proposed Project, overall stable soil conditions of the surroundings, and the heavily developed nature of the geologic landscape. In addition, with implementation of MMs GEO-2 and GEO-3, the Project's impacts on paleontological resources would be less than significant and would not substantially contribute to cumulative effects or exacerbate paleontological impacts. Therefore, impacts would not be cumulatively considerable.

3.6.3.4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Geology and Soils

Table 3.6-1, below, provides a summary of the Project's impacts related to geology and soils. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.6-1. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Geology and Soils

Impacts	Mitigation Measures	Significance Conclusion
Threshold GEO-1: 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, or based on other substantial evidence of a known fault (Refer to DM&G Pub. 42); or, (ii) strong seismic ground shaking; or, (iii) seismic-related ground failure, including liquefaction; or, (iv) landslides.		
Impact GEO-1: The proposed Project would be subject to strong seismic ground shaking and seismic-related ground failure, including liquefaction and landslides.	None required	Class III (Terrestrial)
	GEO-1 Geotechnical Study Prior to Construction	Class II (Marine)
Threshold GEO-2: Result in substantial soil erosion or the loss of topsoil.		
Impact GEO-2: The terrestrial boring procedures could result in soil erosion or loss of topsoil.	None required	Class III
Threshold GEO-3: 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.		
Impact GEO-3: The marine cable-laying components would traverse areas of the seafloor that are potentially unstable.	GEO-1 Geotechnical Study Prior to Construction	Class II
Threshold GEO-4: Be located on expansive soil, as defined in Table 18-1-B of the 1994 UBC, creating substantial direct or indirect risks to life or property.		
Impact GEO-4: Expansive soils may damage terrestrial Project components, causing direct or indirect risks to life or property.	None required	Class III
Threshold GEO-5: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.		
Impact GEO-5: The terrestrial boring and excavation activities could disturb potentially important paleontological resources.	GEO-2 Evaluation and Treatment of Incidentally Discovered Paleontological Resources GEO-3 Monitoring for Paleontological Resources	Class II
Cumulative Effects	GEO-1 through GEO-3 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.

Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.6.4. References

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3.7. Hazards and Hazardous Materials

This section addresses the hazardous materials and public safety impacts that could result from implementation of the proposed Project. The analysis describes the potential for the Project to expose people and the environment to hazards and hazardous materials, such as fuels and lubricants, during and after construction. The following discussion describes the environmental and regulatory setting of the Project area, identifies and analyzes environmental impacts, and includes mitigation measures to reduce or avoid impacts associated with Project construction and operation. Water quality impacts from Project construction in the marine environment are also discussed in Section 3.8, Hydrology and Water Quality.

3.7.1. Environmental Setting

Hazardous Materials Sites

Population growth and industrialization within the City of Hermosa Beach and near the Santa Monica Bay throughout the last century has increased the need for waste disposal in the region. As the region grew, industrial, agricultural, and household contaminants increasingly flowed or were washed into the Bay. Many of these pollutants are known to pose risks for people, marine life, and the surrounding environment. Historically, contaminants of greatest concern in the Bay have included dichlorodiphenyltrichloroethane (DDT), polychlorinated biphenyls (PCBs), heavy metals (such as lead), and polycyclic aromatic hydrocarbons (PAHs) (U.S. Geological Survey 2003).

Various forms of contamination have also occurred in the terrestrial environment due to human occupation and activities. Government Code Section 65962.5 requires the State Water Resources Control Board (SWRCB) to compile and update a list of sites with unauthorized releases of hazardous materials. The SWRCB GeoTracker database lists these formerly and currently contaminated sites. The sites that are located within a one-mile radius of the Project area are listed below in Table 3.7-1. The GeoTracker database indicates that most of the sites in the vicinity are closed cases, meaning that the contamination has been remediated and the sites do not represent a threat to the public or environment. The one site that is an open case, Redondo Generating Station, is not located within the Project area.

Table 3.7-1. GeoTracker List of Hazardous Materials Sites in the Project Vicinity

Site	Address	Approximate Distance from Project	Status
West Group Construction	260 Portofino Way, Redondo Beach	0.9 mile (1.4 kilometers) south of 6th Street landing site	Leaking underground storage tank (LUST) cleanup site. Gasoline contamination in soil. **Case closed February 1990**.
Sweetser Property	507 Gertruda Avenue, Redondo Beach	0.8 mile (1.3 kilometers) southeast of 6th Street landing site; 1 mile (1.6 kilometers) southeast of 10th Street landing site	LUST cleanup site. Gasoline contamination in soil. **Case closed January 1990**.
Triton Oil & Gas – Redondo Beach	612 North Francisca Avenue, Redondo Beach	0.6 mile (1 kilometer) southeast of 6th Street landing site; 0.8 mile (1.3 kilometers) southeast of 10th Street landing site	Cleanup program site. Contaminants not specified. **Case closed April 1995**.
City of Redondo Beach	545 North Gertruda Avenue, Redondo Beach	0.7 mile (1.1 kilometers) southeast of 6th Street landing site; 0.97 mile (1.4 kilometers) southeast of 10th Street landing	LUST cleanup site. Unspecified contaminant in groundwater and soil. **Case closed May 2012**.

Site	Address	Approximate Distance from Project site	Status
United States Postal Service	1201 North Catalina Avenue, Redondo Beach	0.6 mile (0.9 kilometer) southeast of 6th Street landing site; 0.7 mile (1.2 kilometers) southeast of 10th Street landing site	LUST cleanup site. Gasoline contamination in soil. **Case closed June 1990**.
Redondo Generating Station	1100 Harbor Drive, Redondo Beach	0.4 mile (0.7 kilometer) south of 6th Street landing site; 0.6 mile (1 kilometer) south of 10th Street landing site	Cleanup program site. Contaminants not specified. Open – site assessment in September 1997.
T-Y Nursery Inc.	808 Paulina Avenue, Redondo Beach	0.8 mile (1.3 kilometers) southeast of 6th Street landing site; 0.9 mile (1.4 kilometers) southeast of 10th Street landing site	LUST cleanup site. Other solvent or non-petroleum hydrocarbon contamination in soil. **Case closed November 1996**.
Jeep/Eagle Dealership	125 Pacific Coast Highway, Hermosa Beach	0.6 mile (1 kilometer) southeast of 10th Street landing site; 0.5 mile (0.8 kilometer) southeast of 6th Street landing site	LUST cleanup site. Aviation contamination in soil. **Case closed March 1991**.
GTE Redondo Beach Central	102 Pacific Coast Highway, Hermosa Beach	0.5 mile (0.8 kilometer) southeast of 6th Street landing site; 0.6 mile (1 kilometer) southeast of 10th Street landing site	LUST cleanup site. Diesel contamination in aquifer used for drinking water supply. **Case closed October 1996**.
Vasek Polak Porsche-Audo	199 Pacific Coast Highway, Hermosa Beach	0.4 mile (0.7 kilometer) southeast of 6th Street landing site; 0.6 mile (0.9 kilometer) southeast of 10th Street landing site	LUST cleanup site. Gasoline contaminant in soil. **Case closed January 1997**.
Mortise and Lenon	729 Pacific Coast Highway, Hermosa Beach	0.4 mile (0.7 kilometer) southeast of 6th Street landing site; 0.4 mile (0.7 kilometer) southeast of 10th Street landing site	LUST cleanup site. Aviation contaminant in soil. **Case closed February 1997**.
Shell Service Station	1031 Hermosa Avenue, Hermosa Beach	0.2 mile (0.3 kilometer) north of 6th Street landing site; 0.1 mile (0.08 kilometer) northwest of 10th Street landing site	LUST cleanup site. Gasoline contamination in groundwater. **Case closed November 1997**.
Mobil #11-E3F	931 Pacific Coast Highway, Hermosa Beach	0.4 mile (0.7 kilometer) northeast east of 6th Street landing site; 0.4 mile (0.6 kilometer) east of 10th Street landing site	LUST cleanup site. Waste oil, motor, hydraulic, and/or lubricating oil contamination in soil. **Case closed May 2010**.
Arco #9652	1311 Pacific Coast Highway, Hermosa Beach	0.6 mile (0.9 kilometer) northeast of 6th Street landing site; 0.4 mile (0.7 kilometer) northeast of 10th Street landing site	LUST cleanup site. Gasoline contamination in soil. **Case closed September 2008**.
Key Centers, Inc.	1325 Hermosa Avenue, Hermosa Beach	0.4 mile (0.6 kilometer) north-west of 6th Street landing site; 0.2 mile (0.3 kilometer) north-west of 10th Street landing site	LUST cleanup site. Gasoline contamination in aquifer used for drinking water supply. **Case closed February 2014**.

Site	Address	Approximate Distance from Project	Status
Bright Cleaners	1505 Hermosa Avenue, Hermosa Beach	0.5 mile (0.8 kilometer) northwest of 6th Street landing site; 0.3 mile (0.5 kilometer) northwest of 10th Street landing site	Cleanup program site. Contaminants not specified. **Case closed June 1997**.
TOSCO S.S. #1840	755 Pier Avenue, Hermosa Beach	0.6 mile (0.9 kilometer) northeast of 6th Street landing site; 0.4 mile (0.7 kilometer) northeast east of 10th Street landing site	LUST cleanup site. Benzene contamination in soil. **Case closed September 2001**.
Prestige Auto Works	1420 Pacific Coast Highway, Hermosa Beach	0.6 mile (0.9 kilometer) northeast of 6th Street landing site; 0.5 mile (0.8 kilometer) northeast of 10th Street landing site	LUST cleanup site. Gasoline contamination in soil. **Case closed February 2008**.

Source: State Water Resources Control Board, 2019

The California Department of Toxic Substances Control's (DTSC) EnviroStor database further identifies sites that have known or potential contamination. Government Code Section 65962.5 requires the DTSC to compile and update a list of hazardous waste facilities and land designated as hazardous waste properties. Table 3.7-2 shows EnviroStor search results within the City of Hermosa Beach, which only lists two sites with no contamination.

Table 3.7-2. EnviroStor List of Hazardous Materials Sites in the Project Vicinity

Site	Address	Approximate Distance from Project	Status
Hermosa Beach City SD – Hermosa View Elementary School	1800 Prospect Avenue, Hermosa Beach	0.9 mile (1.4 kilometers) northeast of 6th Street landing site; 0.7 mile (1.2 kilometers) northeast of 10th Street landing site	No contaminants found. No action required.
Hermosa Valley School	1645 Valley Drive, Hermosa Beach	0.6 mile (0.9 kilometer) northeast of 6th Street landing site; 0.4 mile (0.6 kilometer) southeast of 10th Street landing site	No contaminants found. No action required.

Source: DTSC, 2020

One important known contaminated site not listed in the above tables is the City Maintenance Yard located on the corner of 6th Street and Valley Drive. PLAN Hermosa, the City's Integrated General Plan and Coastal Land Use Plan, states that "lead and total petroleum hydrocarbon contamination affects the northeast corner of the City Maintenance Yard" (City of Hermosa Beach 2017). The terrestrial conduit system for the 6th Street landing site (Option A) would run adjacent to the City Maintenance Yard site at the corner of 6th Street and Valley Drive.

Nearby Schools

Under CEQA Guidelines Appendix G, Hazards and Hazardous Materials, the Project would cause a significant impact if hazardous emissions, materials, or substances would be emitted within one-quarter mile of existing or proposed schools. Three existing schools are within one-quarter (0.25) mile (0.4 kilometer) of the PFE facility (Table 3.7-3). No known schools exist within one-quarter mile of the either landing site.

Table 3.7-3. Schools Within One-Quarter Mile of PFE Facility

School Name	Address	Approximate Distance from Project
Fusion Academy School	1601 Pacific Coast Highway, Suite 260, Hermosa Beach	Immediately adjacent
Hermosa Valley School	1645 Valley Drive, Hermosa Beach	0.10 mile west
Hermosa View Elementary School	1800 Prospect Ave, Hermosa Beach	0.20 mile northeast

3.7.2. Regulatory Setting

3.7.2.1. Federal

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established an EPA-administered program to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous waste that holds hazardous waste generators responsible for how their waste is managed and disposed of.

Department of Transportation Hazardous Materials Regulations (49 Code of Federal Regulations [CFR] 100–185)

United States (U.S.) Department of Transportation (DOT) Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), and 177 (Highway Transportation) would all apply to the proposed Project and/or surrounding uses.

3.7.2.2. State

California Health and Safety Code

The California DTSC, a department of the California Environmental Protection Agency, is the primary agency in the State for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. The DTSC regulates hazardous waste primarily under the authority of RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Division 20, Chapter 6.5, deals with hazardous waste control through regulations pertaining to transportation, treatment, recycling, disposal, enforcement, and permitting of hazardous waste. Division 20, Chapter 6.10, contains regulations applicable to the cleanup of hazardous materials releases. Title 22, Division 4.5, contains the environmental health standards for the management of hazardous waste. These standards apply to the identification of hazardous waste (Chapter 11) and transporters of hazardous waste (Chapter 13).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the environmental and emergency response programs and provides authority to the Certified Unified

Program Agency (CUPA). The CUPA is designed to protect public health and the environment from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. This is accomplished via inspections, emergency response, enforcement, and site mitigation oversight. The CUPA for Hermosa Beach is the Los Angeles County Fire Department. The CUPA is also responsible for reviewing and approving the hazardous materials business plan required for the proposed Project.

California Code of Regulations, Title 8 – Industrial Relations

Occupational safety standards exist in federal and State laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The federal Occupational Safety and Health Administration (OSHA) and California Division of Occupational Safety and Health (Cal/OSHA) are the agencies responsible for assuring worker safety in the workplace. Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would be applicable to both construction and operation of the Project. The standards included in the California Code of Regulations (CCR), Title 8 include regulations pertaining to hazard control (including administrative and engineering controls), hazardous chemical labeling and training requirements, hazardous exposure prevention, hazardous material management, and hazardous waste operations.

California Labor Code

The California Labor Code is a collection of regulations that includes the regulation of the workplace to ensure appropriate training on the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5 ensures that employees who oversee the handling of hazardous materials are appropriately trained on, and informed of, the materials that they are handling. Division 5, Part 7 ensures employees who work with volatile flammable liquids are outfitted in appropriate safety gear and clothing.

Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

This Act covers all aspects of marine oil spill prevention and response in California and established an Administrator who is given powers to implement the provisions of the Act. The Administrator oversees the Office of Spill Prevention and Response (OSPR), which was established in 1991.

3.7.2.3. Local

PLAN Hermosa

PLAN Hermosa (City of Hermosa Beach 2017) includes the following goal and policies that are applicable to hazardous materials:

Goal

Hermosa Beach residents, businesses, and coastal resources are protected from hazardous materials.

Policies

3.1. *Hazardous material setbacks*. Restrict the storage and transport of hazardous materials only to areas where risks to residents are adequately minimized through setbacks or other measures.

3.2. *Hazardous material incident response*. Coordinate with allied agencies to prepare for and respond to hazardous materials incidents.

3.3. *Use, storage and transport*. Require businesses that use, store, or transport hazardous materials to ensure that adequate measures are taken to protect public health and safety.

3.4. *Hazardous materials in Coastal Zone*. Restrict the siting of new uses involving hazardous materials in the Coastal Zone to coastal-related industrial uses in the Cypress District.

3.5. *Safe disposal practices*. Maintain City's website and other outlets with information regarding the safe handling and disposal of household chemicals.

3.6. *Hazardous waste disposal*. Revise, update, and maintain hazardous waste and construction materials standards for the necessary, proper, and effective disposal of hazardous waste.

City of Hermosa Beach Municipal Code, Chapter 8.16, Hazardous Materials

Chapter 8.16 of the City's Municipal Code discusses the designation, identification, and disclosure of hazardous materials. The Municipal Code establishes minimum citywide standards for business and area plans related to the handling and release, or threatened release, of hazardous materials.

3.7.3. Potential Environmental Impacts

3.7.3.1. Methodology/Approach

Impacts were analyzed qualitatively based on Project details provided by the Applicant and from analyses conducted for similar fiber-optic projects in the same region. Those projects analyzed the following issues: contamination of groundwater or seawater; routine transport, use, or disposal of hazardous materials; accidental release of hazardous materials; proximity to schools and airports; locations of hazardous materials sites; and interference with emergency response plans. Several of these issues were also deemed applicable to the proposed Project and were thus analyzed qualitatively in the context of the Project. The potential water quality impacts of construction through marine areas are also discussed in Section 3.8, Hydrology and Water Quality.

3.7.3.2. Significance Thresholds

Based on the findings of the Initial Study, an impact related to hazards or hazardous materials would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold HAZ-1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- **Threshold HAZ-2:** 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.
- **Threshold HAZ-3:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- **Threshold HAZ-4:** Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
- **Threshold HAZ-5:** Pose electrocution hazards to people in the marine environment.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following thresholds:

- 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, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to these thresholds. The impacts assessment below focuses on Thresholds HAZ-1 through HAZ-5 identified above.

3.7.3.3. Impact Analysis

Routine Transport, Use, or Disposal of Hazardous Materials (Threshold HAZ-1)

Electric and Magnetic Field Effects

The fiber-optic cables would be electrically powered to transmit telecommunications signals and would generate electric and magnetic fields (EMF). As described in Section 2.5.1.3, Cable Regenerators, the cable would generate a small magnetic field on the order of 5 milligauss at a distance of 3.28 feet (1 meter) from the cable. The field would diminish with distance from the cable (such that at 33 feet [10 meters], the level would be approximately 0.5 milligauss). The Earth produces a static magnetic field due to the movements of the Earth's molten magnetic core. The magnetic field of Earth averages around 500 milligauss (NIEHS 2015).

The scientific community has not reached a consensus regarding health risks associated with EMF exposure and, therefore, conclusions regarding this concern cannot be reached in this discussion. In addition, no federal or State standards limit human exposure to EMF from transmission lines. However, the static fields generated by direct current (DC) transmission are not viewed as a health concern due to the extremely low level compared to naturally occurring static fields. No impact from the static electric fields generated by the power cables is anticipated.

Hazardous Materials Spills During Transport, Use, and Disposal

Impact HAZ-1:	***The transport, use, or disposal of hazardous materials could result in spills and expose the public and the environment to these hazardous materials.***

Construction activities for the proposed Project would require the use of hazardous materials, such as gasoline, diesel fuel, oil, acetylene, oxygen, antifreeze, and lubricants to operate construction equipment and other vehicles; and would also require the use and storage of hazardous materials, such as mineral oil, cleaning solvents, paints, adhesives, vehicle fuels, oil, hydraulic fluid, and other vehicle and equipment maintenance fluids in the construction areas. These hazardous materials would be transported, used, and disposed of in accordance with applicable laws, regulations, and guidelines designed to prevent accidents, injury, or other damage to the public, workers, or the environment. Material Safety Data Sheets would be made available at the construction site for all workers, as required by the Occupational Safety and Health Administration. No acutely hazardous materials (i.e., wastes that could cause death, disabling personal injury, or serious illness if exposed) would be stored or used on location or at staging yards during construction.

During operation and maintenance activities, only limited amounts of hazardous materials are anticipated to be used. These hazardous materials would include primarily liquids, such as gasoline, lubricants, and solvents associated with maintenance vehicles. Operation and maintenance would likely only require the transport, use, and disposal of hazardous materials infrequently and would likely be limited to emergency repair and maintenance activities. Drips or spills of maintenance vehicle fluids are anticipated to be minor and would be cleaned up immediately after occurrence.

Marine activities would include installation, monitoring, and possibly removal of, and repairs to, the fiber-optic cable. Oil or hazardous materials spills may occur during the proposed Project's marine construction activities. Improper handling of the materials listed above could lead to potential releases. The risk of potential spills is highest in the event of vessel collisions or if a vessel runs aground. This risk can increase with additional marine traffic, navigational hazards, or severe weather conditions. Non-tank vessels (i.e., the cable-laying vessel) of more than 300 gross tons (305 gross tonnes) are required to prepare an Oil Spill Response Plan that must be submitted to the California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response (OSPR) per California Code of Regulations (CCR) Title 14, Division 1, Subdivision 4, Chapter 3. The OSPR provides confidential advice to the Administrator primarily related to the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act. The OSPR also requires that the vessel maintain a contract with a firm that has appropriate oil spill response capacity.

The proposed marine cable routes cross Santa Monica Bay and several offshore basins, ridges, and escarpments located on the California Borderland before reaching the edge of the outer continental shelf. These proposed marine cable alignments were selected to avoid explosives dumping areas and contaminated sediments in Santa Monica Bay associated with the Palos Verdes shelf and the Hyperion sewage outfall. Estimated quantities of hazardous materials, such as fuel, fuel oil, ballast, lube oil, and hydraulic fluid, used in these types of activities are shown in Table 3.7-4.

Table 3.7-4. Hazardous Materials Typically Present in Cable-Laying Projects

Type of Vessel	Activity	Hazardous Materials (approximate)
Cable Ship	Cable laying	Fuel oil (1,636 tons; 1,662 tonnes) Ballast [1] (300,000 gallons; 1,135,624 liters)
Cable Ship	Monitoring	Fuel oil (1636 tons; 1,662 tonnes) Ballast (300,000 gallons; 1,135,624 liters)
Tug	Support vessel	Fuel (3,500 gallons; 13,250 liters)
Dive	Diver support	Fuel (50,000 gallons; 189,271 liters) Lube oil (2,000 gallons; 7,571 liters)
Seaplow	Cable burial	Hydraulic fluid (26.4 gallons; 100 liters)
Remotely Operated Vehicles (ROV)	Cable monitoring	Hydraulic fluid (26.4 gallons; 100 liters)

Source: E&E, 2011
Note:
1. Ballast water is used by ships to maintain stability and maneuverability but can be considered an ecologically hazardous material because of its potential to transport non-native organisms to different geographic locations when discharged.

To avoid collisions, marine vessels used in the cable-laying and burial process are expected to travel at low speeds (approximately 1.2 miles per hour during the pre-lay grapnel run and approximately 2.3 miles per hour during the cable lay) on predetermined linear routes (routes are surveyed prior to construction activities to avoid subsurface hazards). Additionally, cable-laying vessels would navigate using a Global Positioning System (GPS) or similar systems, further minimizing the potential for vessel collisions.

The Federal Toxic Substances Act, Resource Conservation and Recovery Act, Hazardous and Solid Waste Act, Department of Transportation Hazardous Materials Regulations (49 Code of Federal Regulations [CFR] §§ 100-185), California Health and Safety Code, and Unified Hazardous Waste and Hazardous Materials Management Regulatory Program all require implementation of protective measures that cover the use, transport, storage, and disposal of hazardous materials. These regulations would prevent the improper handling of hazardous materials, thus avoiding substantial spills that would pose a risk to the safety and health of the public and the environment. Therefore, the proposed Project is not expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. In addition, with mitigation measures outlined below, including implementation of a spill response plan, worker training, and equipment maintenance, impacts would be reduced to less than significant (Class II).

Mitigation Measures

HAZ-1 **Spill Prevention and Contingency Plan.** The Applicant will prepare a Spill Prevention and Contingency Plan (SPCP) for terrestrial construction activities. The SPCP will be submitted to the City of Hermosa Beach Fire Department for approval prior to issuance of the City's construction permit. At a minimum, the Plan will include the following:

- Hazard assessment,
- Spill prevention and containment,
- Emergency Response Procedures,
- Reporting procedures, including a contact list, and
- Closing the spill incident.

HAZ-2 **Worker Training.** Prior to construction, all construction site workers will be trained to recognize and respond to spills as mandated by the required plans, including which authorities to contact. The crews will be supplied with, and trained in, the use of containment devices and spill kits, which contain at a minimum sorbent booms and pads, personal protective equipment, and detailed emergency response guidance. Records of all training will be sent to the City ~~at the end of~~prior to each Project construction phase, along with a report detailing the training plans.

HAZ-3 **Maintenance of Equipment.** Prior to entry on the construction site, and ~~periodically~~ daily during construction, all construction equipment will be inspected for line breakage and leakage. Any equipment found to be chronically or continuously leaking will be immediately removed off site and repaired before returning to operation.

Upset and Accident Conditions (Threshold HAZ-2)

Disturbance of Hazardous Materials Sites

If Project construction requires excavation within or near hazardous materials sites, contaminated soil or groundwater could be accidentally released. However, as discussed above in Section 3.7.1, the California Department of Toxic Substances Control's EnviroStor database does not list any contaminated hazardous waste and substances sites in Hermosa Beach or in proximity to the Project site (see Table 3.7-2).

One important known contaminated site not listed in the above tables is the City Maintenance Yard located on the corner of 6th Street and Valley Drive. PLAN Hermosa states that "lead and total petroleum hydrocarbon contamination affects the northeast corner of the City Maintenance Yard" (City of Hermosa Beach 2017). The terrestrial conduit system for the 6th Street landing site (Option A) would run adjacent to the City Maintenance Yard site at the corner of 6th Street and Valley Drive. The buried terrestrial cables would be installed using trenchless construction, which would require pits every 200 feet with an excavation depth of 5 feet below ground; and manholes would be installed every 800 feet with an excavation depth of 8 feet below ground. All construction for the terrestrial conduit system would take place within City streets, and no disturbance of the City Maintenance Yard would be required for Project construction.

Additionally, none of the sites listed in Government Code Section 65962.5 shown in Table 3.7-1 are located in the marine Project area. These proposed marine components were selected to avoid explosives dumping areas and contaminated sediments in Santa Monica Bay associated with the Palos Verdes shelf and the Hyperion sewage outfall. Contaminated sites in the marine environment are further discussed in Section 3.8, Hydrology and Water Quality. No impacts related to know hazardous material sites are expected to result from the Project.

Accidental Release of Engine and Generator Fuel

Impact HAZ-2:	***The use of engines during construction and refueling of the diesel generators during operations could result in the accidental release of gasoline or diesel fuel into the environment.***

Vehicles and heavy equipment would be used during terrestrial construction activities at either the 6th Street or 10th Street cable landing site and along the terrestrial cable route. One 800-gallon diesel tank would be added to the existing power feed equipment (PFE) facility to provide back-up electricity to diesel generators in the event of a power outage. During refueling activities of construction vehicles and motorized equipment or diesel generators during Project operations, potential spillage may contaminate immediate surroundings, and may be introduced to groundwater, stormwater, and soil, adversely affecting the terrestrial environment and human health. Refueling of the marine cable-laying vessel would take place at a port where existing laws and policies regulate refueling activities to prevent and minimize potential spills.

Minor spills or releases of hazardous materials could occur due to improper handling and/or storage practices during refueling activities. The Applicant would be responsible for preparing and implementing a Spill Prevention and Contingency Plan (SPCP) to be applied during construction activities (see Mitigation Measure [MM] HAZ-1 above). The Plan would include a protocol for dealing with spill assessment, prevention, containment, and response. Any spills of hazardous materials would be localized and immediately contained and cleaned up. The probability of spills would be highly unlikely with compliance with the standard hazardous materials regulations mentioned below.

Preparation and implementation of the various required plans and compliance with existing regulations, including the Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act, Department of Transportation Hazardous Materials Regulations (49 CFR §§ 100-185), California Health and Safety Code, and the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, would protect the public and the environment from accidental spills of hazardous materials. MM HAZ-4 provides additional standards that ensure consistency of Project-specific refueling practices. Therefore, the proposed Project is not expected to create a significant hazard to the public or the environment through the accidental release of hazardous materials. With implementation of MMs HAZ-1 through HAZ-4, impacts would be reduced to less than significant (Class II).

Mitigation Measures

HAZ-1 See above for the full text of this measure.

HAZ-2 See above for the full text of this measure.

HAZ-3 See above for the full text of this measure.

HAZ-4 **Refueling Practices.** Absorbent material, such as pads or drip pans, will be placed underneath all vehicles and equipment during equipment refueling or maintenance. Refueling activities may only be conducted within a designated and contained refueling area. Any and all fluids drained from equipment will be collected in leak-proof containers and disposed of at an appropriate recycling facility, if possible. If no recycling facility is available, a hazardous waste disposal facility, such as a S.A.F.E Collection Center, may be used.

Hazardous Emissions or Acutely Hazardous Materials Near a School (Threshold HAZ-3)

Impact HAZ-3: Cable installation activities would temporarily release toxic emissions within one-quarter mile of existing schools.

The terrestrial Project activities, unless appropriately managed, have the potential to affect three schools within one-quarter mile of the PFE facility (see Table 3.7-3 and Figure 3.3-2). Construction activities at the 6th Street or 10th Street landing sites would not be completed within one-quarter mile of any known schools. Fusion Academy School is located within the same building that houses the PFE facility; Hermosa Valley School is 0.10 mile west of the PFE facility; and Hermosa View Elementary School is 0.20 mile northeast of the PFE facility. Marine construction activities would most likely be completed at a distance greater than one-quarter mile (0.4 kilometer) and would not affect these schools.

Any potential construction-related hazardous releases or emissions would be from typical construction materials, such as fossil fuels, antifreeze, drilling fluids, and small amounts of acetylene and oxygen, and would not include substances listed in 40 CFR 355, Appendix A: *Extremely Hazardous Substances and Their Threshold Planning Quantities*. Toxic air emissions, particularly diesel particulate matter (DPM), would be temporary and at such a low level that they would quickly disperse before causing any detrimental effects. Please see Section 3.3.3, Impact AQ-5, for a discussion of anticipated DPM emissions impacts, which concludes that health risk impacts would be below applicable significance thresholds issued by the South Coast Air Quality Management District.

Therefore, construction of the proposed Project would not affect schools within one-quarter mile (0.4 kilometer) from work sites, including Fusion Academy School, Hermosa Valley School, and Hermosa View Elementary School. Once the cables are installed and operational, ongoing operations and maintenance activities would be minimal and would only involve inspecting and testing power feed and transmission equipment. Operations and maintenance would not release any harmful emissions that would affect any schools. Impacts from harmful emissions would be less than significant (Class III).

Emergency Response Plans or Emergency Evacuation Plans (Threshold HAZ-4)

Impact HAZ-4: Temporary barriers installed during construction would restrict emergency access and movement at the Project site.

Marine cable installation is not expected to conflict with any emergency response or evacuation plans that have been identified for the Santa Monica Bay. Once installed, the cables would be buried 3 to 4 feet (1 to 1.2 meters) beneath the seafloor up to a water depth of 3,037 feet (1,200 meters). Therefore, cables would not interfere with any potential emergency response or evacuation uses of the Bay.

Terrestrial construction activities have the potential to interfere with emergency response, particularly at the 6th Street or 10th Street landing sites due to street closure. In the event of an emergency in the surrounding residential and commercial areas on 6th Street or 10th Street during closure, access would be blocked due to the fencing around the bore sites (see Figures 3.11-1 and 3.11-2 in Section 3.11, Transportation). The closure of 6th Street or 10th Street between Hermosa Avenue and Manhattan Avenue would inhibit emergency response access to homes directly adjacent to the closed areas on 6th Street or 10th Street. The closure would be temporary and would be limited to the directional boring and landing site installation, which would be completed over approximately 4 to 5 weeks. Alternative access routes would allow the temporary permittance of two-way traffic on Palm Drive to access the homes adjacent to the closed portions of 6th Street or 10th Street. See Section 3.11, Transportation, for a more detailed discussion of transportation impacts.

The Construction Traffic Control Plan discussed in MM T-1 in Section 3.11.3.3 would reduce barriers to emergency vehicle response times near work areas. The Construction Traffic Control Plan would include coordination with emergency service providers. Advanced notification to police and fire departments regarding the proposed closure location, nature, timing, and duration would allow emergency personnel to plan alternate emergency routes and maintain appropriate response times. In the event that emergency access to the closed area is imperative, provisions would be available to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with public agencies. With preparation and implementation of the Construction Traffic Control Plan, the proposed Project is not expected to result in a significant impact on emergency service vehicle flow and access during temporary disruptions to the affected circulation system. Therefore, impacts would be less than significant with mitigation (Class II).

Mitigation Measures

T-1 **Construction Traffic Control Plan.** See Section 3.11.3.3 for the full text of this measure.

Marine Electrical Hazards (Threshold HAZ-5)

The marine cables would carry electricity supplied at the PFE facility while in operation to continuously send data across the Pacific Ocean. The cables would be protected by insulation and sheathing, which would prevent the live electrical cables from posing an electrical hazard by being exposed through accidental damage from marine activities, such as fishing and the use of ship anchors. Cables would come in different designs, and appropriate protection levels would be used to minimize damage to the cables. Both designs involve surrounding a core of optical fibers with rings of wires, copper sheathing, and polyethylene insulation. A double-armored design would provide the greatest degree of protection and would be used in areas of rocky or coarse substrate and where protection from fishing gear may be warranted. The double-armored cable incorporates two surrounding layers of galvanized wires, which are coated with tar, two layers of polypropylene sheathing, and an outer layer of tar-soaked nylon yarn to reduce corrosion. Furthermore, cables would be buried beneath the substrate where possible and would not be exposed to any hazards that could damage them. In the extremely unlikely event that a cable is damaged, the electric currents would not be able to reach a depth shallow enough to affect any humans in the water. The DC power system in the PFE facility would shut down if an abnormal current flow is detected, effectively stopping electrical transmission within the cable. Therefore, no impacts related to marine electrical hazards are anticipated to result from the Project.

3.7.3.4. Cumulative Effects

Introduction

The marine components of the cable systems are located in Santa Monica Bay between the Mean High Water (MHW) line and the outer limit of the continental shelf – that is, areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). The terrestrial areas surrounding Santa Monica Bay have been substantially altered in the last 100 years from development. Developed land uses surrounding the Bay have subsequently altered the marine environment, with impacts resulting from contaminated water and sediments in Santa Monica Bay associated with storm drain effluent, Ballona Creek discharge, and contamination at the Palos Verdes shelf. In addition, the military has deposited explosives in designated dumping areas. Submarine cables have also been installed in Santa Monica Bay.

Project Contribution to Cumulative Impacts

Because the projects in Table 3-1 are located in the terrestrial portion of the Project area, the Project's impacts on the marine or submarine environment would not combine with impacts from these other projects. Project construction is temporary, and the scale of the Project in the terrestrial environment is relatively small. In addition, with the implementation of MMs HAZ-1 through HAZ-4, the Project's contribution to cumulative effects, in combination with the projects in Table 3-1, would not be substantial. Impacts would not be cumulatively considerable.

3.7.3.5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Hazards and Hazardous Materials

Table 3.7-5, below, provides a summary of the Project's impacts related to hazards and hazardous materials. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.7-5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Hazards and Hazardous Materials

Impacts	Mitigation Measures	Significance Conclusion
Threshold HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.		
Impact HAZ-1: The transport, use, or disposal of hazardous materials could result in spills and expose the public and the environment to these hazardous materials.	HAZ-1 Spill Prevention and Contingency Plan HAZ-2 Worker Training HAZ-3 Maintenance of Equipment	Class II
Threshold HAZ-2: 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.		
Impact HAZ-2: The use of engines during construction and refueling of the diesel generators during operations could result in the accidental release of gasoline or diesel fuel into the environment.	HAZ-1 Spill Prevention and Contingency Plan HAZ-2 Worker Training HAZ-3 Maintenance of Equipment HAZ-4 Refueling Practices	Class II
Threshold HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.		
Impact HAZ-3: Cable installation activities would temporarily release toxic emissions within one-quarter mile of existing schools.	None required	Class III

Impacts	Mitigation Measures		Significance Conclusion
Threshold HAZ-4: Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.			
Impact HAZ-4: Temporary barriers installed during construction would restrict emergency access and movement at the Project site.	T-1	Construction Traffic Control Plan	Class II
Threshold HAZ-5: Pose electrocution hazards to people in the marine environment.			
No Impact	None required		No Impact
Cumulative Effects	HAZ-1 through HAZ-4 (see above)		Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.7.4. References

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3.8. Hydrology and Water Quality

The following section describes the proposed Project's potential effects on hydrology and water quality. This section describes existing environmental and regulatory conditions in the Project area, identifies and analyzes environmental impacts for the proposed Project, and includes mitigation measures to reduce or avoid adverse impacts anticipated from Project construction and operation. In addition, existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise result from the implementation of the Project.

3.8.1. Environmental Setting

3.8.1.1. General Setting

Terrestrial

The Project area is located within the City of Hermosa Beach. The terrestrial Project area is predominantly urbanized, paved with asphalt, and has existing drainages. Approximately 1.8 miles of the western edge of the City abuts the south end of Santa Monica Bay. This area includes a 400-foot-wide sandy beach between the Pacific Ocean and urban development. A portion of the Project area is located within this sandy beach. The terrestrial Project area is bounded by development with no freshwater waterways or surface water bodies.

Marine

The marine portion of the Project area, which consists of the majority of the Project's components, would traverse the Pacific Ocean beginning in Hermosa Beach and would terminate in Guam and locations on the ~~the~~ western Pacific Rim ~~countries~~, such as ~~Guam,~~ Southeast Asia, China, Australia, or Japan. The first 3 nautical miles (3.5 statute miles or 5.6 kilometers) from the shoreline would be within the City's jurisdiction (the City was granted sovereign tide and submerged lands in trust by the State of California). The area beyond this jurisdiction is within the territorial sea of the United States (12 nautical miles from shore [13.8 statute miles or 22.2 kilometers]) and the United States' (U.S.) exclusive economic zone (200 nautical miles from shore [230.2 statute miles or 370.4 kilometers).

The marine cables would be buried to the extent feasible within the continental shelf, a relatively shallow area where seawater depth is no greater than approximately 5,904 feet (1,800 meters), extending about 151 nautical miles (174 statute miles or 280 kilometers) offshore. Given the mountainous nature of the Pacific Ocean beyond the continental shelf, with an average depth of approximately 13,000 feet (4,000 meters), marine cables would be laid directly on the ocean floor.

Climate

The City's Mediterranean climate is typical of the coastal areas of the South Coast region. The climate is characterized by mild, wet winters and warm, dry summers. Approximately 75 percent of the region's precipitation typically occurs between December and March. Annual rainfall in the coastal and interior basins generally decreases from north to south, and rainfall is higher in the mountains. This region generally experiences substantial variability in precipitation, with periods of higher-than-normal precipitation followed by lower-than-normal precipitation and periodic drought conditions. Average precipitation has varied greatly within the South Coast region from year to year, ranging from 5.25 inches in 2009 to 19.12 inches in 2010 (DWR 2013). Average precipitation throughout the West Coast Subbasin is 12 to 14 inches (DWR 2004). Although uncommon, monsoonal thunderstorms may occur in the late summer as a result of low pressure cells in the southwest.

Stormwater Drainage

Urban runoff (stormwater) flows from inland locations through the City to the Pacific Ocean through a network of underground drainage conduits identified in Figure 3.8-1. The network is a mixture of County-owned and City-owned lines that generally run east to west along major roads, including 16th Street, Pier Avenue, and 2nd Street. The lines generally terminate through one of 11 outfalls at the west end of the City on the beach or in the Pacific Ocean.

Flooding

The Federal Emergency Management Agency (FEMA) is the governing body that is responsible for delineating flood prone areas and identifying these areas in Flood Insurance Rate Maps (FIRMs). According to FEMA, the Project area is located within FIRM number 06037C1907F (FEMA 2014). A FEMA-identified Special Flood Hazard Area is an area subject to flooding during the 100-year storm event (1 percent annual chance of flooding). Figure 3.8-2 shows FEMA-designated flood zones within the Project area. The beach area adjacent to the beach cable landing sites is mapped within Zone A Without Base Flood Elevation according to FEMA.

The Los Angeles County Tsunami Inundation Map for Emergency Planning, jointly produced by the California Emergency Management Agency, California Geological Survey, and University of Southern California – Tsunami Research Center, and dated March 1, 2009, shows the beach portion of the Project area as subject to inundation from tsunami (see Figure 3.8-3) (California Department of Conservation 2009).

NOAA estimates indicate that local sea level has been rising at a rate of 0.52 feet (0.16 meter) per century at the Santa Monica tide gauge (1933–1999) and 0.28 feet (0.09 meter) per century at the Los Angeles gauge site (1924–1999).

Water Supply

Water service in the Project area is provided by the California Water Service Company, Hermosa-Redondo District (Cal Water) using groundwater, imported surface water, and recycled supplies. Groundwater extracted from the Silverado aquifer satisfies 10 to 15 percent of the District's water demand (City of Hermosa Beach 2014). Cal Water's adjudicated right of the safe yield[12] of the groundwater basin is 4,070 acre-feet per year (AFY). However, Cal Water normally produces approximately 2,000 AFY of groundwater, with the remaining groundwater yield either sold to other entities or left for basin recharge (City of Hermosa Beach 2014).

[12] "Safe yield" is defined as the rate at which groundwater can be withdrawn without causing a long-term decline in water levels.

Figure 3.8-1. Stormwater Drainage Map

Source: City of Hermosa Beach, Los Angeles County, November 2013

Figure 3.8-2. FEMA-Designated Flood Zones within the Project Area

Figure 3.8-3. Tsunami Hazards within the Project Area

3.8.1.2. Water Resources

Off-shore and Marine Water Resources

Marine Hydrology

Santa Monica Bay is a semi-enclosed shelf centrally located in the Southern California Bight coastal watershed. The bay is a large, crescent-shaped indenture, bounded by rocky headlands at Point Dume to the north, Palos Verdes Peninsula to the south, and onshore by the Santa Monica Mountains along the Malibu coast and the Los Angeles coastal plain (Cal EPA 2016).

Santa Monica Bay receives surface water from the Santa Monica Bay Watershed. The watershed covers 414 square miles (1,072 square kilometers) and is bordered by the Santa Monica Mountains to the north from the Ventura-Los Angeles County line to Griffith Park, extending south and west across the Los Angeles coastal plain to include the area east of Ballona Creek and north of Baldwin Hills. The continental shelf extends seaward to the shelf break about 265 feet (81 meters) underwater, then drops steeply to the Santa Monica Basin at about 2,630 feet (802 meters).

Nearshore Santa Monica Bay is defined by the California Ocean Plan as within a zone bounded by the shoreline and a distance of 1,000 feet (305 meters) from the shoreline or the 30-foot (9-meter) contour, whichever is farther from the shoreline. Offshore is defined as the waters between the nearshore zone and the limit of State waters. State waters, according to Section 13200 of the California Water Code, extend 3 nautical miles (5.6 kilometers) into the Pacific Ocean from the line of Mean Lower Low Water (MLLW)[13] marking the seaward limits of inland waters and 3 nautical miles (5.6 kilometers) from the line of MLLW on the mainland and each offshore island.

That portion of the Southern California Bight in which Santa Monica Bay is located has currents that are more complex than those found elsewhere along the west coast due to the extremely complicated basin topography. Major topographic features within the Santa Monica Bay are two submarine canyons, the Santa Monica Canyon and Redondo Canyon, both of which have rapid and variable bottom currents.

Currents within the top 40 feet (12 meters) of water are predominantly tidal-driven, with flood flows from the north and ebb flow to the southeast. Currents on the shelf of the Bay are primarily driven by offshore basin flows and secondarily by local winds. Offshore basin flows experience large seasonal fluctuations. At a depth of 134.5 feet (41 meters), median current velocities are 0.295 foot per second (0.089 meter per second). A study found that current velocities required to initiate sediment movement off the Palos Verde Peninsula ranged from 0.13 to 0.36 foot per second (0.04 to 0.11 meter per second) and to re-suspend sediments from 0.164 to 0.784 foot per second (0.050 to 0.239 meter per second) (City of Hermosa Beach 2001).

Marine Water Quality

Water quality in Santa Monica Bay is generally considered safe for water contact recreation except after storm events. Historically, there have been several beach closures due to urban runoff and sewer overflows, mostly occurring during storm events. Two large sources of pollution to Santa Monica Bay are the treated wastewater from the Hyperion Treatment Plant (HTP) and the Joint Water Pollution Control Plant (JWPCP). HTP is a wastewater treatment plant located approximately 4.4 miles (7.1 kilometers) north of the 10th Street cable landing site and 4.6 miles (7.4 kilometers) north of the 6th Street landing site. JWPCP discharges approximately 2 miles (3 kilometers) offshore of the Palos Verde Peninsula. Other

[13] MLLW is calculated as the lowest of the two low tides per day (or the one low tide) averaged over a 19-year period.

major point sources of pollution are the Chevron Refinery in El Segundo, the El Segundo and Scattergood Generating Stations, and the Redondo Beach LLC Generating Station.

Section 303(d) of the federal Clean Water Act lists impaired water bodies in the U.S. The pollutants generated by urban runoff that impair Santa Monica Bay and total maximum daily load (TMDL) completion dates are listed below (Table 3.8-1). A TMDL is a regulatory term in the Clean Water Act, describing a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. The TMDL Completion Date indicates the estimated year that the TMDL is to be developed and determined. The California Regional Water Quality Control Board Waste Discharge Requirements for the site list constituents to be expected in effluent (CRWQCB 2010).

Table 3.8-1. 303(d) Impairments for Santa Monica Bay Offshore

Pollutant/Stressor	Source	TMDL Completion Date (estimated)
Dichlorodiphenyltrichloroethane (DDT)	Source unknown	2019
Debris	Construction/land development Urban runoff/storm sewers	2019
Fish consumption advisory	Atmospheric deposition Municipal point sources Urban runoff/storm sewers	2019
Polychlorinated biphenyls (PCBs)	Construction/land development Urban runoff/storm sewers	2019
Sediment toxicity	Urban runoff/storm sewers	2019

Source: California 303(d) List and TMDL Priority Schedule (California Environmental Protection Agency, State Water Resources Control Board, 2012)
Note: TMDL = total maximum daily load

Turbidity of coastal waters is generally high due to nearshore turbulence, which causes sediment and plankton to be re-suspended. Light penetration is generally limited to less than 20 feet (6.1 meters) at 1 mile (1.6 kilometers) off of Hermosa Beach.

Another potential source of contaminants is the emission of hazardous materials from U.S. Navy (Navy) training and weapons testing. The cable route would cross areas within the sea range used for Navy operations. Although it is unknown if sediment sampling has been conducted in this area, the Navy has released a list of the types of hazardous materials contained in missiles fired in this sea range. These materials include, but are not limited to, PBX-N high explosive components, arcite propellant grain, JP-10 jet fuel, lithium-chloride batteries, and potassium-hydroxide batteries (City of Hermosa Beach 2001).

The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties specifies additional objectives applicable to all ocean waters, including: "(1) the mean annual dissolved oxygen concentration shall be greater than 7.0 milligrams per liter (mg/L), and no single determination shall be less than 5.0 mg/L at any time, except when natural conditions cause lesser concentrations"; and (2) "the pH…shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges" (LARWQCB 2019b).

Sediment offshore of Hermosa Beach consists of sands and gravels, clayey sand, and sandy clay. Sediment contamination in Santa Monica Bay is considered to be higher than in other parts of the Southern California Bight. Offshore, contaminated sediments are present at the outfall locations of the HTP and JWPCP. These sediments are likely re-suspended and deposited throughout the Santa Monica Bay Shelf and Palos Verde Bay Shelf. Dichlorodiphenyltrichloroethane (DDT) and polychlorinated biphenyls (PCBs) have been found in some studies to be present in more than 90 percent of sediment samples, and approximately 50 percent of sediment samples have been found to exceed sediment toxicity screening levels. The highest levels of DDT, PCBs, and metals have been found directly adjacent to the HTP outfall (City of Hermosa Beach 2001).

Inland and Nearshore Surface Water

Surface Water Hydrology

The site is located within the Santa Monica Bay Watershed Management Area (WMA), which includes several watersheds, such as Malibu Creek to the northwest, and Ballona Creek to the north of the proposed Project.

Surface watersheds in California are divided into 10 hydrologic regions, as defined by the California Department of Water Resources. The proposed Project area is located within the South Coast Hydrologic Region (HR), a large coastal watershed in southern California (DWR 2004). Within the South Coast HR, the proposed Project is contained within one Hydrologic Unit, the Manhattan Beach HU (USGS 2018).

Surface Water Quality

For the purposes of this analysis, the inland, nearshore, and coastal waterways will be discussed together based on their proximity to the proposed Project area. No potable surface water resources are located in the Project area. The closest inland surface water to the proposed Project area identified in the basin plan is Malaga Canyon, a stream located in the Palos Verdes Peninsula. Malaga Canyon is located outside the Project area and discharges into the Pacific Ocean, approximately 3.6 miles south of the southern limit of the Project area.

According to the Basin Plan prepared by the Los Angeles Regional Water Quality Control Board (LARWQCB), "coastal waters in the Region include bays, estuaries, lagoons, harbors, beaches, and ocean waters. Beneficial uses for these coastal waters provide habitat for marine life and are used extensively for recreation, boating, shipping, and commercial and sport fishing" (LARWQCB 2014). Beneficial uses and water quality objectives form the water quality standards for all water bodies within the State under the California Water Code. As shown in Table 3.8-2, the Los Angeles County Basin Plan has designated beneficial uses for Hermosa Beach and the nearshore zone, as well as for the beaches directly adjacent to the Project area, Redondo Beach, and Manhattan Beach.

Table 3.8-2. Beneficial Uses in the Project Area

Water Body Name	Basin Plan Watershed	Existing Beneficial Use
Project Area		
Hermosa Beach	Los Angeles County Coastal Feature	NAV (Navigation), COMM (Commercial and Sport Fishing), MAR (Marine Habitat), WILD (Wildlife Habitat), SPWN [1] (Spawning, Reproduction, and/or Early Development), SHELL (Shellfish Harvesting)
Nearshore Zone	Los Angeles County Coastal Feature	IND (Industrial Service Supply), NAV, COMM, MAR, WILD, BIOL [2] (Preservation of Biological Habitats), RARE [3] (Rare, Threatened, or Endangered Species), MIGR [4] (Migration of Aquatic Organisms), SPWN [4], SHELL[5]
Nearby Surface Waters		
Manhattan Beach	Los Angeles County Coastal Feature	NAV, COMM, MAR, WILD, SPWN (Potential Beneficial Use), SHELL
Redondo Beach	Los Angeles County Coastal Feature	IND, NAV, COMM, MAR, WILD, RARE, MIGR, SPWN [1], SHELL

Source: LARWQCB, 2019a
Notes:
1. Most frequently used grunion spawning beaches. Other beaches may be used as well.
2. Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Fermin Marine Life Refuge.
3. One or more rare species utilizes all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.
4. Aquatic organisms utilize all bays, estuaries, lagoons, and coastal wetlands, to a certain extent, for spawning and early development; this may include migration into areas which are heavily influenced by freshwater inputs.
5. Areas exhibiting large shellfish populations include Malibu, Point Dune, Point Fermin, White Point and Zuma Beach.

Hermosa Beach and the Santa Monica Bay Nearshore and Offshore are also designated as "water quality-limited" for impairments under federal Clean Water Act Section 303(d), indicating that these water bodies are not reasonably expected to attain or maintain water quality standards due to impairments without additional regulation. Table 3.8-3 identifies the listing category, pollutant, and pollutant type for Hermosa Beach and Santa Monica Bay.

Table 3.8-3. Impaired Surface Water Bodies in the Study area

Water Body Name	Water Body Type	Listing Category	Pollutant	Pollutant Category
Hermosa Beach	Coastal & Bay Shoreline	4a	Indicator Bacteria	Fecal Indicator Bacteria
Santa Monica Bay Offshore / Nearshore	Bay & Harbor	4a	DDT (tissue & sediment)	Pesticides
			Debris	Trash
			PCBs	Other Organics
			Fish Consumption Advisory	Miscellaneous
			Sediment Toxicity	Toxicity
Manhattan Beach	Coastal & Bay Shoreline	4a	Indicator Bacteria	Fecal Indicator Bacteria
Redondo Beach	Coastal & Bay Shoreline	5	Coliform Bacteria	Fecal Indicator Bacteria
		5	DDT	Pesticides
		5	PCBs	Other Organics

Source: California 303(d) List and TMDL Priority Schedule (California Environmental Protection Agency, State Water Resources Control Board, 2012)
Notes: & = and; DDT = dichlorodiphenyltrichloroethane; PCBs = polychlorinated biphenyls
Category 4a means the item on the 303(d) list is being addressed by a U.S. Environmental Protection Agency (USEPA) approved total maximum daily load (TMDL).
Category 5 means the item on the 303(d) list is a water segment where standards are not met and a TMDL is required, but not yet completed, for at least one of the pollutants being listed for the segment.

Waters of the U.S.

Waters and/or wetlands of the U.S., which have been determined to be subject to the regulatory requirements of the Clean Water Act, are known as "jurisdictional waters and wetlands." These waters fall under federal jurisdiction and are regulated by the U.S. Army Corps of Engineers. No jurisdictional features have been identified in the Project area.

Stormwater Runoff

The City of Hermosa Beach is gently to moderately sloped, and surface runoff occurs as sheet flow toward existing storm drains and the Pacific Ocean. The City is fully developed and surrounded by urban development.

Groundwater

The proposed Project is underlain by the coastal plain of the Los Angeles County Groundwater Basin, which is within the West Coast Subbasin of the South Coast Hydrologic Region. The West Coast Subbasin is bordered on the north by the Ballona Escarpment, the Newport-Inglewood Fault Zone to the east, the Pacific Ocean to the west, and the consolidated rocks of the Palos Verdes Hills to the south (DWR 2004).

Within the West Coast Subbasin, the Project area is located above the Silverado aquifer, where the character of water varies considerably. In the coastal region, the water is calcium chloride in character, transitioning into sodium bicarbonate moving inland. Data from 45 public supply wells shows an average total dissolved solids (TDS) content of 720 mg/L and a range of 170 to 5,510 mg/L (City of Hermosa Beach 2014).

The Silverado aquifer is the most productive aquifer in the region and yields approximately 80 to 90 percent of total groundwater that is extracted annually. The storage capacity of this primary water-producing aquifer is estimated to be 6,500,000 acre-feet (DWR 2004).

Seawater intrusion occurs in the Silverado aquifer along the Santa Monica Bay. Two seawater barrier projects are currently in operation. The West Coast Basin Barrier Project runs from the Los Angeles Airport to the Palos Verde Hills, and the Dominguez Gap Barrier Project covers the area of the West Coast Basin bordering San Pedro Bay. Injection wells along these barriers create a groundwater ridge, which inhibits the inland flow of salt water into the subbasin to protect and maintain groundwater elevations (DWR 2004).

The Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties lists the beneficial uses for groundwater. Beneficial uses for the West Coast Subbasin within the Project area include Municipal and Domestic Supply (MUN) (i.e., drinking water), Industrial Service Supply (IND), Industrial Process Supply (PROC), and Agricultural Supply (AGR).

3.8.2. Regulatory Setting

3.8.2.1. Federal

Federal Clean Water Act

The Clean Water Act (CWA) of 1972 is the primary federal law that governs and authorizes the U.S. Environmental Protection Agency (USEPA) and the states to implement activities to control water quality. The following sections outline the various elements of the CWA that apply to the proposed Project.

Water Quality Criteria and Standards

The USEPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The USEPA has delegated to the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the State's Porter-Cologne Act, described below.

Under federal law, the USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of the designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires the USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use.

Section 303: Impaired Water Bodies (303(d) list) and Total Maximum Daily Loads

Under Section 303(d) of the CWA, the State Water Resources Control Board (SWRCB) is required to develop a list of impaired water bodies that do not meet water quality standards (promulgated under the National Toxics Rule [NTR] or the California Toxics Rule [CTR]) after the minimum technology-based effluent limitations have been implemented for point sources). Lists are to be priority ranked for development of a total maximum daily load (TMDL). A TMDL is a calculation of the total maximum amount of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The California Regional Water Quality Control Board (RWQCB) and USEPA are responsible for establishing TMDL waste-load allocations and incorporating improved load allocations into water quality control plans, National Pollutant Discharge Elimination System (NPDES) permits, and waste discharge requirements, described further below under State regulations. Section 305(b) of the CWA requires that states assess the status of water quality conditions within the State in a report to be submitted every 2 years.

Section 311: Oil and Hazardous Substances Liability

Section 311 of the CWA contains the requirements and guidelines to prevent, prepare, and respond to an oil discharge. The requirements and guidelines aim to prevent oil from entering navigable waters, as well as shorelines. The regulation requires the preparation and use of Spill Prevention, Control, and Countermeasure (SPCC) Plans and also sets forth the procedures, methods, and equipment requirements.

Section 312: Sewage Discharges and No Discharge Zones

Section 312 of the CWA contains the main regulations for domestic sewage discharges from vessels and is enforced by both the USEPA and U.S Coast Guard. “Sewage” as defined under the CWA refers to “human body wastes and the waste from toilets and other receptacles intended to receive or retain body wastes” (USEPA 2018). Under this section, vessel sewage is generally controlled by regulating the equipment that treats or holds the sewage (marine sanitation devices), and through the establishment of areas in which the discharge of sewage from vessels is not allowed (no discharge zones).

Section 401: Water Quality Certification

Section 401 of the CWA requires an applicant, who is pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant, to obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the U.S. Water Quality Certifications are issued by one of the nine geographically separated RWQCBs in California. Under the CWA, the RWQCB must issue or waive a Section 401 Water Quality Certification for a project to be permitted under CWA Section 404.

Section 402: National Pollutant Discharge Elimination System Permits

Section 402(p) of the CWA was amended in 1987 to require the USEPA to establish regulations for the permitting of construction, municipal, and industrial storm water discharges under the NPDES permit program. The USEPA published final regulations for industrial and municipal storm water discharges on November 16, 1990. The NPDES program requires all industrial facilities and municipalities of a certain size that discharge pollutants into waters of the U.S. to obtain a permit. Storm water discharges in California are commonly regulated through general and individual NPDES permits, which are adopted by the SWRCB or RWQCBs and are administered by the RWQCBs. Water quality criteria in NPDES permits for discharges to receiving waters are based on criteria specified in the NTR, the CTR, and Water Quality Control Plans (Basin Plans), discussed below under State regulations. The USEPA requires NPDES permits to be revised to incorporate waste-load allocations for TMDLs when the TMDLs are approved (40 CFR § 122).

Stormwater runoff into Santa Monica Bay is regulated primarily through four NPDES permits:

- The municipal separate storm sewer system (MS4) NPDES permit issued to the 84 municipalities within the urbanized area of Los Angeles County, except the City of Long Beach, which has its own MS4 NPDES permit.
- A separate statewide stormwater permit specifically for the California Department of Transportation (Caltrans).
- The statewide Construction Activities Stormwater General Permit (Construction General Permit).
- The statewide Industrial Activities Stormwater General Permit.

The NPDES program defines these stormwater discharges as point sources because the stormwater is released from the end of a stormwater conveyance system. Since the industrial and construction stormwater discharges are enrolled under NPDES permits, these discharges are treated as point sources. The Los Angeles MS4 permit was first issued in 1990 and includes 85 co-permittees, including Los Angeles County and the City of Hermosa Beach. The latest revision of the permit (Order No. R4-2012-0175) was issued on November 23, 2016.

Section 402 of the CWA also requires Vessel General Permits, which apply to discharges incidental to the normal operation of all non-recreational, non-military vessels of 79 feet or greater in length that discharge in waters of the U.S. The Permits require that vessel owners and operators meet certain requirements, including seeking coverage for most vessels, assuring their discharges meet effluent limits and related requirements, implementing a corrective action process for fixing permit violations, and complying with requirements for inspections, monitoring, recordkeeping and reporting.

Section 404: Discharge of Dredged or Fill Materials

Section 404 of the CWA regulates fill and disturbance of wetlands and waters of the U.S. Specific activities that are regulated are fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood control improvements), water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. The USEPA and U.S. Army Corps of Engineers (USACE) have issued Section 404(b)(1) Guidelines (40 CFR § 230) that regulate dredge and fill activities, including water quality aspects of such activities. Subpart C, Sections 230.20–230.25, contain water quality regulations applicable to dredge and fill activities. Among other topics, these guidelines address discharges that alter substrate elevation or contours, suspended particulates, water clarity, nutrients and chemical content, current patterns and water circulation, water fluctuations (including those that alter erosion or sediment rates), and salinity gradients. The USACE is responsible for issuing permits for the placement of fill or discharge of material into waters of the U.S. under Section 404 of the CWA.

Rivers and Harbors Act (33 United States Code [USC] 401)

Section 10 of the Rivers and Harbors Act limits the construction of structures and the discharge of fill into navigable waters of the U.S.

Oil Pollution Act of 1990 (33 USC § 2712)

This act requires owners and operators of facilities that could cause substantial harm to the environment to prepare and submit plans for responding to worst-case discharges of oil and hazardous substances.

MARPOL (International Convention for the Prevention of Pollution from Ships)

MARPOL, the International Convention for the Prevention of Pollution from Ships, was developed by the International Maritime Organization in 1973 with an objective to minimize pollution of the oceans and seas, including dumping, oil, and air pollution. The Convention is comprised of two Protocols and six Annexes. Each signatory nation of the Convention is responsible for enacting domestic laws to implement the Convention and effectively pledges to comply with the Convention, Annexes, and related laws of other nations. In the U.S., the relevant implementation legislation is the Act to Prevent Pollution from Ships (33 USC §§ 1905-1915), which is enforced primarily by the U.S. Coast Guard.

Executive Order 11988 – Floodplain Management

Executive Order 11988 requires federal agencies to recognize the value of floodplains and to consider the public benefits of restoring and preserving floodplains. Under this order, the USACE has the responsibility of reviewing flood protection projects that may affect navigable waters. The USACE is required to take action and provide leadership to avoid development in the base floodplain; reduce the risk and hazard associated with floods; minimize the impact of floods on human health, welfare, and safety; and restore and preserve the beneficial and natural values of the base floodplain.

National Flood Insurance Act and Flood Disaster Protection Act

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and to limit disaster relief costs by restricting development in floodplains. The Federal Emergency Management Agency's (FEMA) duties include administering the National Floodplain Insurance Program (NFIP) and developing standards for fluvial and coastal floodplain delineation. The NFIP is a federal program enabling property owners in participating communities to purchase insurance as protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. A Flood Insurance Rate Map (FIRM) is the official map of a community prepared by FEMA to delineate both the special flood hazard areas and the flood risk premium zones applicable to the community.

Safe Drinking Water Act

Under the Safe Drinking Water Act (Public Law 93-523) passed in 1974, the USEPA regulates contaminants of concern to domestic water supply. The Act defines contaminants of concern as contaminants that pose a public health threat or alter the aesthetic acceptability (e.g., taste and odor, staining of laundry and porcelain fixtures) of the water. The EPA's primary and secondary maximum contaminant levels (MCLs), which apply to treated water supplies delivered to the distribution system, regulate contaminants of concern. MCLs and the process for setting these standards are reviewed every 3 years. Amendments to the Safe Drinking Water Act enacted in 1986 and 1996 established an accelerated schedule for setting MCLs for drinking water.

The USEPA has delegated the responsibility for administering California's drinking-water program to the California Department of Public Health (DPH). The DPH is accountable to the USEPA for program implementation and for adopting standards and regulations that are at least as stringent as those developed by the USEPA. The applicable State primary and secondary MCLs are set forth in Title 22, Division 4, Chapter 15, Article 4 of the California Code of Regulations (CCR) and described in "Title 22 Standards" below.

3.8.2.2. State

California Coastal Act

The California Coastal Act of 1976 (CCA) and the California Coastal Commission, the State's coastal protection and planning agency, were established by voter initiative in 1972 to plan for and regulate new development, and to protect public access to and along the shoreline. The CCA considers water quality and water-related public safety concerns as issues of public importance.

To provide maximum public access to the coast and public recreation areas, the CCA directs each local government located within the coastal zone to prepare a Local Coastal Program (LCP) consistent with Section 30501 of the Coastal Act, in consultation with the California Coastal Commission and with public participation.

Until an LCP has been adopted by the local jurisdiction and certified compliant with the CCA, the California Coastal Commission retains permitting authority within the local jurisdiction. A coastal development permit (CDP) is required for development in the coastal zone that results in changes to the density or intensity of the use of land, changes in water use, and impacts on coastal access.

State Water Resources Control Board

In California, the SWRCB has broad authority over issues related to controlling water quality for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. Other State agencies with jurisdiction over water quality regulation in California include the DPH (for drinking water regulations), the California Department of Pesticide Regulation, the California Department of Fish and Wildlife, and the Office of Environmental Health and Hazard Assessment.

Regional authority for planning, permitting, and enforcement is delegated to the nine RWQCBs. The regional boards are required to formulate and adopt basin plans for all areas in the region and establish water quality objectives in the plans. California water quality objectives (or "criteria" under the CWA) are found in the Basin Plans adopted by the SWRCB and each of the nine RWQCBs. The Los Angeles RWQCB is responsible for the study area and surrounding region.

In 2006, the SWRCB adopted Order Number 2006-003 establishing General Waste Discharge Requirements for all publicly owned or operated sanitary sewer systems in California. The Waste Discharge Requirements require owners and operators of sewer collection systems to report sanitary sewer overflows using the California Integrated Water Quality System, and to develop and implement a Sewer System Management Plan. The Hermosa Beach Sewer System Management Plan, adopted in 2009 and last updated in 2022, requires periodic updates and details on sewer collection system operations, maintenance, repair, and funding.

SWRCB Resolution No. 68-16, commonly referred to as "California's Antidegradation Policy," states that any actions that adversely affect water quality in all surface waters and groundwater must be consistent with the maximum benefit to the people of the State, must not unreasonably affect present and anticipated beneficial use of such water, and must not result in water quality less than that prescribed in water quality plans and policies.

Los Angeles Regional Water Quality Control Board Basin Plan

The study area is within the jurisdiction of the Los Angeles RWQCB, which is responsible for the preparation and implementation of the Water Quality Control Plan for the Los Angeles Region (LARWQCB

2014). The Basin Plan defines the beneficial uses, water quality objectives, implementation programs, and surveillance and monitoring programs for waters of the coastal drainages in the Los Angeles region between Rincon Point on the coast of western Ventura County and the eastern Los Angeles County line. The Basin Plan contains specific numeric water quality objectives that apply to certain water bodies or portions of water bodies. Objectives have been established for bacteria, dissolved oxygen, pH, pesticides, electrical conductivity, total dissolved solids, temperature, turbidity, and trace elements. Numerous narrative water quality objectives have also been established.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is California's statutory authority for the protection of water quality. Under the Act, the State must adopt water quality policies, plans, and objectives that protect the State's waters for the use and enjoyment of the people. The Act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update Basin Plans. Basin Plans are the regional Water Quality Control Plans required by both the CWA and Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Act also requires waste dischargers to notify the RWQCBs of their activities through the filing of reports of waste discharge and authorizes the SWRCB and RWQCBs to issue and enforce Waste Discharge Requirements (WDR), NPDES permits, Section 401 water quality certifications, or other approvals. The RWQCBs also have authority to issue waivers to reports of waste discharge and/or WDRs for broad categories of "low threat" discharge activities that have minimal potential for adverse water quality effects when implemented according to prescribed terms and conditions.

California Ocean Plan

Section 13170.2 of the California Water Code directs the SWRCB to formulate and adopt a Water Quality Control Plan for the ocean waters of California. The SWRCB first adopted this plan, known as the California Ocean Plan (Ocean Plan), in 1972. The California Water Code also requires a review of the Ocean Plan at least every 3 years to guarantee that current standards are adequate and are not allowing degradation to indigenous marine species or posing a threat to human health. The current iteration of the California Ocean Plan (SWRCB 2015) establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. The Ocean Plan incorporates the State water quality standards that apply to all NPDES permits for discharges to ocean waters; the SWRCB and the six coastal RWQCBs implement and interpret the Ocean Plan. The Ocean Plan is not applicable to vessel wastes or the control of dredged material.

California State Antidegradation Policy

In 1968, the SWRCB adopted an antidegradation policy (SWRCB Resolution No. 68-16) aimed at maintaining high quality for waters in California. The antidegradation policy states that the disposal of wastes into State waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the State and to promote the peace, health, safety, and welfare of the people of the State. The policy provides as follows:

- Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the State that would not unreasonably affect present and anticipated beneficial uses of such water
- Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements,

which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the State would be maintained.

NPDES Permit System and Waste Discharge Requirements for Construction

The SWRCB and Los Angeles RWQCB have adopted specific NPDES permits for a variety of activities that have potential to discharge wastes to waters of the State. The SWRCB General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order 2009-0009-Division of Water Quality [DWQ]) applies to all land-disturbing construction activities that would affect 1 acre or more. The Los Angeles RWQCB has issued a general NPDES permit and general WDRs governing construction-related dewatering discharges within the Los Angeles RWQCB's jurisdictional area (Los Angeles RWQCB Order No. R4-2003-0111; NPDES No. CAG994004). This permit, known as the General Dewatering Permit, addresses discharges from temporary dewatering operations associated with construction and permanent dewatering operations associated with development. The discharge requirements include provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. The NPDES permits all involve similar processes, including submittal of notices of intent to discharge to the Los Angeles RWQCB and implementation of best management practices (BMPs) to minimize those discharges. The Los Angeles RWQCB may also issue site-specific WDRs, or waivers to WDRs, for certain waste discharges to land or waters of the State.

Construction activities subject to the General Construction Permit include clearing, grading, stockpiling, and excavation on 1 acre or more of land. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. Compliance with the General Construction Permit requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP), a site-specific document that identifies potential sources of stormwater pollution at the construction site and describes practices to reduce pollutants in stormwater discharges. The permit also requires dischargers to install post-construction permanent BMPs that would remain in service to protect water quality throughout the life of the Project consistent with the planning and land development requirements of the MS4 Permit. Types of BMPs include source controls, treatment controls, and site planning measures.

Municipal Stormwater Permit Program

The SWRCB Municipal Storm Water Permitting Program regulates stormwater discharges from MS4s. MS4 permits are issued in two phases. Under Phase I, which started in 1990, the RWQCBs adopted NPDES stormwater permits for large and medium municipalities (large MS4 systems serve populations of 250,000 or more people). Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area, such as the Los Angeles County area. The current MS4 permit requires the discharger to develop and implement a stormwater management plan/program with the goal of reducing the discharge of pollutants in stormwater to the maximum extent practicable (MEP). The MEP is the performance standard specified in Section 402(p) of the CWA. The management programs specify what BMPs will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

In 2001, the Los Angeles RWQCB issued an MS4 permit (No. CAS004001, Order No. 01-182, as amended in 2018, by Order R4-2012-0175) to Los Angeles County, the Los Angeles County Flood Control District, and 84 co-permittee cities within the Los Angeles region, including the City of Hermosa Beach. Each co-permittee is required to comply only with the permit requirements applicable to discharges within its boundaries. Within its geographic jurisdiction, each co-permittee is required to:

- Prohibit non-storm water discharges through the MS4 to receiving waters, excepting certain conditions.
- Comply with the requirements of the Stormwater Quality Management Program (summarizes the program components that co-permittees will implement to comply with the MS4 permit and to reduce the discharges of pollutants in stormwater to the MEP), as described in Part VI.C of the MS4 permit.
- Comply with water quality-based effluent limitations consistent with the assumptions and requirements of all available TMDL waste load allocations assigned to discharges from the permittees' MS4s.
- Coordinate among its internal departments and agencies, as appropriate, to facilitate implementation of the requirements of the Stormwater Quality Management Program.
- Participate in intra-agency coordination (e.g., fire department, building and safety, code enforcement, public health) necessary to successfully implement the provisions of the permit and the Stormwater Quality Management Program.
- Prepare an annual budget summary of expenditures applied to the Stormwater Quality Management Program.
- Implement a Planning and Land Development Program pursuant to Part VI.D.7.b for all new development and redevelopment projects:
  - Lessen the water quality impacts of development by using smart growth practices.
  - Minimize the adverse impacts from stormwater runoff on the biological integrity of natural drainage systems and the beneficial uses of water bodies in accordance with requirements under the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] § 21000 et seq.).
  - Minimize the percentage of impervious surfaces on land.
  - Maintain existing riparian buffers and enhance riparian buffers when possible.
  - Minimize pollutant loadings from impervious surfaces.
  - Control post-construction stormwater through properly selected, designed, and maintained low-impact development (LID) and hydromodification control BMPs.
  - Prioritize the selection of BMPs to remove stormwater pollutants, reduce stormwater runoff volume, and beneficially use stormwater to support an integrated approach to protecting water quality and managing water resources in the following order of preference:
    - On-site infiltration, bioretention, and/or rainfall harvest and use.
    - On-site biofiltration, off-site ground water replenishment, and/or off-site retrofit.

General Waste Discharge Requirements for Low-Threat Discharges to Surface Waters

Low-threat discharges are currently regulated by the Los Angeles RWQCB under a regional general permit, Waste Discharge Requirements for Discharges of Groundwater From Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (General Dewatering Permit) (Order No. R4-2018-0125, NPDES No. CAG994004). A Notice of Intent (NOI) and Report of Waste Discharge must be submitted to the Los Angeles RWQCB to comply with this General Dewatering Permit. Effluent limitations for all discharges are specified for total suspended solids, turbidity, biological oxygen demand, oil and grease, settleable solids, sulfides, phenols, residual chlorine, and methylene blue active substances. Several other specific compounds also have effluent limitations.

3.8.2.3. Local

City of Hermosa Beach Local Coastal Program (LCP)

The City's LCP consists of the Coastal Land Use Plan, which is integrated in the City's General Plan (PLAN Hermosa), and a Local Implementation Plan (LIP), which will be incorporated into the City's implementing ordinances, including changes to the Municipal Code. The Coastal Land Use Plan component adopted by the City and certified by the California Coastal Commission in 1981 addresses hydrology, water quality, and water-related public safety considerations of development within the coastal zone. The Coastal Development and Design chapter includes a policy to minimize risk to life and property in areas of high flood hazard. The Local Implementation Program (LIP) of the LCP has not yet been certified and, therefore, the California Coastal Commission retains the authority to review and issue CDPs for development within the coastal zone.

City of Hermosa Beach Municipal Code

Chapter 8.44 Stormwater and Urban Runoff Pollution Control Regulations

Chapter 8.44 of the Hermosa Beach Municipal Code seeks to ensure the future health, safety, and general welfare of the citizens of the City and the water quality of the receiving waters of the County of Los Angeles and surrounding coastal areas by:

- Reducing pollutants in storm water discharges to the maximum extent practicable.
- Regulating illicit connections and illicit discharges and thereby reducing the level of contamination of stormwater and urban runoff into the MS4.
- Regulating non-stormwater discharges to the MS4.
- Protecting and enhancing the quality of watercourses, water bodies, and wetlands in the City in a manner consistent with the federal Clean Water Act, the California Porter-Cologne Water Quality Control Act, and the Municipal NPDES Permit.

Chapter 8.44 specifically prohibits illicit connections to the municipal stormwater system, littering, and the discharge of certain kinds of untreated runoff into the stormwater system. Chapter 8.44 also requires owners and occupants of property in the City to implement BMPs to prevent or reduce the discharge of pollutants to the municipal stormwater system to the maximum extent practicable. Additionally, Chapter 8.44 provides runoff requirements for industrial/commercial and construction activities and standard urban stormwater mitigation plan requirements for new development and redevelopment.

3.8.3. Potential Environmental Impacts

3.8.3.1. Significance Thresholds

Based on the findings of the Initial Study, an impact on hydrology or water quality would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold HWQ-1:** Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- **Threshold HWQ-2:** Degrade water quality through the inadvertent release of pollutants into the marine environment.
- **Threshold HWQ-3:** Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

- **Threshold HWQ-4:** Dispose of dredged sediments such that substantial adverse changes could occur related to ocean water or sediment quality, toxicity, or bioaccumulation of contaminants in aquatic biota, or declines in marine wildlife habitat.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following thresholds:

- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- 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 which would:
  - Result in substantial erosion or siltation on or off site.
  - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.
  - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
  - Impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, result in a release of pollutants due to Project inundation.
- Modify ocean circulation patterns to such a scale that degradation of marine water quality would occur.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to these thresholds. The impacts assessment below focuses on Thresholds HWQ-1 through HWQ-4 identified above.

3.8.3.2. Impact Analysis

Surface or Ground Water Quality (Threshold HWQ-1)

Impact HWQ-1: Construction activities would temporarily release potentially hazardous substances into the environment and could violate water quality standards or waste discharge requirements.

Construction activities have the potential to cause violations of water quality standards or waste discharge requirements due to ground-disturbing activities, stockpiling, equipment use and storage, and potential spills. Terrestrial construction activities would include delivery, temporary storage, and use of materials and equipment for marine directional bores; surface preparation; trenching; conduit placement and backfilling; trenchless installation; directional boring; conventional boring; manhole installation; and surface restoration. Terrestrial construction activities would involve the use of large, heavy equipment, including but not limited to, an excavator, backhoe, supply trailer, various trucks, a pavement roller, bore machine, and well-drilling machine. The machinery would be used to install landing pipes, landing manhole at the landing site, ocean ground bed either under the beach or under the ocean floor, and terrestrial conduit systems.

The Project would result in approximately 0.05 acre (2,152 square feet) of total ground disturbance. Therefore, the Project would not be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit.

The Applicant does not anticipate the need to establish any temporary staging areas for equipment or materials near the work sites. Instead, the contractor is expected to operate from existing local yards. The directional bore sites would be large enough to accommodate materials that are needed daily. If a staging area is required, an existing paved or disturbed area, currently identified as a field at the northern end of Redondo Beach in vacant lots beneath the overhead power transmission lines, would be used for staging equipment. Reportedly, this area has been used previously for construction projects in Hermosa Beach. If this staging area is used, equipment and materials would be transported to the work sites as needed. These activities could potentially violate water quality standards or waste discharge requirements if sediment- or contaminant-laden runoff from the disturbed work areas enters storm drains or other pathways leading to Santa Monica Bay, or if fuel or other construction chemicals were accidentally spilled or leaked into the environment.

Terrestrial activities that would require excavations or ground disturbance include boring, trenching, and manhole placement. The bore site would encompass approximately 8,000 square feet (744 square meters) and would measure approximately 40 feet (12.2 meters) by 200 feet (61 meters). The entry pit for the bores would measure approximately 10 feet (3 meters) wide by 12 feet (2.7 meters) long and 4 feet (1.2 meters) deep. The landing manhole would be approximately 8 feet (2 meters) wide, 12 feet (3.7 meters) long, and 9 feet (2.7 meters) deep. Project activities would take place in a residential street with a low chance of encountering groundwater during excavation or drilling operations and would not require dewatering. Should dewatering to storm drains or to the Santa Monica Bay be conducted, the Project would be required to comply with the General Dewatering Permit with oversight from the Los Angeles Regional Water Quality Control Board (LARWQCB).

Boring activities require the use of a non-toxic bentonite clay to lubricate the drill and carry cuttings, sand, and small rocks from the bore path. During boring operations, fractures in the soils may result in the inadvertent release of bentonite clay into the environment. This event is described as a “frac-out” and typically occurs in highly fractured soils or if the bore path is extremely shallow. In the event of a frac-out, clean-up time would vary depending on the size of the potential release. For example, many frac-outs consist of a small release of fluid (e.g., less than 50 gallons of drilling fluid) that can be cleaned up quickly with minimal disturbance. In the event of such a release, boring operations would be immediately halted by the rig operators upon detection of the frac-out. In these circumstances, if the release point is on land, the area would be surrounded with sandbags, and the material would be either removed by hand or with a vacuum hose. Any collected material would be recycled or disposed of at a permitted landfill. However, in most circumstances, the rig operator can adjust the drill and fluid pressure to alleviate or halt the release of drilling fluids.

A marine frac-out is not anticipated to occur due to the depth of the bore path between the bore location and the seafloor. The proposed drill path would be approximately 25 to 50 feet (9.1 to 15.2 meters) below the seafloor, and the soils are not expected to require excessive fluid pressure. Should a frac-out occur, the frac-out can be reduced or halted by modulating pressure in the mud motor, pulling back and altering the bore path to avoid a release point, or utilizing non-toxic additives to seal the fracture.

To reduce potential impacts of a frac-out, the Applicant would be required to implement Mitigation Measure (MM) HWQ-1 (Frac-out Contingency Plan). The Frac-out Contingency Plan would require the Applicant to halt boring activities to control the release of drilling fluids and would contain a list of procedures that would be followed in the event of a frac-out. The Plan would highlight the control of drilling fluids, cleanup activities, and notification requirements.

No routine maintenance is planned for the buried portions of the cable network besides ensuring that the power feed and transmission equipment in the power feed equipment (PFE) facility are in proper working order. PFE facilities would not be staffed, but they would require periodic service calls as needed and routine monthly testing. These activities are not anticipated to adversely affect water quality or utilize any hazardous materials. However, the diesel generators and the fuel (diesel) tank installed as a backup power source in the PFE facility represent potential sources of water contamination. If the fuel tanks or either a tank or generator were to leak, contaminants could seep into shallow groundwater. The diesel generator would be located on a curbed concrete pad or within a secondary containment structure to prevent leaks from running off the facility, and the tank would be double hulled. These conditions would be considered standard practice, and routine inspections would help identify potential leaks to prevent discharges. The PFE facility would also be located within an existing structure, further reducing the potential for a leak to make contact within shallow groundwater.

With implementation of MM HWQ-1 and compliance with applicable regulations, including the General Dewatering Permit, PLAN Hermosa, and City of Hermosa Beach Stormwater and Urban Runoff Pollution Control Regulations (City's Municipal Code, Chapter 8.44), potential impacts from construction and the potential for violations of water quality standards or waste discharge requirements would be less than significant with mitigation (Class II).

Mitigation Measures

HWQ-1 **Frac-out Contingency Plan.** The Applicant shall develop and adhere to a Frac-out Contingency Plan. The Frac-out Contingency Plan will establish the operational procedures and responsibilities for the prevention, containment, and clean-up of frac-outs associated with the Project's directional boring operation. Any frac-out shall be reported to the City within 4 hours. In addition to utilizing industry standard practices during boring, the Plan shall specify which, if any, additives are to be used in the boring process. These additives shall be industry standard and non-toxic. In the event of a suspected marine frac-out, divers and non-toxic tracking dye shall be utilized to locate and confirm the frac-out. If a marine frac-out does occur, cleanup activities shall be conducted consistent with safe working practices. If a frac-out persists uncontained in the marine environment for more than 48 hours after attempting to correct the discharge, the boring contractor shall remove the bore pipe as necessary, and a new bore path shall be attempted. At the end of terrestrial construction activities, the Applicant shall prepare a concise summary report detailing all frac-out-related activities, including incidents, response, and cleanup activities. The summary report shall contain copies of the monitoring logs.

The Frac-out Contingency Plan shall specify a designated frac-out monitor who will observe the surface conditions as the drill head progresses and look for evidence of a frac-out. The frac-out monitor shall be required to maintain a separate log of all potential and actual frac-out events. The log shall contain the following information:

- Details on the release,
  - Estimate of the amount of bentonite released and size of the area affected
  - Location, date, and time of release
  - Success of cleanup action
- Name and telephone number of person reporting,
- How the release occurred,
- Type of activity surrounding the area of the frac-out,
- Description of methods used to clean up and secure the site, and
- Listing of current permits obtained for the Project.

Inadvertent Release of Pollutants into the Marine Environment (Threshold HWQ-2)

Impact HWQ-2: Marine construction vessels and equipment would potentially inadvertently release fuel, fluids, bilge water, sewage waste, debris, or ballast water into the marine environment.

Marine construction activities include directional boring support, cable pulling, a pre-lay grapnel run, cable laying, post-lay burial of the nearshore portion of the cables, cable plowing, and remotely operated vehicle (ROV) post-lay burial. Various marine vessels and equipment would be used during cable laying and directional boring. The marine cable-laying process would consist of a 100- to 200- foot (30- to 60-meter) construction work boat, at least one large cable-laying vessel, plow, and an ROV. The use of this marine equipment has the potential to release hazardous materials, such as fuel, ballast, lube oil, and hydraulic fluids, into the ocean environment.

Marine vessels could accidentally discharge fuel or other fluids into marine waters. Accidental petroleum discharge or other spills from vessels may be significant depending on the quantity of the release, although a large release is unlikely. Without confinement and recovery plans, the effects of petroleum and/or other vessel discharge could be significant. By implementing the mitigation measures outlined below, the likelihood of all releases would be reduced because preventative measures would be in place to prevent any contaminants from being released.

Marine vessels could also accidentally discharge sewage waste, bilge water, debris, or ballast water. These discharges could result in an increase in organic suspended solids and could alter biological oxygen demand and dissolved oxygen levels in the water column. To prevent these impacts, all vessels would be equipped to collect, contain, and treat waste products. Every vessel that is used for the Project would be required to comply with Vessel General Permits as required by Section 402 of the Clean Water Act. These permits impose strict limits on incidental discharges, including those from lubricants, for all vessels that operate within 3 nautical miles of the U.S. coastline. These permits require the use of environmentally acceptable lubricants and other preventative measures (USEPA 2012). If any ballast water is discharged, the location and volume must be documented, and all debris falling into the water must be documented by time, date, and location.

When the Project is retired and taken out of service, the California Coastal Commission could require removal of the cable from State waters. The cable removal operation would involve the use of marine vessels that could accidentally discharge fuel, sewage, or other fluids as described above for cable installation. The permit requirements that would be in place at that time are not known but are expected to be similar to, or more restrictive than, current requirements.

Conduit and cables would be installed between the onshore landing manhole to a point beyond the surf zone, approximately 3,000 feet (914 meters) offshore. These conduits would be installed using directional boring. A drilling fluid (a non-toxic solution of bentonite clay and water) would be circulated into the bore hole to prevent it from caving in and to coat the wall of the bore hole to minimize fluid losses to permeable rock and soil types. To minimize the potential for release of silty material into the marine environment, the last section of the bore hole would be drilled using potable water as a drilling fluid. Spent drilling fluids (except for those lost to the surrounding subsurface material) and cuttings would be collected and disposed of at a permitted landfill. Any drilling fluids released to the marine environment through subsurface fractures would likely be dispersed rapidly by currents and wave-induced turbulence.

With implementation of MMs HWQ-2, HWQ-3, and HWQ-4, and compliance with Vessel General Permits, potential impacts on hydrology and water quality would be reduced to less than significant (Class II). The mitigation measures have been designed to anticipate and prevent the potential impacts on hydrology and water quality that could result from discharges into the environment due to construction of the proposed Project.

Mitigation Measures

HWQ-2 **Marine Spill Prevention Plan.** The Applicant shall prepare a Marine Spill Prevention Plan to ensure fuel, oils, and fluids used for equipment operation and maintenance are prevented from entering the marine environment. The Plan shall also include the procedures for reporting all spills to relevant agencies, and completing a report, to be prepared by the Applicant and submitted to the City at the end of each construction phase, documenting all incidents during each phase. All the vessels that are expected to be utilized as part of the Project would be required to maintain compliance with the Vessel General Permits as required by Section 402 of the Clean Water Act. The Permits impose strict limits on incidental discharges, including those from lubricants, for all vessels that operate within 3 nautical miles of the U.S. coastline. The Permits also require the use of environmentally acceptable lubricants and implementation of preventative measures (USEPA 2012). Failure to comply with the requirements of the Vessel General Permits would result in a violation of Section 402 of the Clean Water Act.

HWQ-3 **Vessel Waste Management Plan.** The Applicant shall prepare a Vessel Waste Management Plan, which will require that all vessels be equipped to collect, contain, and treat waste products. If any ballast water is discharged, the location and volume must be documented, and all debris falling into the water must be documented by time, date, and location. All documented incidents shall be reported ~~to the City and~~California State Lands Commission ~~other~~and other relevant agencies at the end of each construction phase. A copy of the report shall be provided to the City of Hermosa Beach.

HWQ-4 **Shipboard Oil Pollution Emergency Plan.** The Applicant shall prepare Shipboard Oil Pollution Emergency Plans (SOPEPs) that must be implemented during the installation, repair, and monitoring of the Project. The SOPEPs must be compliant with the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex I (Prevention of Pollution by Oil) and V (Prevention of Pollution by Garbage from Ships). The Plan must contain preventative measures and procedures that will be followed in the event of a spill in the nearshore or offshore environment and will include at a minimum:

- Purpose and need for the plan,
- Assessment of potential hazards,
- Spill Prevention and containment,
- Emergency response procedures,
- Reporting procedures to the City and other relevant agencies,
- Closing of the spill incident, and
- Spill notification contact list.

Water Quality Control Plans and Sustainable Groundwater Management Plans (Threshold HWQ-3)

Impact HWQ-3: The Project would potentially conflict with the Los Angeles Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan for the Los Angeles Region (Basin Plan).

The LARWQCB Basin Plan was established by the State Water Resources Control Board (SWRCB) to develop water quality control policies and regulations. Region-specific water quality regulations are contained in the Basin Plan that recognize regional beneficial uses, water quality characteristics, and water quality problems. The LARWQCB Basin Plan includes water quality objectives that must be attained or maintained to protect designated beneficial uses. Table 3.8-2 shows the beneficial uses for Hermosa Beach and other nearby waters. The Basin Plan lists general policies that apply to all State waters, which fall under SWRCB Resolution No. 68-16, commonly referred to as "California's Antidegradation Policy." Any actions that adversely affect water quality in all surface waters and groundwater must be consistent with the maximum benefit to the people of the State, must not unreasonably affect present and anticipated beneficial use of such water, and must not result in water quality less than that prescribed in water quality plans and policies.

Proposed construction activities would temporarily require the use of minimal amounts of water. However, the Project would not require the use of local groundwater that would contribute to the lowering of the local groundwater table. The Applicant would purchase water from an existing purveyor via a municipal connection. By purchasing water from an existing purveyor, discharge and recharge requirements necessary for the basin would be followed. In addition, the terrestrial Project components would be located in an existing urbanized area and would not introduce new impermeable surfaces that could affect drainage or groundwater recharge. The nearest surface waters to the Project area are Hermosa Beach, Manhattan Beach, and Redondo Beach (see Table 3.8-2 for existing beneficial uses). The Basin Plan identifies Malaga Canyon, a stream located in the Palos Verdes Peninsula, as the nearest inland surface water source. As stated previously, during construction, the proposed Project would not release substantial amounts of pollutants that would degrade water quality or interfere with or alter beneficial uses.

During operation, the terrestrial fiber optic cables would be located underground, and the marine cables would be underwater. No water would be used, and no hazardous pollutants would be released by Project components during operation. The diesel fuel generators and tank may potentially leak but would be secured within a containment structure and would undergo routine inspections to ensure environmental and safety standards. Therefore, pollutants are highly unlikely to reach surface waters, interfere with existing beneficial uses, or conflict with the LARWQCB Basin Plan policies and regulations. Impacts would be less than significant (Class III).

Dredged Sediment Disposal Effects on Ocean Water and Sediment Quality (Threshold HWQ-4)

Impact HWQ-4: The proposed marine dredging activities would degrade ocean water and sediment quality.

The terrestrial portions of the proposed Project would not require dredging activities and thus would not result in the creation of dredged sediments that would affect water quality. Marine construction activities would include a dredging component that would be limited to cable burial and would not include the disposal of dredged sediments. Dredging activities would be limited to a narrow area along the proposed cable route, and the majority of the dredged material is expected to naturally fall back into place under the weight of the sediments or, if suspended, resettle in the vicinity of cable-laying activities. Dredged material would not be removed from the seafloor and disposed of in the terrestrial environment.

The marine construction activities would include directional boring support, cable pulling, a pre-lay grapnel run, cable laying, post-lay burial of the nearshore portion of the cables, cable plowing, and ROV post-lay burial. Various marine vessels and equipment would be used during cable laying and directional boring.

At the directional boring exit, the drilling conditions would be monitored to determine the exact location of the drill head in relation to the exit point. To achieve a mud-free exit and minimize the potential release of large quantities of bentonite on the ocean floor, the drilling mud would be circulated out of the system by flushing the drill string with fresh water. The exact distance and time from the exit point that fresh water would be introduced into the drill string would be based on drilling conditions and not a predetermined distance. The actual bore exit would be identified by the drill crew when the bottom-hole assembly is no longer supported by the soil and the angle of the drill string changes dramatically. A marine support crew would be dispatched to dive on the exit to verify the exit point. Once the exit has been verified, an on-site inspector would be given the true offshore exit coordinate for approval. Spent drilling fluids (except for those potentially lost to the surrounding subsurface material) and cuttings would be collected and disposed of at a permitted landfill. Any drilling fluids released to the marine environment through subsurface fractures would likely be dispersed rapidly by currents and wave-induced turbulence.

During construction, a pre-lay grapnel run would be performed to clear debris, such as discarded fishing gear, from the seafloor along the corridors where the cables are to be buried. To accomplish this, a grapnel would be dragged along the cable routes before cable installation. The grapnel would be attached to a length of chain to ensure contact with the bottom and towed by the main cable ship or a workboat at a speed of approximately 1.2 miles per hour (approximately 1 knot or 1.9 kilometers per hour). The arms of the grapnel are designed to hook debris lying on the seafloor or that is shallowly buried to approximately 1.3 feet (0.4 meter). If debris is hooked and towing tension increases, then towing would cease, and the grapnel would be retrieved by winch (a hauling or lifting device). Any debris recovered during the operation would be stowed on the vessel for subsequent disposal in port.

The marine construction dredging activities do not propose the relocation and disposal of any materials, and sediment disturbance during marine dredging would be temporary and would resettle to the ocean floor. The pre-lay grapnel run would clear debris in the cable-laying path, and hazardous marine features would be avoided to the highest extent. Therefore, impacts would be less than significant (Class III).

3.8.3.3. Cumulative Effects

Introduction

Table 3-1 lists other proposed or recently approved projects in Hermosa Beach and Redondo Beach. The geographic scope for the cumulative analysis includes the water resources that would be affected by the proposed Project, as well as any downstream receiving waters and upland contributing areas related to those water resources. The marine components of the cable systems are located in Santa Monica Bay between the Mean High Water (MHW) line and the outer limit of the Continental Shelf – that is, areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). The region surrounding Santa Monica Bay has been substantially altered in the last 100 years as terrestrial areas have been developed. The development of adjacent areas has subsequently altered the marine environment, and existing impacts that have been identified are contaminated water and sediments in Santa Monica Bay associated with storm drain effluent, Ballona Creek discharge, and contamination at the Palos Verdes shelf. In addition, the military has deposited explosives in designated dumping areas. Submarine cables have also been installed in Santa Monica Bay. All projects listed in Table 3-1 are terrestrial and not within the water areas of Santa Monica Bay, thereby limiting their relevance to the marine components of the proposed Project.

Project Contribution to Cumulative Impacts – Terrestrial

Construction and operation of past and present projects have resulted in substantial changes to the physical hydrology and water quality of the region. Although groundwater levels fluctuate over time, due in part to the amount of recharge entering the basin, residential and municipal water use has generally led to reduced groundwater storage and availability. Floodplain functions have been impaired through the placement of structures (such as housing) within floodplains and through the deliberate alteration of floodplain hydrology (including construction of dams, levees, and engineered channels). The creation of vast areas of impervious surface (including parking lots, roadways, and rooftops) has altered the rate and amount of surface water runoff in the study area. Improper handling, storage, and disposal of hazardous materials have led to contamination of various surface water and groundwater resources.

The current and reasonably foreseeable projects (Table 3-1) would affect water resources in the cumulative study area in a similar manner to past activities. Earth movement and grading could lead to increased erosion and sedimentation. Some of the cumulative projects would involve the storage or use of hazardous materials, which could contaminate surface water and groundwater. Construction and operation of the proposed Project would not result in significant impacts on hydrology and water quality because the Project would not increase water supply demand and groundwater use, place structures in watercourses or flood hazard areas, or increase erosion and sedimentation from ground disturbance. The accidental spill or release of hazardous materials is possible, but unlikely.

The construction and operation of individual projects would likely result in adverse impacts on water resources that could combine with similar impacts from construction and operation of other projects in the area, potentially resulting in significant cumulative adverse impacts on water resources. However, the incremental contribution of the proposed Project to this cumulative impact would be minor. Construction and operation of the proposed Project would result in minor adverse impacts related to the accidental spill or release of hazardous materials. As described in Section 3.8.3, ground disturbance associated with the proposed Project is expected to result in little risk to water quality. Due to the existing urban environment and with the use of BMPs as required by various permits and regulations, any hazardous material spills could be easily cleaned up prior to contaminants entering the stormwater system. In addition, with implementation of MM HWQ-1, the Project's contribution to cumulative effects, in combination with the projects in Table 3-1, would not be substantial. Impacts would not be cumulatively considerable.

Construction and operation of cumulative projects in the study area could result in a cumulative impact on groundwater resources. Cumulative groundwater extraction in the Los Angeles County groundwater basin and the West Coast Subbasin for construction and operation of all of the cumulative projects in the region would be considerable. However, the incremental contribution of the proposed Project to this significant cumulative adverse impact would be minor. The largest amount of water use for the Project would be during construction, which would be short-term and temporary. In addition, as stated previously, the Applicant would purchase water from an existing purveyor via a municipal connection. By purchasing water from an existing purveyor, discharge and recharge requirements necessary for the basin would be followed. The amount of water that would be supplied to the Applicant by the nearby municipal connection would be substantially less than the long-term historic water use within the municipal system. The short-term construction water use for the Project is not anticipated to lead to a disruption or impairment in the use of nearby water supply or groundwater levels. Therefore, impacts would not be cumulatively considerable.

Project Contribution to Cumulative Impacts – Marine

Because the projects in Table 3-1 are located in the terrestrial portion of the Project area, the Project's impacts on the marine or submarine environment would not combine with impacts from these other projects. As stated previously, any disturbances to the seafloor during construction would be temporary and localized with the re-suspended sediments settling onto the seafloor shortly after construction activity. In addition, with implementation of MMs HWQ-2 through HWQ-4, the Project's contribution to cumulative effects would not be substantial. Impacts would not be cumulatively considerable.

3.8.3.4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Hydrology and Water Quality

Table 3.8-4, below, provides a summary of the Project's impacts related to hydrology and water quality. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.8-4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Hydrology and Water Quality

Impacts	Mitigation Measures	Significance Conclusion
Threshold HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.		
Impact HWQ-1: Construction activities would temporarily release potentially hazardous substances into the environment and could violate water quality standards or waste discharge requirements.	HWQ-1 Frac-out Contingency Plan	Class II
Threshold HWQ-2: Degrade water quality through the inadvertent release of pollutants into the marine environment.		
Impact HWQ-2: Marine construction vessels and equipment would potentially inadvertently release fuel, fluids, bilge water, sewage waste, debris, or ballast water into the marine environment.	HWQ-2 Marine Spill Prevention Plan HWQ-3 Vessel Waste Management Plan HWQ-4 Shipboard Oil Pollution Emergency Plan	Class II
Threshold HWQ-3: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.		
Impact HWQ-3: The Project would potentially conflict with the Los Angeles Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan for the Los Angeles Region (Basin Plan).	None required	Class III
Threshold HWQ-4: Dispose of dredged sediments such that substantial adverse changes could occur related to ocean water or sediment quality, toxicity, or bioaccumulation of contaminants in aquatic biota, or declines in marine wildlife habitat.		
Impact HWQ-4: The proposed marine dredging activities would	None required	Class III

Impacts	Mitigation Measures	Significance Conclusion
degrade ocean water and sediment quality.		
Cumulative Effects	HWQ-1 through HWQ-4 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.8.4. References

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3.9. Land Use and Recreation

This section describes effects on existing land uses and recreational resources from implementation of the Project. The following discussion addresses existing environmental conditions in the Project area, identifies and analyzes environmental impacts that could result from the Project, and includes measures to reduce or avoid significant adverse impacts anticipated from Project-related activities. In addition, existing laws and regulations relevant to land uses and recreational resources are described.

3.9.1. Environmental Setting

The proposed Project consists of terrestrial and marine components. The terrestrial components would be located entirely within the City of Hermosa Beach and the majority of these components would be located within the California Coastal Zone (see Figure 3.9-1). The marine components include those activities that would be located up to 3 nautical miles seaward from the mean high tide line.

The proposed Project would be subject to the jurisdiction of the California Coastal Commission (CCC) and the City of Hermosa Beach. The environmental setting describes terrestrial land uses and marine uses along the Project route and identifies any recreational activities that are in proximity to the Project. The following land use and recreation setting information was obtained from PLAN Hermosa (the City's Integrated General Plan and Coastal Land Use Plan), the City's zoning map, satellite map surveys, and site visits.

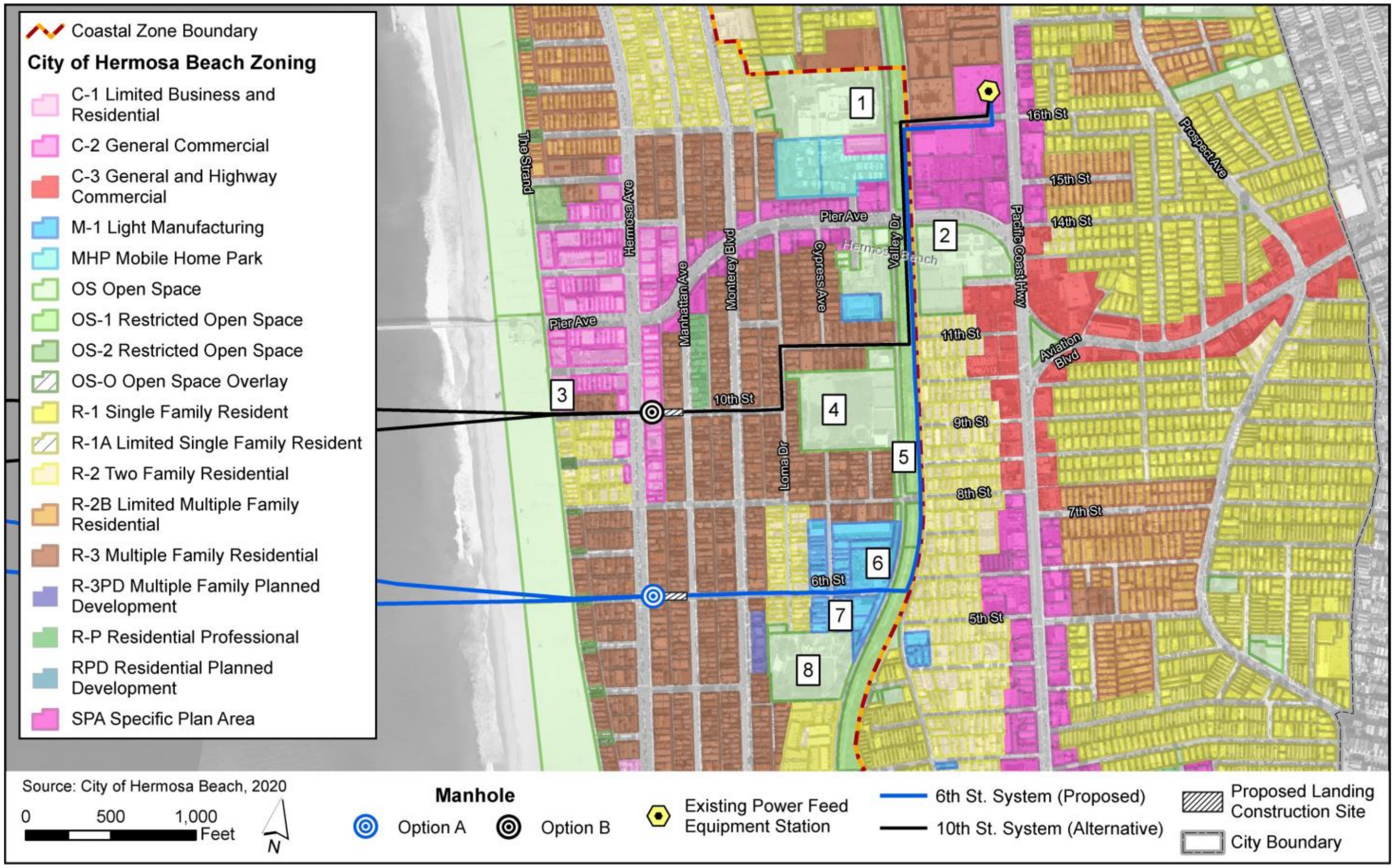
3.9.1.1. Terrestrial Land Uses

The terrestrial study area includes the two optional alignments of the cable system extending inland from the mean high tide line. The dominant land uses along both alignments are residential, recreational, and neighborhood commercial. The cable system would be installed entirely within City streets and the Hermosa Valley Greenbelt~~ (Veterans Parkway)~~, connecting to the power feed equipment (PFE) facility located on the northwest corner of 16th Street and Pacific Coast Highway. Figure 3.9-1 shows the existing uses and designated zoning adjacent to the landing pipes, landing construction site and LMH, terrestrial conduits, and the PFE facility.

Notable Recreation Sites and Activities

The City of Hermosa Beach hosts close to 100 special events annually, with 75 percent defined as small-scale (less than 500 participants) and 25 percent defined as large-scale (greater than 1,000 participants). The majority of small-scale events are held in the spring, while large-scale events are primarily in the summer and fall months (City of Hermosa Beach 2017). Special events generally take place on the Hermosa Beach Pier, the beach area north of the Pier, and Pier Plaza. These special event locations are approximately 500 feet north of the 10th Street landing site (Option B) and 1,600 feet north of 6th Street landing site (Option A).

Figure 3.9-1. Terrestrial Land Uses Near Project Route



Land Use Key

1- Hermosa Valley School
2- Hermosa Beach Community Center
3- Motel
4- Clark Field
5- Hermosa Valley Greenbelt
6- City Yard
7- Buddhist Center
8- South Park

Additional information on the recreation sites located along the Option A and Option B routes is as follows:

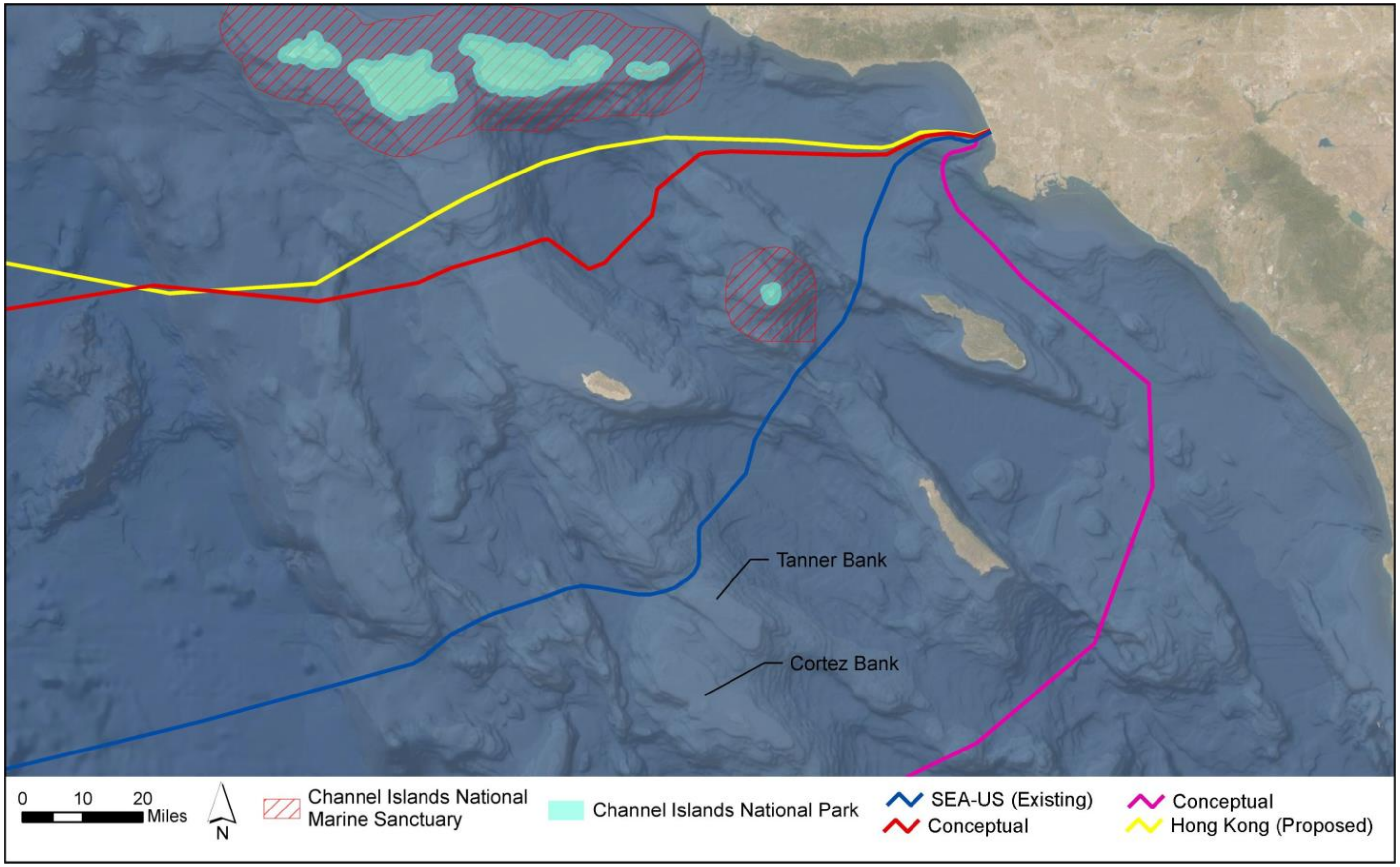
- **Clark Stadium and Field.** This 6.6-acre park includes a multi-purpose hall (Clark Building), lighted sports fields, and a designated lawn bowling site. The park is used by youth and adult sport leagues (i.e., City of Hermosa Beach Slo-Pitch Softball League, American Youth Soccer Organization, and Hermosa Beach Little League) (City of Hermosa Beach 2019a).
- **Hermosa Beach Community Center.** This 4.8 acre-site includes the Hermosa Beach Community Theater, a community center with meeting rooms, a senior center, gymnasium, skate park, tennis courts, and the Hermosa Beach History Museum. The community center is also utilized by the P.A.R.K. (Positive Active Recreation for Kids) Program, which is an after-school program for students in 1st through 8th grade (City of Hermosa Beach 2017).
- **Hermosa Valley Greenbelt** ~~(Veterans Parkway).~~. This 19-acre linear recreation area includes a walking and jogging trail that extends 3.5 miles north to south along the length of the City (City of Hermosa Beach 2017).
- **South Park.** This 4.5-acre park is utilized by youth and adult sport leagues (i.e., American Youth Soccer Organization and Hermosa Beach Little League). The site includes a community garden and a universal access play area. The community center is also utilized by the P.A.R.K. Program (City of Hermosa Beach 2019b).
- **The Strand.** Officially named the Marvin Braude Bike Trail and locally known as The Strand, this 22-mile regional bike path extends along the Los Angeles County coastline from Will Rogers State Beach in the north to Torrance County Beach in the south. The portion of the bike path that travels through the City of Hermosa Beach is maintained by the Los Angeles County Department of Public Works (County of Los Angeles 2019). Recreation activities along The Strand near 6th Street and 10th Street include biking and walking/running.
- **Public Beach.** The City's oceanfront includes approximately 94 acres of public beach that is popular for surfing and swimming. Volleyball nets have been installed along the beach, and the City hosts tournaments throughout the year.

3.9.1.2. Marine Uses

The proposed marine cables would cross Santa Monica Bay before reaching the outer continental shelf. The routes selected for the marine cables would be in proximity to the following marine features, which are shown in Figure 3.9-2:

- **Channel Islands National Park.** The National Park Service manages 249,561 acres of the Channel Islands that have been designated as a national park. The National Park boundary extends 1 nautical mile from the shore of each of the following islands within the park: San Miguel, Santa Rosa, Santa Cruz, Anacapa, and Santa Barbara (NPS 2019; NOAA 2016). While utility rights-of way and telecommunication facilities may be conditionally permitted through National Park Service lands (pursuant to 16 United States Code [USC] 5), the National Park Service would be required to conduct an environmental review under the National Environmental Policy Act prior to issuing such a permit (NPS 2006). The proposed marine cables would remain outside of the National Park boundary.

Figure 3.9-2. Designated Marine Areas



- **Channel Islands National Marine Sanctuary.** The Sanctuary is managed by the National Oceanic Atmospheric Administration (NOAA) and includes 11 marine reserves and two marine conservation areas. The Sanctuary encompasses 1,470 square miles and extends 6 nautical miles from the shore of each island within the National Park (NOAA 2016). Per 15 Code of Federal Regulations (CFR) Part 922 (National Marine Sanctuary Program Regulations), constructing or placing any structure, material, or other matter on or in the submerged lands of the Sanctuary is prohibited, with few exceptions identified in Program Regulations Section 922.72(a)(4). The proposed marine cables would remain outside of the Sanctuary.
- **Point Mugu Sea Range.** The Point Mugu Sea Range is located within the Project's marine area and would be crossed by several of the marine cable alignments (see Figure 3.9-3). The Sea Range is operated by the U.S. Navy and includes 36,000 square miles of controlled sea and airspace designated for military testing and training activities.

A variety of marine recreation activities, such as surfing, paddling, and kayaking, are common near shore. These activities can be accessed directly from the City's public beach. Several popular scuba diving sites are located further along the coast to the north (Malibu) and south (Redondo Beach, Rancho Palos Verdes, Long Beach, Huntington Beach, Laguna Beach) of the two optional landing sites (EcoDiveCenter 2020).

Marine fishing is a frequent activity along the southern California coast. Recreational fishing is also common from boats and kayaks, beaches, man-made structures, such as piers and seawalls, and rocky headlands. Recreational fishermen catch fish with a variety of fishing equipment. Fishing gear permitted by the California Department of Fish and Wildlife (CDFW) includes rod-and-reel, dip nets and baited hoop nets (no greater than 36 inches diameter), spears, and harpoons (CDFW 2019). A CDFW-issued ocean fishing license is not required to fish from any public pier in California, making pier fishing one of the most easily accessible forms of ocean fishing for the general public. The following recreational fishing sites are in proximity to the proposed Project area, as shown in Figure 3.9-4:

- **Hermosa Beach Pier.** Hermosa Beach Pier is located approximately 500 feet north of the proposed cable corridor. The Pier was built in 1904 and has undergone several renovations since it was built. The current concrete structure is slightly longer than Manhattan Beach Pier (discussed below), providing approximately 760 feet of access to marine waters for recreational fishermen. Public restrooms and access to amenities, retail, parking and other conveniences provided by the Hermosa Beach Waterfront make this a popular fishing pier.
- **Manhattan Beach Pier.** Manhattan Beach Pier is located approximately 1.7 miles north of the proposed Project corridor. The Pier is an early example of a reinforced concrete pier structure, built in the late 1910s, and is registered with the Office of Historic Preservation as an Historical Landmark. The Pier provides approximately 500 feet of access to the ocean for recreational fishermen. The Pier ends with a unique rounded shape, purportedly intended to help it withstand wave action. A small aquarium is located in a building at the end of the Pier. Fishing over the guard rail with rod-and-reel is most common; however, hoop netting and other net types can be cast from the Pier. Crab traps are also allowed if marked with a buoy, although these are seldomly used from piers.

Figure 3.9-3. Proximity of Marine Cable Routes to Point Mugu Sea Range

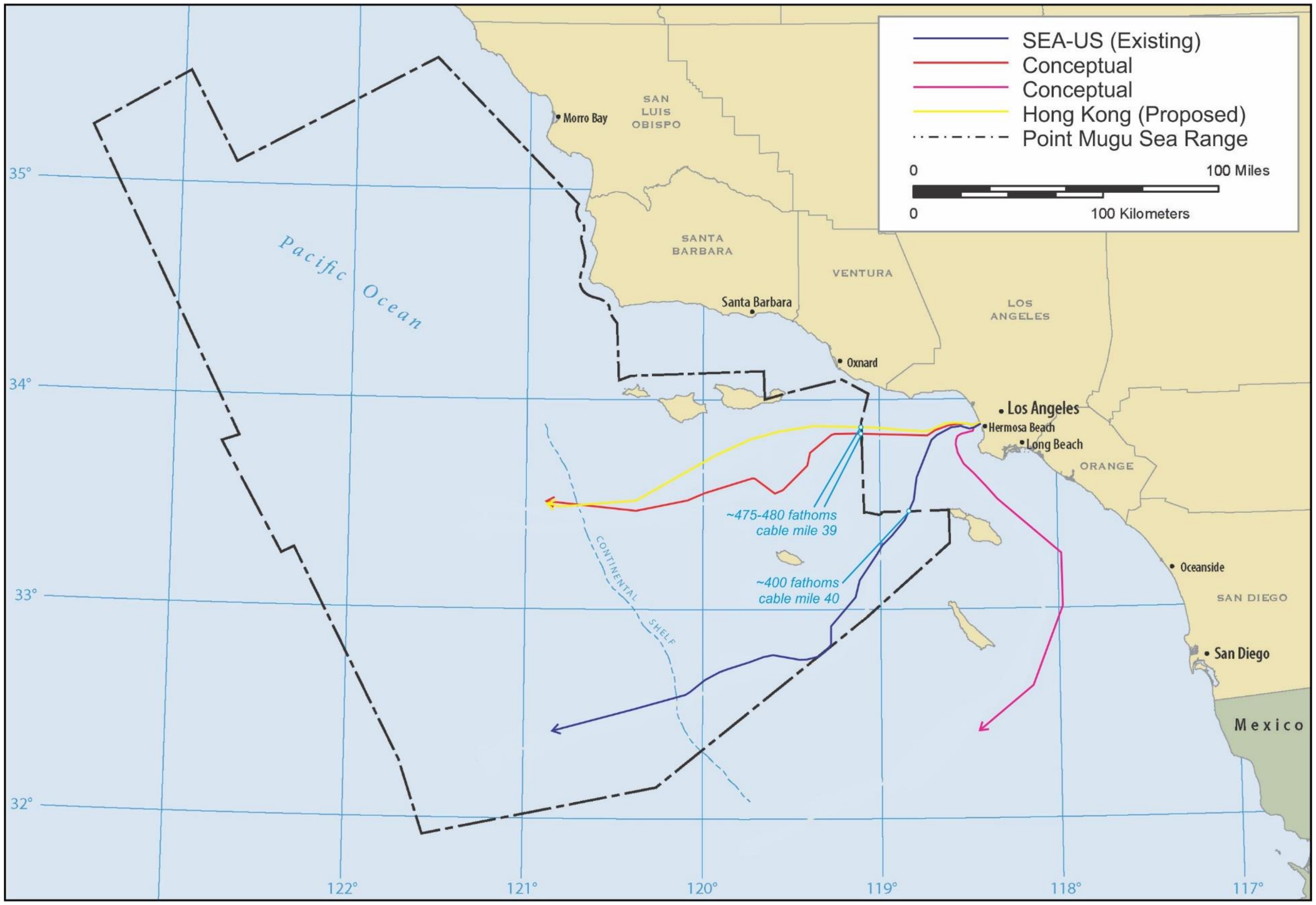
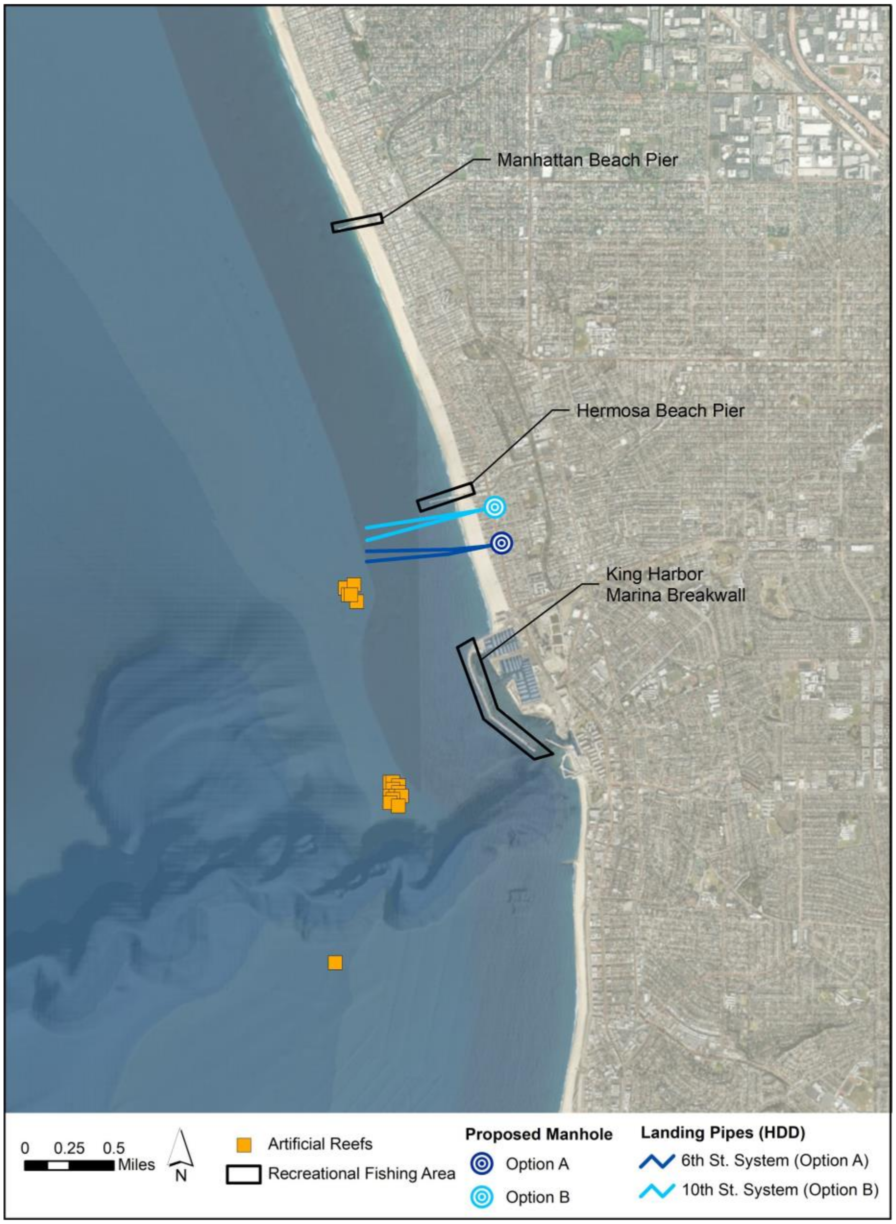


Figure 3.9-4. Recreational Fishing Areas



- **King Harbor Marina Breakwall.** The King Harbor Marina breakwall is to the south of Hermosa Beach. The breakwall has a short, paved area closest to shore; beyond this, the breakwall is made of rip-rap that is much harder to access on foot due to the uneven rocks. Combined with the risk of 'snagging' rod-and-reel tackle on the shallow submerged rocks of the rip-rap, this man-made structure is less desirable as a rod-and-reel fishing location than Hermosa Pier. However, the breakwall does offer coastal access to potential lobster habitat, which can be caught from the breakwall using hoop nets. The King Harbor Marina breakwall is also popular with SCUBA divers, who may occasionally spearfish along the rocky reef habitat created by the rip-rap structure.
- **Boat/Kayak Fishing.** Boat- and kayak-based fishing include the use of traps and rod-and-reel gear to target fish and some invertebrates, such as crab and lobster. Kayaks may launch from Hermosa Beach; boats are also likely to come from King Harbor Marina and may come from other marinas up and down the coast. Privately owned and rented fishing boats that are likely to use the area can launch out of King Harbor. The Harbor complex includes boat launch and slip facilities, a fuel dock, and bait shops (including a live bait facility). SCUBA and breath-hold divers can collect lobster by hand during the recreational lobster season and can catch fish with spearfishing gear throughout the year. Boat-based fishermen will use King Harbor Marina and the other facilities within the Harbor to target seabed structures in the area for fishing. Areas targeted by boat-based recreational fishermen coming out of King Harbor are likely to include the Redondo Submarine Canyon (approximately 2 kilometers offshore) and the kelp beds off the Palos Verdes Peninsula (approximately 4 miles south).

  The Hermosa Beach Artificial Reef is located approximately 0.7 mile (1.13 kilometers) northwest of the King Harbor Marina breakwall and is accessible by boat or kayak. At approximately 60 feet deep, the Artificial Reef is a dive location for SCUBA divers. The Reef was built in the 1960s and originally included car bodies and a streetcar; however, these metal structures have since deteriorated and are no longer visible.

  Tanner Bank and Cortes Bank are popular sites for overnight sportfishing excursions. They are located approximately 50 miles southwest of San Clemente Island (Landesfeind 2012). As shown in Figure 3.9-2, the marine cables would not traverse these banks.

3.9.2. Regulatory Setting

3.9.2.1. Federal

Submarine Cable Act

The Submarine Cable Act (February 29, 1888, Chapter 17, 25 Statute 41) protects submarine cables and holds responsible parties liable to imprisonment for willful injury to such cables (Sections 21 and 22). The Act requires vessels laying cables to observe the rules concerning signals and for other vessels to keep at a distance of at least 1 nautical mile (Section 24). Fishing vessels are required to keep nets from cables at a distance of at least 1 nautical mile from a vessel engaged in laying or repairing a cable (Section 25) and at least 0.25 mile from any other cable markers in the ocean. According to Section 6 of the Submarine Cable Act, violations of the Act may be reported by the commander of a United States (U.S.) ship of war (i.e., U.S. Navy).

Title 33 of the Code of Federal Regulations (CFR) Parts 1 through 399

Federal regulations concerning marine navigation are codified in 33 CFR Parts 1 through 399 and are implemented by the U.S. Coast Guard and the U.S. Army Corps of Engineers. Under 33 CFR Part 72 (Marine Information), the U.S. Coast Guard issues Notices to Mariners, which are intended to advise mariners of new hydrographic discoveries, changes in channels and navigational aids, and information concerning the safety of navigation.

3.9.2.2. State

California Coastal Act

The California Coastal Act (CCA) establishes a comprehensive approach to govern land use planning along the entire California coast. The coastal zone is defined in Section 30103 of the CCA as the following:

> (a) "Coastal zone" means that land and water area of the State of California from the Oregon border to the border of the Republic of Mexico … extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.

The CCA sets forth general policies (Public Resources Code [PRC] § 30200 et seq.) that are used by the California Coastal Commission (CCC) to review permit applications for any development within the coastal zone. "Development" is broadly defined by the CCA and can include the placement of utility structures within City streets. Development activities within the coastal zone generally require a coastal permit, as stated in Section 30600 of the CCA:

> (a) Except as provided in subdivision (e), and in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone, other than a facility subject to Section 25500, shall obtain a coastal development permit (CDP).

In addition to the regulatory oversight of the CCC, CCA policies are implemented through the preparation of Local Coastal Programs (LCPs) by the cities and counties that are located in whole or in part within the coastal zone. Once an LCP is certified, coastal development permit authority is delegated to the appropriate local government, with the exception of certain specific lands for which the CCC retains original permit jurisdiction.

The City of Hermosa Beach adopted a comprehensive update to its general plan and local coastal program in 2017 (PLAN Hermosa). The LCP component of PLAN Hermosa is not yet certified by the CCC. Until certification, the CCC retains coastal development permitting authority within the City. In applying for a CDP, an applicant must demonstrate consistency with CCA policies (PRC § 30200 et seq.). The following sections describe the specific CCA policies relevant to the proposed Project.

Article 2 – Public Access

Section 30211 Development not to interfere with access: Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Article 3 – Recreation

Section 30220 Protection of certain water-oriented activities: Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 Oceanfront land; protection for recreational use and development: Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Article 4 – Marine Environment

Section 30230 Marine resources; maintenance: Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 Biological productivity; water quality: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30232 Oil and hazardous substance spills: Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

Section 30233 Diking, filling or dredging; continued movement of sediment and nutrients:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

- Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

Section 30234.5 Economic, commercial, and recreational importance of fishing: The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Article 5 – Land Resources

Section 30240 Environmentally sensitive habitat areas; adjacent developments:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas 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.

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

Article 6 – Development

Section 30250 Location; existing developed area:

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

Section 30251 Scenic and visual qualities: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Section 30253 Minimization of adverse impacts: New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

Section 30255 Priority of coastal-dependent developments: Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

Article 7 – Industrial Development

Section 30260 Location or expansion: Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

3.9.2.3. Local

PLAN Hermosa

PLAN Hermosa serves as the City's Integrated General Plan and Coastal Land Use Plan (LCP) to guide the City's physical development. Within this plan, coastal policies and standards are incorporated throughout the various elements. Upon certification of PLAN Hermosa's LCP components by the California Coastal Commission (CCC), the City will be granted authority to issue CDPs.

The following is a list of the specific PLAN Hermosa policies relevant to the proposed Project and its potential environmental effects (City of Hermosa Beach 2017).

Chapter 2: Land Use

Goal 1: Create a sustainable urban form and land use patterns that support a robust economy and high quality of life for residents.

- Policy 1.7: Compatibility of uses. Ensure the placement of new uses does not create or exacerbate nuisances between different types of land uses.

Chapter 3: Mobility

Goal 3: Public rights-of-way supporting a multimodal and people-oriented transportation system that provides diversity and flexibility on how users choose to be mobile.

- Policy 3.9: Access for emergency vehicles. Ensure that emergency vehicles have secure and convenient access to the city's street network.

Goal 7: A transportation system that results in zero transportation-related fatalities and which minimizes injuries.

- Policy 7.1: Safe public rights-of-way. Encourage that all public rights-of-way are safe for all users at all times of day where users of all ages and ability feel comfortable participating in both motorized and non-motorized travel.

Chapter 4: Sustainability and Conservation

Goals 3: Improved air quality and reduced air pollution emissions.

- Policy 3.1: Stationary and mobile sources. Seek to improve overall respiratory health for residents through regulation of stationary and mobile sources of air pollution, as feasible.

Chapter 5: Parks and Open Space

Goal 3: Community parks and facilities encourage social activity and interaction.

- Policy 3.3: Commercial use of facilities. Regulate and enforce commercial use of City parks and open spaces to ensure activities do not impact general use and enjoyment.

Goal 5: Scenic vistas, viewpoints, and resources are maintained or enhanced.

- Policy 5.7: Light pollution. Preserve skyward nighttime views and lessen glare by minimizing lighting levels along the shoreline.

Goal 6: The coast and its recreational facilities are easily accessible from many locations and by multiple transportation modes.

- Policy 6.7: Require new development and substantial redevelopment projects to minimize impacts to existing public access to and along the shoreline.

Goal 7: The beach offers high quality recreational opportunities and amenities desired by the community.

- Policy 7.4: Beach structures. Restrict buildings and structures on the beach with regard to size and number consistent with current access, safety, and beach use.

Goal 9: Coastal and marine habitat resources and wildlife are protected.

- Policy 9.1: Protect critical habitats. Preserve, protect, and improve remaining open space areas to the greatest extent possible to improve on existing limited habitats and prevent further elimination of species.
- Policy 9.5: Minimal activity impacts to habitat. Protect coastal and marine habitats from impacts from maintenance, construction, recreation, and industrial activities.
- Policy 9.6: Tree protection. Protect existing trees and tree copses that may provide temporary or permanent bird habitat and encourage replacement with specimen trees whenever they are lost or removed.

Chapter 6: Public Safety

Goal 7: Noise compatibility is considered in the land use planning and design process.

- Policy 7.3: Noise analysis and mitigation. Require all proposed development projects and modifications to existing developments to be compatible with the existing and future noise levels by using the Land Use/Noise Compatibility matrix [PLAN Hermosa, Table 6.4], or equivalent city policy or code. Where proposed projects are not located in an area that is "clearly compatible", the City will require that an acoustical study be prepared as a condition of building permit approval demonstrating compliance with the [City] noise standards [PLAN Hermosa, Table 6.3].
- Policy 7.6: Vibration control. Groundborne vibration levels induced by construction and demolition activities and other ongoing land use activities can be controlled to minimize damage and annoyance within the community.

Chapter 7: Infrastructure

Goal 1: Infrastructure systems are functional, safe, and well maintained.

- Policy 1.3: Right-of-way coordination. Ensure infrastructure maintenance and repair projects within the public right-of-way are coordinated with utilities and agencies to minimize additional roadway repaving or accelerated deterioration.

Goal 2: Roadway infrastructure maintenance supports convenient, attractive, and complete streets and associated amenities.

- Policy 2.7: Restore to City standards. Require utility, other service providers, and private construction projects working in the public right-of-way to restore or improve trench areas to return the site to conditions that comply with City standards and prevent roadway and sidewalk deterioration.

Goal 6: Utility services are reliable, affordable, and renewable.

- Policy 6.3: Environmental compatibility. Ensure that utility facilities and infrastructure cause minimal damage to the environment and that utility service providers are responsible for costs associated with damage caused to the environment and public right-of-way so that providers will seek to minimize those costs.

Goal 7: A reliable and efficient telecommunications network available to every resident, business, and institution.

- Policy 7.1: Accommodate future technologies. Encourage telecommunications providers and building developments to size infrastructure and facilities to accommodate future expansion and changes in the need for technology.
- Policy 7.2: Appropriate siting of telecommunications infrastructure. Design and site all facilities to minimize their visibility, prevent visual clutter, and reduce conflicts with surrounding land uses while recognizing that the entire community can have access to communication infrastructure.

Hermosa Beach Municipal Code, Title 17 Zoning

Title 17 of the City's Municipal Code contains the City's Zoning Ordinance. The Zoning Ordinance implements the land use policies of the General Plan by providing greater details regarding specific allowances and prohibitions of uses within a particular zoning district (City of Hermosa Beach 2019a). While the majority of Project activities would be completed within City rights-of-way, a portion of the activities would extend into the following two zoning districts:

- **O-S-1 (Restricted Open Space Zone).** This zone is intended to restrict the use of certain designated open space. Public utility structures and corridors are a permitted use within an O-S-1 zone, although no structure, building or improvement shall be developed, constructed, or erected unless specifically authorized as a permitted improvement (City of Hermosa Beach 2019a). Portions of the terrestrial conduit system would be installed within an O-S-1 zone (the Hermosa Valley Greenbelt~~ [Veterans Parkway]);~~); however, all conduit equipment would be installed belowground. The Project would not install any aboveground structures within an O-S-1 zone.
- **SPA-8 (Specific Plan Area No. 8).** This zone is intended to establish specific development requirements on the east and west side of Pacific Coast Highway. Permitted uses in a SPA-8 zone are the same as those permitted in a C-3 (general commercial) zone, which includes a communication facility as a conditionally permitted use (City of Hermosa Beach 2019c). The power feed equipment (PFE) facility is an existing permitted use within the SPA-8 zone.

3.9.3. Potential Environmental Impacts

Impacts on land use and recreational resources could result if the Project disrupts established terrestrial or marine land uses, or conflicts with any applicable plan, policy, or regulation that has been adopted by the City of Hermosa Beach or the State (California Coastal Commission) to avoid or mitigate environmental effects. The following impact analysis evaluates whether adverse land use and recreation impacts would result from the construction, operation, and decommissioning of the proposed Project.

3.9.3.1. Significance Thresholds

Based on the findings of the Initial Study, an impact on land use or recreation would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold LU-1:** Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.
- **Threshold LU-2:** Contribute to the long-term loss or degradation of the recreational value of an established, designated, or planned recreational use area.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following thresholds:

- Physically divide an established community.

- 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.
- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to these thresholds. The impacts assessment below focuses on Thresholds LU-1 and LU-2 identified above.

3.9.3.2. Impact Analysis

Consistency with Plans, Policies, or Regulations for Reducing or Avoiding Environmental Effects (Threshold LU-1)

Impact LU-1:	***The Project could conflict with certain California Coastal Act and PLAN Hermosa policies intended to reduce or avoid adverse environmental effects.***

Table 3.9-1 provides an analysis of the proposed Project's consistency with the California Coastal Act (CCA) and City of Hermosa Beach policies applicable to construction, operation, and decommissioning of the Project. Many of these policies are intended to address conventional private development, such as residential and commercial development, and are not focused on infrastructure facilities, such as those proposed under the Project. Also, many policies are focused on long-term changes to land use and recreation, and not temporary changes such as those that would result from Project construction and decommissioning.

Project impacts would not have a lasting effect on the character of the area. All terrestrial components would be installed subsurface, and the terrestrial components would not be visible to the public during operation. As described in Table 3.9-1 below, mitigation measures would be required to maintain consistency with certain CCA and City policies. These measures include notifying applicable agencies, including the California Department of Conservation, U.S. Navy, California Coastal Commission, and the City of Hermosa Beach, and fishing companies before Project installation and removal activities; as well as coordinating with the City on right-of-way (ROW) restoration. Measures from other resource analyses in this EIR are also discussed in Table 3.9-1. With implementation of the mitigation measures listed in the following table, impacts associated with any plan or policy conflict would be less than significant (Class II).

Table 3.9-1. Policy Consistency Analysis

Applicable Policy	Consistency Analysis	Consistency Determination
California Coastal Act		
Section 30211 Development not to interfere with access	Project construction would require a 4- to 5-week street closure at the selected marine landing location. The temporary street closure would primarily affect residential parking at 6th Street or 10th Street. The Project would not affect beach-accessible public parking lots (located north of 11th Street and south of 14th Street), nor would the Project limit public parking along Hermosa Avenue (City of Hermosa Beach 2019b). Implementation of Mitigation Measure (MM) T-1 (Construction Traffic Control Plan) would also ensure safe movement of pedestrians and bicycles through all street route detours.	Consistent with mitigation

Applicable Policy	Consistency Analysis	Consistency Determination
	Construction of the ocean ground bed (OGB) under the beach would restrict the area immediately surrounding the OGB construction site for approximately 5 days. However, public access to the beach would be maintained outside of the OGB construction site. The surface of the beach would be fully restored and accessible to recreation following construction. At the end of the Project's life, the conduit would remain in place and available for use by future cables. Although the terrestrial cable may be removed through the existing manholes, no substantial excavation or ground disturbance would be required (see Section 2.7, Retirement, Abandonment, or Removal of the Cable Systems). Decommissioning activities would not be expected to interfere with coastal access. Public beach access would be maintained throughout Project construction, operation, and retirement.	
Section 30220 Protection of certain water-oriented activities	The proposed cable alignments were selected to avoid known marine recreational activities and features. Water-oriented activities, including activities along The Strand, on the Beach, in nearshore waters (swimming, surfing, paddling, etc.), fishing, and other off-shore activities would not be significantly affected by the installation, operation and maintenance, or retirement phases of the project.	Consistent
Section 30221 Oceanfront land; protection for recreational use and development	A very small area of oceanfront land would be disturbed for a very short period during installation and decommissioning, but this temporary disturbance would not significantly disrupt recreational or coastal dependent uses. No disruption of recreational or other coastal dependent uses would result from the Project during the operational phase or after the Project is decommissioned. All construction materials on the beach would be removed, and the original top sand would be spread over the site, graded, and groomed to its original condition.	Consistent
Section 30230 Marine resources; maintenance	The Project would avoid or reduce impacts on marine resources, either through route design or mitigation. First, the cable alignments were selected to avoid marine protected areas that include the Channel Islands National Park and National Marine Sanctuary. Second, the Project would include implementation of mitigation measures to reduce adverse effects on marine life and habitat to less than significant. During cable-laying activities, the Project would avoid possible vessel strikes with marine mammals by implementing MMs BIO-3 (Marine Mammal and Sea Turtle Monitoring During All Vessel Activities), BIO-4 (Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present) and BIO-5 (Collision Reporting). To reduce impacts on Essential Fish Habitat to less than significant, the Project would include implementation of MM BIO-6 (Minimized Crossing of Hard-Bottom Substrate Communities). Third, the Project would include implementation of mitigation measures to avoid conflicts with U.S. Navy activities in the Point Mugu Sea Range. MMs LU-1 (Notice of Marine Construction Activities Provided to Appropriate Agencies and Personnel) and LU-2 (As-Laid Specifications Provided to Appropriate Agencies and Personnel) would ensure that the	Consistent with mitigation

Applicable Policy	Consistency Analysis	Consistency Determination
	Applicant would coordinate with the U.S. Navy regarding the Project construction schedule and cable locations.	
Section 30231 Biological productivity; water quality	The Project would not interfere with surface waterflow or create a source of wastewater discharge. No impact associated with runoff or discharge would result from the Project (see Section 3.8, Hydrology and Water Quality). The biological productivity would not be significantly affected by the Project during the installation, operations and maintenance, or retirement phases.	Consistent
Section 30232 Oil and hazardous substance spills	The Project would include measures to protect against spills from vessels and other equipment through implementation of MMs HAZ-1 (Spill Prevention and Contingency Plan), HAZ-2 (Worker Training), HAZ-3 (Maintain Equipment), and HAZ-5 (Refueling Practices).	Consistent with mitigation
Section 30233 Diking, filling or dredging; continued movement of sediment and nutrients	As a utility project, the proposed cable laying activities would be permitted under California Coastal Act (CCA), Section 30233. Feasible mitigation measures have been identified throughout this EIR to reduce adverse environmental effects to less than significant.	Consistent with mitigation
Section 30234.5 Economic, commercial, and recreational importance of fishing	The proposed cable alignments were selected to avoid popular fisheries (i.e., Tanner Bank and Cortes Bank). However, the presence of cable-laying vessels could interfere with boating and fishing activities, since other vessels would be required to maintain a one-mile standoff distance during cable-laying activities per the Submarine Cable Act. To avoid conflicts, Project activities would not be stationed in one location for long periods. The Project would also include implementation of MM LU-3 (Disclosure of Marine Cable Locations) to reduce potential impacts on fishing companies to less than significant.	Consistent with mitigation
Section 30240 Environmentally sensitive habitat areas; adjacent developments	The proposed cable alignments were selected to avoid marine protected areas. However, the cable route would pass across a narrow northern portion of the Western Cowcod Conservation Area, as well as through designated rocky reef Essential Fish Habitat (EFH) and Pacific groundfish EFH. These EFH areas contain hard-bottom habitat, in which the cable cannot be buried and will be laid on top of rocky substrate. To reduce potential impacts on EFH to less than significant, the Project would include implementation of MMs BIO-6 (Minimized Crossing of Hard-Bottom Substrate Communities) and BIO-7 (Compensation to Hard Bottom Mitigation Fund).	Consistent with mitigation
Section 30244 Archaeological or paleontological resources	Section 3.5, Cultural and Tribal Cultural Resources, and Section 3.6, Geology and Soils, include discussions of potential impacts on archaeological and paleontological resources from installing, maintaining, and retiring the terrestrial and marine conduit. The following mitigation measures would be implemented to reduce impacts to less than significant: MMs CULT-1 (Cultural Resources Avoidance Plan), CULT-2 (Construction Crew Training), CULT-3 (Archaeological Monitoring Plan), CULT-4 (Cultural Resource Monitor), CULT-5 (Treatment of Human Remains), CULT-6 (Treatment of Tribal Cultural Resources), GEO-2 (Evaluation and Treatment of Incidentally Discovered Paleontological Resources), and GEO-3 (Monitoring for Paleontological Resources).	Consistent with mitigation

Applicable Policy	Consistency Analysis	Consistency Determination
Section 30250 Location; existing developed area	The terrestrial conduit system would be constructed entirely within an existing developed area in the City's streets and along a segment of the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ that is zoned for underground utilities. Portions of the proposed cable route would be collocated with other utilities, which would be marked to avoid impacts during construction.	Consistent
Section 30251 Scenic and visual qualities	Project impacts would not have a lasting effect on the character of the area. All Project components would be installed subsurface and would not be visible to the public during operation. During the Project's marine cable pulling phase, nighttime construction lighting would be required. However, the Applicant would implement MM A-2 (Nighttime Lighting Guidelines) to reduce impacts to less than significant.	Consistent with mitigation
Section 30253 Minimization of adverse impacts	The Applicant would implement mitigation measures to reduce public and environmental hazards during construction and operation to less than significant. MMs GEO-1 (Geotechnical Study Prior to Construction), HWQ-1 (Frac-out Contingency Plan), HWQ-2 (Spill Prevention Plan), and HWQ-3 (Shipboard Oil Pollution Emergency Plan) would ensure that the Project would not create additional geologic and hazardous materials risks.	Consistent with mitigation
Section 30255 Priority of coastal-dependent developments	As a coastal-dependent cable project, the proposed activities would be permitted under CCA Section 30255.	Consistent
Section 30260 Location or expansion	As a coastal-dependent cable project, the proposed activities would be permitted under CCA Section 30260. The Applicant would implement mitigation measures to reduce potential environmental effects to less than significant, such as MMs BIO-1 (Avoid Disturbing Roosting Western Snowy Plovers or California Least Terns), BIO-4 (Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present), and BIO-6 (Minimized Crossing of Hard-Bottom Substrate Communities).	Consistent with mitigation
PLAN Hermosa		
Land Use Policy 1.7: Compatibility of uses	The terrestrial conduit system would be constructed within City streets and along a segment of the Greenbelt that is zoned for underground utilities. The Project would not create or exacerbate nuisances between different land use types.	Consistent
Mobility Policy 3.9: Access for emergency vehicles	Section 3.11, Transportation, discusses potential conflicts with emergency access during Project construction. MM T-1 (Construction Traffic Control Plan) would ensure that access for emergency vehicles is maintained at all times.	Consistent with mitigation
Mobility Policy 7.1: Safe public rights-of-way	Section 3.11, Transportation, includes a discussion of potential impacts on bicyclists and pedestrians during Project construction. MM T-1 (Construction Traffic Control Plan) would ensure that safe movement through all affected facilities is maintained.	Consistent with mitigation
Sustainability and Conservation Policy 3.1: Stationary and mobile sources	Section 3.3, Air Quality, includes a discussion of potential air emissions impacts during Project construction and operation. The Project would exceed the South Coast Air Quality Management District's (SCAQMD) regional emissions significance threshold for oxides of nitrogen (NOx) during operations of the cable-laying vessel. When the cable-laying	Consistent with mitigation

Applicable Policy	Consistency Analysis	Consistency Determination
	vessel is not active, Project construction would remain below all SCAQMD regional emissions significance thresholds. The Applicant would implement MM AQ-1 (Vessel Emissions Reduction), which would reduce potential emissions from marine support vessels to the degree feasible. However, the worst-case estimates for daily NOx emissions would remain significant and unavoidable. Policy 3.1 seeks to improve overall respiratory health for residents through regulation of stationary and mobile sources of air pollution, as feasible. Because the Applicant has identified feasible mitigation to reduce temporary NOx emission from its marine vessels, the Project would be consistent with Policy 3.1. No other mitigation measures have been identified that would further reduce temporary emissions.	
Parks and Open Space Policy 3.3: Commercial use of facilities	The terrestrial conduit system would be constructed along a segment of the Greenbelt that is zoned for underground utilities. Following cable installation, the Greenbelt would be returned to its preconstruction condition.	Consistent
Parks and Open Space Policy 5.7: Light pollution	Any lighting sources would be used during the Project's marine construction phases (pre-lay grapnel run, marine cable landing, marine cable lay, marine cable burial), and would last no longer than 1 month. No permanent source of lighting would be installed as part of the Project.	Consistent
Parks and Open Space Policy 6.7: Minimal impact to access	If installed under the beach, the OGB would temporarily restrict access to a portion of the beach at 6th Street or 10th Street. The anticipated construction period for the OGB installation would be approximately 5 days, and public access to the beach would be maintained outside of the OGB construction site. The surface of the beach would be fully restored and accessible for recreation following construction.	Consistent
Parks and Open Space Policy 7.4: Beach structures	None of the proposed Project structures at the beach would remain aboveground. All construction materials would be removed, and the original top sand would be spread over the site, graded, and groomed to its original condition.	Consistent
Parks and Open Space Policy 9.1: Protect critical habitats and Policy 9.5: Minimal activity impacts to habitat	Section 3.4, Biological Resources, includes a discussion of potential impacts on habitat and species during Project construction. MMs BIO-1 (Avoidance of Roosting Western Snowy Plovers or California Least Terns), BIO-3 (Marine Mammal and Sea Turtle Monitoring During All Vessel Activities), BIO-4 (Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present), BIO-5 (Collision Reporting), and BIO-6 (Minimized Crossing of Hard-Bottom Substrate Communities) would ensure that construction would avoid impacts on coastal and marine habitat resources and wildlife.	Consistent with mitigation
Parks and Open Space Policy 9.6: Tree protection	As discussed in Section 3.4, Biological Resources, no trees or vegetation are anticipated to be removed or trimmed within the Project area. Construction within the Greenbelt would be completed where there is no substantial vegetation. To avoid impacts on nesting birds, the Applicant would implement MM BIO-2 (Preconstruction Surveys for Nesting Raptors and Other Birds).	Consistent with mitigation

Applicable Policy	Consistency Analysis	Consistency Determination
Public Safety Policy 7.3: Noise analysis and mitigation and Policy 7.6: Vibration control	As the Project does not introduce a sensitive land use that could be affected by existing and future noise levels in the surrounding area, the Project would not conflict with Policy 7.3. Regarding Policy 7.6, Project construction would create minor vibration impacts during directional bore and terrestrial cable pulling work areas. As discussed in Section 3.10, Noise and Vibration, the anticipated vibration levels would be less than significant. To ensure that adverse noise effects from Project construction are minimized to the degree feasible, the Applicant would implement the following mitigation measures: MMs N-1 (Construction Work Hours Authorization), N-2 (Employ Noise-Reducing Construction Practices), and N-3 (Construction Noise and Vibration Complaint Program).	Consistent with mitigation
Infrastructure Policy 1.3: Right-of-way coordination and Policy 2.7: Restore to City standards	To ensure consistency with Policies 1.3 and 2.7, the Applicant would implement MM LU-4 (Coordination with City on Right-of-way (ROW) Restoration). This measure would require all paved and unpaved surfaces disturbed by Project construction to be returned to conditions that comply with City standards.	Consistent with mitigation
Infrastructure Policy 6.3: Environmental compatibility	The Applicant would implement MM LU-4 (Coordination with City on Right-of-way (ROW) Restoration). This measure would ensure that any damage attributed to the Project would be repaired.	Consistent with mitigation
Infrastructure Policy 7.1: Accommodate future technologies	One of the seven proposed terrestrial conduits to be installed would be reserved for possible future maintenance or replacement, without the need for new excavation or interruption of service.	Consistent
Infrastructure Policy 7.2: Appropriate siting of telecommunications infrastructure	Once installed, the terrestrial and marine cables would not be visible or create a land use conflict with their surroundings. The power feed equipment (PFE) facility would continue to operate in an existing commercial building that is not visible to the public.	Consistent
Hermosa Beach Municipal Code		
O-S-1: Restricted Open Space Zone	The terrestrial conduit system would be installed within an O-S-1 zone (the Greenbelt), which allows for utility structures but restricts any aboveground construction. All conduit equipment within the Greenbelt would be installed belowground.	Consistent
SPA-8: Specific Plan Area No. 8	The PFE facility is an existing permitted use within the SPA-8 zone. The proposed additional sets of PFE equipment would not change the existing use.	Consistent

Mitigation Measures

LU-1 **Notice of Marine Construction Activities Provided to Appropriate Agencies and Personnel.** The Applicant shall provide notice to the California Department of Conservation, the U.S. Navy, the California Coastal Commission, and the City of Hermosa Beach 2 weeks prior to commencement of marine cable installation and marine cable removal. The notice shall be kept current (every 2 weeks) and shall include the location of the work site, the size and type of equipment used to perform the work, associated guard ships, name and radio call signs for working vessels, if applicable, telephone numbers of onsite contact representatives, and the schedule for completing the Project.

The Applicant shall keep its Local Notice to Mariners current by providing written update notices to the Commander, Eleventh Coast Guard District, Coast Guard Island Building 50-2, Alameda, California 94501, every 2 weeks during Project installation and Project decommissioning.

LU-2 **As-Laid Specifications Provided to Appropriate Agencies and Personnel.** After the marine alignments have been installed, the Applicant shall submit as-laid plans, including depth of burial from the Mean High Water line to the 5,904-foot (1,800-meter) water depth, to the California Department of Conservation, U.S. Navy, California Coastal Commission, and the City of Hermosa Beach. The fiber optic cable location shall be recorded using a differential Global Positioning System (GPS), with the transponder mounted on the equipment (cable plow or remotely operated vehicle [ROV]) used for burial.

LU-3 **Disclosure of Marine Cable Locations.** One month prior to commencement of marine cable installation, the Applicant shall inform fishing companies and personnel of the cable locations by providing copies of the marine route position list. The Applicant shall consult directly with the fishing operators and inform them of the requirements of the Submarine Cable Act, specifically Sections 24 and 25, which require vessels to maintain a distance of at least 1 nautical mile from the cable-laying vessel (during construction) and cable-removal vessel (during decommissioning), and fishing vessels to keep nets from cables at a distance of at least 1 nautical mile. Two weeks prior to commencement of marine cable installation and marine cable removal, the Applicant shall provide the City with documentation of these consultation efforts.

LU-4 **Coordination with City on Right-of-way (ROW) Restoration.** Prior to the start of construction, the Applicant shall coordinate ROW restoration activities with the City to minimize additional roadway repaving or accelerated deterioration. All paved and unpaved surfaces disturbed by Project construction will be returned to conditions that comply with City standards. Paved surface restoration would include pavement repair, curb and gutter reconstruction, and pavement re-striping as needed. Unpaved surface restoration would include minor grading to restore original land contours; installing erosion-control devices where needed; and seeding, mulching, and fertilizing to establish preconstruction conditions.

Loss or Degradation of an Established, Designated, or Planned Recreational Use Area (Threshold LU-2)

Impact LU-2: ***Terrestrial construction activities would disrupt recreational activities.***

Impacts on terrestrial recreation activities would result from Project construction only. During the Project's 25-year operational period, no maintenance is planned other than routine inspections and testing at the power feed equipment (PFE) facility. Decommissioning is also not expected to create notable impacts on recreation sites or activities. All terrestrial facilities (i.e., conduit system, manholes, directional bores) would be left in place and available for use by other cables. The equipment in the PFE facility would be removed, allowing the vacant facility to be utilized by another commercial land use, and the terrestrial cable may be removed via a truck with a reel puller. No substantial excavation or ground disturbance would be anticipated during decommissioning (see Section 2.7, Retirement, Abandonment, or Removal of the Cable Systems).

Recreation Facilities

South Park, Clark Field, and the Hermosa Beach Community Center are located along the terrestrial conduit route (see Figure 3.9-1). None of the proposed construction activities would directly affect these facilities, and the facilities would remain open during construction. However, vehicle access to the parking lots for each of these facilities may be restricted or delayed during terrestrial conduit installation activities. Impacts on park access would be particularly adverse on Saturdays at South Park and Clark Field when these sites are used for the City's sports programs. To minimize potential parking and access conflicts, Mitigation Measure (MM) LU-5 would be implemented to reduce impacts on these facilities.

Greenbelt

Unlike the sports parks and community center, the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ would be directly affected by the terrestrial conduit installation, and potentially by the OGB installation if the Greenbelt is selected instead of the beach area or the ocean floor. If the OGB is installed under the Greenbelt, a location would be selected near a planned manhole and away from existing trees. Project construction would be completed along approximately 0.5 mile of the Greenbelt under Option A (6th Street) and approximately 0.25 mile under Option B (10th Street). Proposed construction activities would restrict parking, generate construction noise, and block access points along the edge of the Greenbelt. These disruptions would only last during the construction phase along the Greenbelt. The portions of the Greenbelt that are to the north and south of the terrestrial conduit route would be unaffected during construction. Short-term impacts on recreational access would be minor. The Greenbelt would be fully restored to preconstruction conditions, and no long-term impacts on recreation would result from the Project.

Beach Access and Recreation

Construction of the ocean ground bed (OGB) under the beach would temporarily restrict access to a portion of the beach near The Strand at 6th Street or 10th Street. The anticipated construction period for the OGB installation would be short-term (approximately 5 days), and public access to the beach would be maintained outside of the OGB construction site.

As discussed in Chapter 2, Project Description, OGB construction would be completed during the Fall/Winter 2024/2025, and construction activities would be limited to the hours of Monday-Friday 8:00 a.m. to 6:00 p.m., and Saturday 9:00 a.m. to 5:00 p.m. (if weekend work is required). No construction work in the beach area would be completed on Sundays or legal holidays. Construction would require the use of a small well drill rig that would drill six 12-inch-diameter holes spaced at 10-foot intervals. The well drill rig would be transported to the beach from surrounding roadways and would need to cross over The Strand. Flaggers would be used to ensure that the transport of this equipment would not conflict with recreational users on The Strand. In addition, appropriate fencing and barriers would be provided in the OGB construction area on the beach to prevent conflicts with beach recreational users.

As described in Section 3.2, Aesthetics, viewsheds along the beach and The Strand near the westerly terminus of either 6th Street or 10th Street would be affected during construction; however, this would be a short-term effect that would partially modify views from only a small portion of the public viewshed along The Strand and beach. In addition, construction noise during OGB construction would be limited to a 5-day period during the daytime hours, specified above, and was not identified as a significant noise impact in Section 3.10, Noise and Vibration.

No construction equipment would be stored at the beach beyond the OGB construction phase. Temporary impacts on beach recreation at the OGB site would be minor because only a small part of the beach would be affected (a 60-foot-long by 2-foot-wide area, located approximately 20 feet west of, and parallel to, the existing wall at The Strand), leaving adjacent and nearby beach areas available for recreation. As described in Section 2.4.2.12, Surface Restoration, the original top sand would be spread back over the construction site, and the site would be graded and groomed to its original condition. No permanent impacts on recreational opportunities at the beach would result from the Project.

Summary of Potential Impacts

In summary, Project construction would create short-term conflicts with parking and access at the adjacent sports fields (i.e., South Park and Clark Field), while direct access to the Greenbelt and a portion of the beach would be temporarily restricted in the immediate area of construction. These impacts would be adverse but would be limited to the construction phase. With implementation of the following mitigation measure, impacts on established terrestrial land uses would be less than significant (Class II).

Mitigation Measures

LU-5 **Construction Schedule Coordinated with Sports Programs.** At least 1 month prior to terrestrial conduit installation, the Applicant shall communicate the anticipated construction schedule with the City's sports programs that utilize Clark Stadium and Field and South Park. During conduit installation, the Applicant shall ensure that Saturday construction activities: (1) do not preclude access to Clark Stadium and Field via 11th Street, and (2) do not preclude access to South Park via Loma Drive.

T-1 **Construction Traffic Control Plan.** See Section 3.11.3.3 for the full text of this measure.

Impact LU-3: ***Marine construction activities could temporarily preclude or disrupt recreation.***

Recreation impacts associated with the Project's marine component would result primarily from construction and decommissioning activities. Project operation would be limited to emergency repairs. Although the Applicant has stated that the buried portions of the marine cable are expected to be left in place following Project retirement, the California Coastal Commission (CCC) may require that the Applicant remove the marine cables from State waters (see Section 2.7, Retirement, Abandonment, or Removal of the Cable Systems). While details of such an operation are not known at this time, the scale of the decommissioning is expected to be similar to that of cable installation.

Recreation activities in the vicinity of the cable-laying or cable-removal vessel could include fishing, boating (e.g., sailboats, kayaks, stand-up paddleboards), anchored vessels, and other marine sports (e.g., jet skiing, diving). As discussed in Section 3.9.1, the Hermosa Beach Artificial Reef is a known dive location, and sportfishing excursions are popular in the Tanner Bank and Cortes Bank sites southwest of San Clemente Island.

The presence of a cable-laying or cable-removal vessel could interfere with boating and fishing activities, since other vessels would be required to maintain a one-mile standoff distance during cable-laying activities per the Submarine Cable Act. However, Project activities would not be stationed in one location for long periods. Temporary interruptions to recreational fishing and boating would be an adverse impact that would be reduced to less than significant with public notice and coordination, as stated in MM LU-3 (Class II).

Mitigation Measure

LU-3 **Disclosure of Marine Cable Locations.** See above for the full text of this measure.

3.9.3.3. Cumulative Effects

Introduction

The geographic area of analysis for cumulative impacts on land use and recreation is limited to proposed or ongoing projects within the City that would: (1) create adverse effects similar to the proposed Project, and (2) overlap with the proposed Project in both time and space.

Based on this geographic extent, the following four projects listed in Table 3-1 may contribute to a cumulative effect based on their close proximity to the proposed Project: City Yard Project, Hermosa Avenue Sewer Lining Project, Hermosa Avenue “Green Street” Project, and Flashing Beacon Installation/Crosswalk Restripe. The degree of cumulative effect would depend on the overlap in the construction schedule of these cumulative projects relative to the proposed Project.

Project Contribution to Cumulative Impacts

Consistency with Plans, Policies, or Regulations for Reducing or Avoiding Environmental Effects (Threshold LU-1)

The proposed Project would include implementation of mitigation measures that are designed to modify Project activities in a manner that would minimize impacts and ensure consistency with California Coastal Act (CCA) and City policies. Other projects listed in Table 3-1 must similarly demonstrate that their construction and operation do not conflict with applicable plans and policies to receive approval from the CCC and local planning jurisdiction (e.g., City of Hermosa Beach or City of Redondo Beach). Given this policy consistency requirement for an individual project’s approval, there is no potential for the impacts of a past, present, or future project to combine with the effects of the proposed Project to produce a cumulative policy inconsistency. In addition, with implementation of the mitigation measures discussed throughout this section, impacts would not be cumulatively considerable.

Loss or Degradation of a Recreational Use (Threshold LU-2)

The proposed Project would result in temporary impacts on recreational uses along the cable route, which would not be significant with the implementation of mitigation measures. If other cumulative projects were to be implemented during the same construction period as the proposed Project, impacts on adjacent recreation areas could combine to produce an adverse, cumulative impact. Given that the terrestrial conduit installation would require only two months to complete, Project construction may not overlap with the construction schedules for the four projects that are in close proximity to the proposed Project (i.e., City Yard Project, Hermosa Avenue Sewer Lining Project, Hermosa Avenue “Green Street” Project, and Flashing Beacon Installation/Crosswalk Restripe). Each of these four projects is a public works project and, therefore, the exact implementation schedule would be determined by the City. Furthermore, the identified public works projects either have a short construction period (i.e., Hermosa Avenue Sewer Lining Project) or have implementation schedules that are unknown or several years in the future (i.e., City Yard Project, “Green Street” Project, Flashing Beacon Installation). Due to the short-term construction period for the proposed Project, and the similarly short-term or uncertain implementation schedules of other public works projects, cumulative impacts on terrestrial recreation sites would be minor. With implementation of mitigation measures, impacts would not be cumulatively considerable.

The proposed Project would also create temporary interruptions to recreational fishing and boating activities. None of the cumulative projects identified in Table 3-1 would cause a similar adverse effect on marine activities. Project-related impacts would be short-term, and mitigation measures would require advance notice to local fishing companies and affected agencies. With implementation of mitigation measures, impacts would not be cumulatively considerable.

3.9.3.4. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Land Use and Recreation

Table 3.9-2, below, provides a summary of the Project's impacts related to land use and recreation. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.9-2. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Land Use and Recreation

Impacts	Mitigation Measures		Significance Conclusion
Threshold LU-1: Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.			
Impact LU-1: The Project could conflict with certain California Coastal Act and PLAN Hermosa policies intended to reduce or avoid adverse environmental effects.	LU-1	Notice of Marine Construction Activities Provided to Appropriate Agencies and Personnel	Class II
	LU-2	As-Laid Specifications Provided to Appropriate Agencies and Personnel	
	LU-3	Disclosure of Marine Cable Locations	
	LU-4	Coordination with City on Right-of-way (ROW) Restoration	
	A-2	Nighttime Lighting Guidelines	
	BIO-2	Conduct Preconstruction Surveys for Nesting Raptors and Other Birds	
	BIO-3	Marine Mammal and Sea Turtle Monitoring During All Vessel Activities	
	BIO-4	Modification of Vessel Operations When Marine Mammals and Sea Turtles are Present	
	BIO-5	Collision Reporting	
	BIO-6	Minimized Crossing of Hard-Bottom Substrate Communities	
	BIO-7	Compensation to Hard Bottom Mitigation Fund	
	CULT-1	Cultural Resources Avoidance Plan	
	CULT-2	Construction Crew Training	
	CULT-3	Archaeological Monitoring Plan	
	CULT-4	Cultural Resource Monitor	
	CULT-5	Treatment of Human Remains	
	CULT-6	Treatment of Tribal Cultural Resources	
	GEO-1	Geotechnical Study Prior to Construction	
	GEO-2	Evaluation and Treatment of Incidentally Discovered Paleontological Resources	
	GEO-3	Monitoring for Paleontological Resources	
	HAZ-1	Spill Prevention and Contingency Plan	
	HAZ-2	Worker Training	
	HAZ-3	Maintenance of Equipment	
	HAZ-5	Refueling Practices	
	HWQ-1	Frac-out Contingency Plan	
	HWQ-2	Marine Spill Prevention Plan	
	HWQ-3	Shipboard Oil Pollution Emergency Plan	

Impacts	Mitigation Measures		Significance Conclusion
	N-1 N-2 N-3 T-1	Construction Work Hours Authorization Employment of Noise-Reducing Construction Practices Construction Noise and Vibration Complaint Program Construction Traffic Control Plan	
Threshold LU-2: Contribute to the long-term loss or degradation of the recreational value of an established, designated, or planned recreational use area.			
Impact LU-2: Terrestrial construction activities would disrupt recreational activities.	LU-5 T-1	Construction Schedule Coordinated with Sports Programs Construction Traffic Control Plan	Class II
Impact LU-3: Marine construction activities could temporarily preclude or disrupt recreation.	LU-3	Disclosure of Marine Cable Locations	Class II
Cumulative Effects	See mitigation measures listed above		Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant**. A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant**. A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.

Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.9.4. References

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3.10. Noise and Vibration

This section includes information on ambient noise conditions in the vicinity of the proposed Project area and applicable regulations pertaining to noise and vibration. Noise and vibration impacts associated with construction and operation of the Project are based on evaluating the exposure of persons to Project-related noise and vibration levels in excess of thresholds of significance. The information and analysis in this section is limited to potential impacts on humans. Noise effects on marine and terrestrial wildlife are discussed in Section 3.4, Biological Resources.

3.10.1. Environmental Setting

Table 3.10-1 provides definitions for certain technical terms used within this section.

Table 3.10-1. Summary of Acoustical Terms

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
A-Weighted Sound Level (dBA)	The sound level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter de-emphasizes the very low and very high frequency components of sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted.
Ambient Noise Level	The composite noise from all sources resulting in the existing normal level of environmental noise at a given location.
Community Noise Equivalent Level (CNEL)	The average sound level over a 24-hour period, with a penalty of 5 dB added between 7 p.m. and 10 p.m. and a penalty of 10 dB added for the nighttime hours of 10 p.m. to 7 a.m.
Equivalent Noise Level (Leq)	The average dBA level, on an equal energy basis, during the measurement period.
Lpeak (Lpk)	The maximum value reached by the sound pressure with no time constant applied; typically used to quantify impulse noise (short, fast sound).
Maximum Noise Level (Lmax)	The maximum noise level during a sound measurement period.
Minimum Noise Level (Lmin)	The minimum noise level during a sound measurement period.
Percentile Noise Level (Ln)	The noise level exceeded during 'n' percent of the measurement period, where 'n' is a number between 0 and 100 (e.g., L50 refers to the dBA level occurring 50 percent of the time during a sound measurement period).

3.10.1.1. General Information on Noise

The effects of noise on people can be grouped into three general categories:

- Subjective effects of annoyance and dissatisfaction;
- Interference with activities, such as speech, sleep, and learning; and
- Physiological effects, such as startling and hearing loss.

In most cases, typical noise produces effects in the first two categories. No satisfactory way exists to measure the subjective effects of noise, or to measure the corresponding reactions of annoyance and dissatisfaction. This lack of a common standard is due primarily to the wide variation in individual thresholds of annoyance and habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is by comparison with the ambient noise environment.

Ambient noise levels are generally considered low when below 50 dBA, moderate between 50 and 65 dBA, and high above 65 dBA (USEPA 1978). Although people often accept the higher levels associated with very noisy urban residential and industrial-commercial zones, high noise levels are nevertheless considered to be an annoyance and may be adverse to public health. Typical noise sensitive land uses include residences, schools, hospitals, and recreational facilities.

In general, the more the level or the tonal (frequency) variations a new noise source exceeds the existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual. When comparing sound levels from similar sources (for example, changes in traffic noise levels), a 3-dBA increase is considered to be a just-perceivable difference, 5 dBA is clearly perceivable, and 10 dBA is considered a doubling in perceived loudness.

3.10.1.2. General Information on Vibration

Vibration is a phenomenon related to noise, with common man-made sources being trains, large vehicles on rough roads, and construction activities, such as blasting, pile-driving, and operating heavy earth-moving equipment (FTA 2018 [Chapter 7]). Vibration is defined as the mechanical motion of earth or ground, building, or other type of structure, induced by the operation of any mechanical device or equipment located upon or affixed thereto. Vibration generally results in an oscillatory motion in terms of the displacement, velocity, or acceleration of the ground or structure(s) that causes a normal person to be aware of the vibration by means such as, but not limited to, sensation by touch or visual observation of moving objects. Vibration sources are often accompanied by low frequency noise.

Table 3.10-2. Human Response to Vibration PPV

Human Response	Vibration PPV (Inches/Second)
Severe	2.00
Strongly Perceptible	0.90
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: CA DOT, 2004
Note: PPV = peak particle velocity; inches/second = inches per second

The ground-borne energy of vibration has the potential to cause annoyance and structural damage. Vibration can be felt outdoors, but the perceived intensity of vibration effects is much greater indoors due to the shaking of structures. Several land uses are considered sensitive to vibrations, and include residential areas, hospitals, libraries, schools, and churches. Additionally, certain land uses (such as research and manufacturing facilities where vibration-sensitive equipment is used, cultural and historic resources, and concert halls) are also sensitive to vibration.

Several different methods are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal and is most frequently used to describe human perception to vibration and impacts on built structures. The PPV velocity is normally described in inches per second. Table 3.10-2 summarizes human response to transient vibration.

Table 3.10-3 identifies maximum vibration levels for preventing damage to various structure types and conditions from intermittent sources.

Table 3.10-3. Maximum Vibration Levels for Preventing Damage to Various Structure Types

Structure and Condition	Limiting Vibration PPV (Inches/Second)
Residential Structures, Plastered Walls	0.2 – 0.3
Residential Structures in Good Repair with Gypsum Board Walls	0.4 – 0.5
Engineered Structures	1.0 – 1.5

Source: CA DOT, 2004
Note: PPV = peak particle velocity; inches/second = inches per second

3.10.1.3. Sensitive Receptors

Existing land uses adjacent to the Project area are shown in Figure 3.10-1. As shown in this figure and identified in Table 3.10-4, noise and vibration sensitive receptors are located immediately adjacent to the proposed Project and include single- and multi-family residential, recreation (including the Hermosa Valley Greenbelt ~~[Veterans Parkway]),~~), and commercial/government uses.

3.10.1.4. Existing Ambient Noise Levels

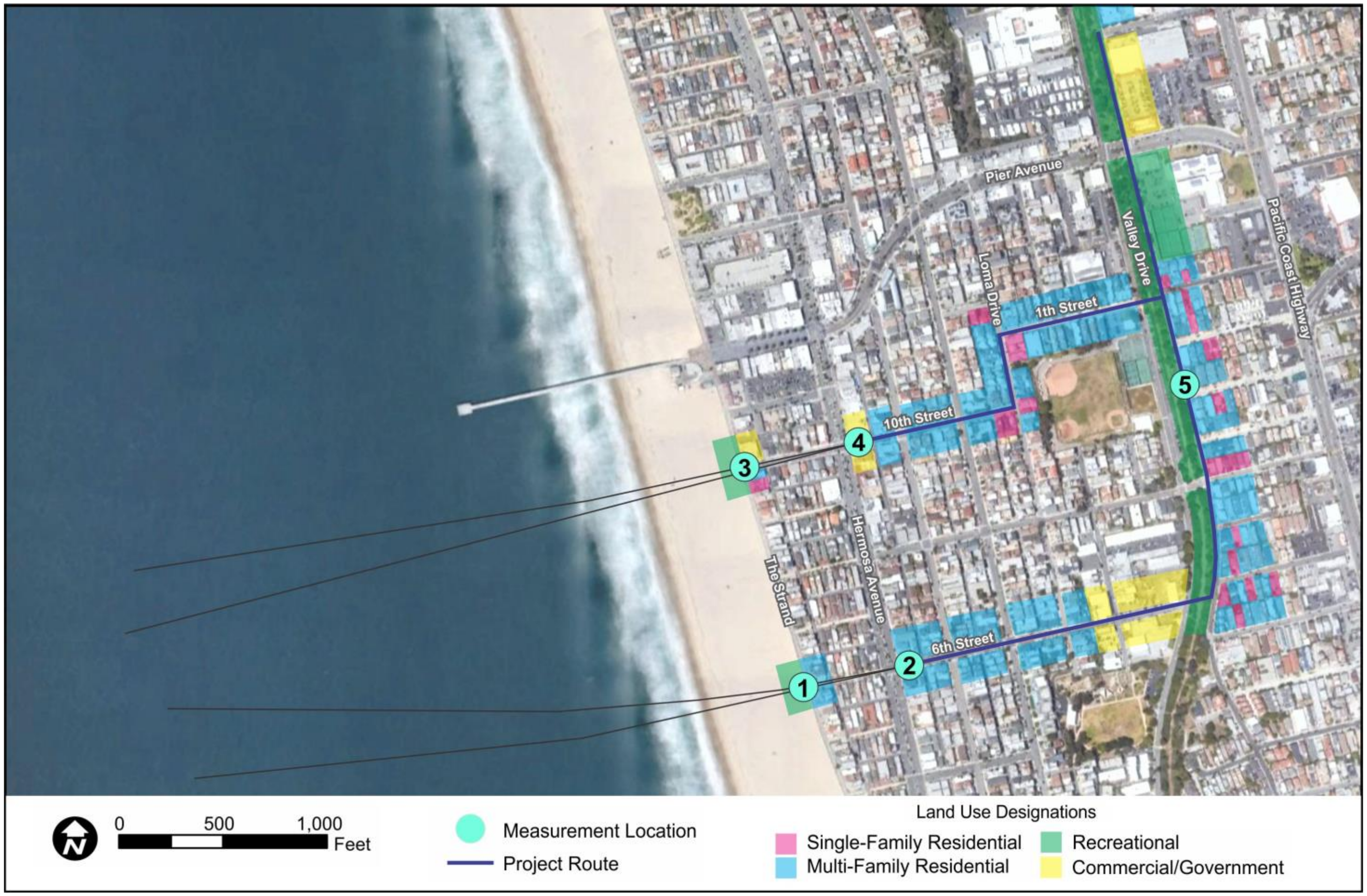
Short-term sound measurements were conducted on June 5, 2019 (Wednesday), documenting existing daytime ambient noise conditions near Project locations containing the greatest numbers of sensitive receptors and near other sensitive land uses. These short-term measurements are intended to provide a snapshot of typical daytime ambient noise conditions. Ambient levels for the Project area would vary by season, day of the week, and time of day. The results of these measurements are provided in Table 3.10-4. The locations of these noise measurements are provided in Figure 3.10-1.

Table 3.10-4. Measured Short-Term Ambient Noise Levels, dBA

		Measurement (dBA)				
No.	**Time**	**Leq**	**Lmin**	**Lmax**	**Lpk**	**Notes**
1	11:10 a.m. to 11:20 a.m.	52.6	47.9	62.3	81.7	Primary noise sources were nearby residential renovations at the intersection of 6th Street and Hermosa Avenue, which included the use of power tools. Secondary noise sources were near beach and strand users.
2	11:25 a.m. to 11:35 a.m.	63.9	47.9	77.5	93.5	Primary noise source was renovations at the intersection of 6th Street and Hermosa Avenue, which included the use of power tools. Additional noise sources included traffic on Hermosa Avenue and 6th Street (which included heavy truck trips with more than two axles). Measurement was taken approximately 100 feet from the Hermosa Avenue centerline, which was the middle and entrance to the nearest residential structure wall facing 6th Street from Hermosa Avenue.
3	11:45 a.m. to 11:55 a.m.	50.6	50.1	66.0	89.7	Primary noise sources were near the beach and The Strand. Secondary noise sources included nearby residential renovations along The Strand, which included the use of hand tools.
4	12:00 p.m. to 12:10 p.m.	59.7	46.9	74.3	86.6	Primary noise source was vehicle traffic on 10th Street (which included several large truck trips). Secondary noise sources included traffic on Hermosa Avenue. Measurement was taken approximately 200 feet from the Hermosa Avenue centerline, which was approximately at the middle of the nearest residential structure wall facing 10th Street from Hermosa Avenue.
5	12:15 p.m. to 12:25 p.m.	57.3	43.3	78.5	84.9	Primary noise source was vehicle traffic on Valley Drive (which included several large truck trips). Secondary noise sources included traffic on Ardmore Avenue and vehicles parking at the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ parking area off Valley Drive. Measurement was taken approximately 75 feet from the Valley Drive centerline.

Notes: dBA = A-weighted sound level; Leq= equivalent noise level; Lmin = minimum noise level; Lmax = maximum noise level; Lpk = Lpeak
Measurements were conducted utilizing a 3M Quest SoundPro DL Type 2 sound meter.

Figure 3.10-1. Noise Measurement Locations and Surrounding Land Use



3.10.1.5. Existing Vibration Sources

In the vicinity of the Project area, the primary source of existing transient vibration is from heavy vehicles traveling over locations with uneven pavement on public roads.

3.10.2. Regulatory Setting

3.10.2.1. Federal

Although no federal noise regulations exist, the United States (U.S.) Environmental Protection Agency (USEPA) has promulgated noise guidelines (USEPA 1974). The USEPA guideline recommends a community noise equivalent level (CNEL) of 55 A-weighted decibels (dBA) to protect the public from the effect of broadband environmental noise outdoors in residential areas and farms, and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use (USEPA 1974). Administrators of the USEPA determined in 1981 that subjective issues, such as noise, would be better addressed at lower levels of government. Consequently, in 1982, responsibilities for regulating noise control policies were transferred from the federal government to State and local governments. Noise control guidelines and regulations contained in rulings by the USEPA in prior years remain valid, but more individualized control for specific issues is allowed by designated State and local government agencies.

3.10.2.2. State

The California Government Code, Section 65302, requires each local government entity to implement a noise element as part of its general plan. In addition, the California Governor's Office of Planning and Research has developed guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. These recommendations have been incorporated into the local plans and policies discussed below.

3.10.2.3. Local

PLAN Hermosa

The City's PLAN Hermosa (Integrated General Plan and Coastal Land Use Plan) includes a number of goals and policies related to noise (City of Hermosa Beach 2017). However, these goals and policies, provided in Chapter 6 (Public Safety), pertain to noise considerations during land use planning to guide City policy regarding the control of noise. Therefore, the noise standards identified below in the City's Noise Ordinance are designed to implement the goals and policies identified within PLAN Hermosa. Additionally, PLAN Hermosa contains no threshold pertaining to vibration. However, the Plan does contain the following policy related to construction vibration (City of Hermosa Beach 2017):

Policy 7.6 Vibration Control: Groundborne vibration levels induced by construction and demolition activities and other ongoing land use activities can be controlled to minimize damage and annoyance within the community.

City of Hermosa Beach Noise Ordinance

The City of Hermosa Beach Municipal Code contains no detailed standards pertaining to vibration. However, the Municipal Code sections discussed below regulate noise and are applicable to the Project (City of Hermosa Beach 2019).

8.24.030 Prohibited Noises - General Standard. Unless otherwise permitted in this Chapter, no person shall make, permit to be made or cause to suffer any noises, sounds or vibrations that in view of the totality of the circumstances are so loud, prolonged and harsh as to be physically annoying to reasonable persons of ordinary sensitivity and to cause or contribute to the unreasonable discomfort of any persons within the vicinity. When considering whether a noise, sound or vibration is unreasonable within the meaning of this section, the following factors shall be taken into consideration:

A. The volume and intensity of the noise, particularly as it is experienced within a residence or place of business;
B. Whether the noise is prolonged and continuous;
C. How the noise contrasts with the ambient noise level;
D. The proximity of the noise source to residential and commercial uses;
E. The time of day; and
F. The anticipated duration of the noise.

Chapter 8.24.050 - Construction

A. <u>Permissible hours of construction</u>. All construction shall be conducted between the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday (except national holidays), and 9:00 a.m. and 5:00 p.m. on Saturdays. Construction activity is prohibited at all other hours and on Sundays and national holidays. For purposes of this section, “construction” or “construction activity” shall include site preparation, demolition, grading, excavation, and the erection, improvement, remodeling or repair of structures, including operation of equipment or machinery and the delivery of materials associated with those activities.

3.10.3. Potential Environmental Impacts

3.10.3.1. Methodology/Approach

This analysis utilizes the established baseline conditions presented above in Section 3.10.1, which includes a quantitative description of ambient conditions. The significance thresholds identified below in Section 3.10.3.2 are evaluated based on their potential to be exceeded by predicted noise and vibration generated during construction and operation/maintenance of the proposed Project, in conjunction with the applicable local noise regulations presented in Section 3.10.2.3.

3.10.3.2. Significance Thresholds

Based on the findings of the Initial Study, an impact related to noise or vibration would be considered significant if the proposed Project’s construction, operation, or decommissioning would:

- **Threshold N-1:** Result in construction or operational activity that would occur outside the permissible hours identified within the Hermosa Beach Municipal Code, Chapter 8.24.050 (Noise Control - Construction).
- **Threshold N-2:** Result in construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (with no work allowed on Sundays and legal holidays) that exceed:
  - An L50 noise level of 65 dBA or a Lmax of 85 dBA at a property line zoned R-1 (single-family residential).
  - An L50 noise level of 70 dBA or a Lmax of 90 dBA at a property line zoned R-2 and R-3 (multi-family residential).

- An L50 noise level of 75 dBA or a Lmax of 95 dBA at a property line zoned C-1, C-2, and C-3 (commercial).

- **Threshold N-3:** Cause vibration levels at the property line of any neighboring use that exceeds 0.1 inches/second over the frequency range of 1 - 100 Hz.

The Initial Study for the proposed Project concluded that the Project did not have the potential to result in significant impacts related to the following threshold:

- For a project 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, the Project would expose people residing or working in the Project area to excessive noise levels.

Please see the Initial Study in Appendix A for the analysis that concludes that the Project would not result in any significant impacts related to this threshold. The impacts assessment below focuses on Thresholds N-1 through N-3 identified above.

3.10.3.3. Impact Analysis

Construction Time Periods (Threshold N-1)

Impact N-1:	***Noise would be generated from construction activities outside of the hours allowed by the Hermosa Beach Municipal Code.***

For construction of most of the Project's components, the Applicant is proposing to work between 8:00 a.m. and 6:00 p.m. Monday through Friday, and 9:00 a.m. and 5:00 p.m. on Saturdays, consistent with the allowable construction hours specified by the City's Municipal Code, Chapter 8.24.050. Therefore, work associated with installing manholes and pulling marine cable along the Project routes following local roadways would be completed within allowable hours for construction. However, work associated with initially pulling the cable from the ocean at the cable landing locations is proposed to be completed beyond allowable hours.

As discussed in Section 2.3.2, the pulling of the marine cable through the landing pipe typically takes 1 day. However, once commenced, these activities cannot be stopped. Therefore, the work hours for the marine cable pulling would begin at about 8:00 a.m. on the landing day and would continue for approximately 24 hours until completed. At one of the proposed landing site locations (either 6th Street or 10th Street), two cables would be pulled. With each cable requiring at least 24 hours of non-stop work, cable pulling at the selected landing location is expected to take up to 3 days total. Cables are expected to be pulled one after another (consecutively).

Because cable pulling work would be completed outside the allowable construction hours, which is prohibited by the City's Municipal Code, Chapter 8.24.050, Mitigation Measure (MM) N-1 (Construction Work Hours Authorization) is proposed to ensure that the Applicant obtains all needed permits and/or variances from the City of Hermosa Beach prior to the start of construction. This would ensure that the City considers and approves any construction activities proposed during days and times inconsistent with the Municipal Code, Chapter 8.24.050. With implementation of MM N-1, impacts from Project construction activities outside the allowable days and hours specified in the City's Municipal Code, Chapter 8.24.050, would be less than significant (Class II).

Mitigation Measures

N-1 **Construction Work Hours Authorization.** Construction activities are prohibited outside the following hours and days without obtaining necessary variances from the City of Hermosa Beach:

- Between the hours of 8:00 a.m. and 6:00 p.m., Monday through Friday (except national holidays), and 9:00 a.m. and 5:00 p.m. on Saturdays, as specified in Chapter 8.24.050 of the City of Hermosa Beach Municipal Code.
- Any request for a variance from the City shall specify the location, duration, expected noise level, affected receptors, and type of proposed construction activity occurring outside the allowable days and hours presented within Chapter 8.24.050 of the City of Hermosa Beach Municipal Code.

Temporary Construction Noise (Threshold N-2)

Impact N-2:	***Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed thresholds at the property line of nearby residences.***

Temporary noise would be generated from the operation of construction equipment, construction activities, and vehicles trips associated with construction. The magnitude of temporary noise increases during construction would depend on the types and numbers of equipment operating at any given time, the site geometry (i.e., shielding from intervening terrain or other structures), and the distance between the noise source and sensitive receptors. The proposed construction would require different types of equipment operating at each site for various times throughout a workday. Construction noise is analyzed below by each major phase of construction.

Terrestrial Conduit System

The alignments of the terrestrial conduit system would follow public rights-of-way, as shown in Figure 1-2~~Figure 1-2~~, from their landing points to the power feed equipment (PFE) facility. These routes contain both single-family and multi-family residences, recreational uses (the Hermosa Valley Greenbelt ~~[Veterans Parkway]~~ and a park), and commercial uses. Conduit installation would progress at a pace of approximately 500 feet per day. A typical manhole placement crew can install one to two intermediate manholes per day. Therefore, temporary construction noise at any one sensitive receptor location is not expected to last more than 2 days and would usually be less than 1 day. Furthermore, this work would be completed during normal business hours and would require minimal heavy construction equipment. Therefore, impacts would be less than significant (Class III).

Construction Traffic

Construction traffic would include large trucks hauling material and equipment to work sites. The use of heavy trucks along the local roadway network would produce noise that is most perceptible along residential streets but would only increase ambient noise momentarily and would then dissipate once the truck passed by. Because these vehicles would use public roads where vehicles from numerous other uses generate noise, temporary Project-related vehicle trips are not considered a significant new noise source. Furthermore, these trips would only be required during normal business hours, would be in limited numbers, and would only result in temporary noise at any one location. Therefore, impacts would be less than significant (Class III).

Cable Landing Site and Directional Bores

A cable landing site has been proposed on either 6th Street or 10th Street. These landing site locations are located directly adjacent to multi-family housing units, which are approximately 30 to 40 feet from the centerline of either 6th Street or 10th Street. Project construction work at one of these locations is expected to last approximately 4 to 5 weeks total, which includes directional drilling during allowable daytime construction hours and up to 3 days of 24-hour cable pulling. At both potential landing locations, sensitive receptors located nearest the work area includes multi-family residential uses. As discussed earlier, thresholds for multi-family land uses located next to both the 6th Street or 10th Street landing location are an L50 noise level of 70 dBA or an Lmax of 90 dBA.

Table 3.10-5 shows the calculated overall noise level of directional boring (by distance from source, which is estimated to be from the centerline of either the 6th Street or 10th Street landing location), which is expected to last approximately 4 to 5 weeks. The calculated directional bore noise levels shown in Table 3.10-5 are considered a worst-case scenario (with all construction equipment operating simultaneously). Table 3.10-5 also assumes a conservative loss of 6 dBA across open space and a loss of 12 dBA for every doubling of distance where residences and other structures facing construction attenuate noise (FHWA 2006), which is within 40 feet from the optional landing sites.

As shown in Table 3.10-5, unmitigated noise from directional boring would temporarily exceed the Lmax noise level threshold of 90 dBA at the multi-family residential receptors located immediately adjacent to either landing site work area (approximately 40 feet from the centerline of either the 6th Street or 10th Street landing location). Additionally, directional boring would be steady noise. The directional boring machine would run continuously for many hours at a time. Therefore, the estimated Lmax noise levels shown in Table 3.10-5 would likely be continuous throughout the workday. Since these Lmax noise levels would be continuous, the L50 noise level would be the same as the Lmax level. As a result, directional boring construction noise at the selected landing site would also temporarily exceed the L50 noise level threshold of 70 dBA.

Table 3.10-5. Calculated Lmax Noise Levels – Cable Landing Site Directional Boring

Distance from Source	Unmitigated Temporary Noise Level dBA [1]	Mitigated Temporary Noise Level dBA [2]
10 feet	97.1	92.1
40 feet	91.1	86.1
80 feet	79.1	74.1
160 feet	67.1	62.1
320 feet	55.1	50.1

Source: City of Hermosa Beach, 2015; FHWA, 2006
Notes: Lmax = maximum noise level; dBA = A-weighted sound level
1. Assumes attenuation of 6 dBA within the first 40 feet and reduction of 12 dBA every doubling of distance beyond 40 feet due to intervening structures attenuating the noise.
2. Assumes an additional reduction of 5 dBA with the incorporation of proposed Mitigation Measure (MM) N-2.

To reduce noise levels that could affect sensitive receptors near the cable landing site, MM N-2 would be required. This mitigation measure includes the implementation of noise reduction best management practices and would require the Applicant to install an 8-foot-high temporary noise barrier around the cable landing site on all sides facing sensitive receptors. These sound reduction techniques and temporary barriers are conservatively anticipated to reduce noise levels by 5 dBA.

Mitigated noise levels are also shown in Table 3.10-5. As shown, mitigation would eliminate potential exceedances of the Lmax noise threshold of 90 dBA at any adjacent residences. However, directional boring noise at the selected landing site (either 6th Street or 10th Street landing location) would temporarily exceed the L50 noise level threshold of 70 dBA at all residential receptors within approximately 120 feet of either the 6th Street or 10th Street work area. Residents within these areas would be subject to temporary noise during daytime working hours exceeding the L50 threshold of 70 dBA. The exceedance of the threshold would be limited to daytime working hours and is only associated with the directional boring work. During the three-day cable pulling (which would take place for 24 hours per day), the equipment used for this work only includes a small drum pulling machine. This equipment generates noise levels substantially less than 70 dBA Lmax. Therefore, that particular construction activity would not exceed either the Lmax noise threshold of 90 dBA or the L50 noise level threshold of 70 dBA.

Because the exceedance of the L50 noise level threshold of 70 dBA is expected during daytime hours during directional boring at the selected cable landing site, MM N-3 would be required to ensure construction noise is reduced to the maximum extent feasible. However, even with implementation of these measures, temporary noise impacts on residences during construction would remain significant (Class I).

Mitigation Measures

N-2 **Employment of Noise-Reducing Construction Practices.** The construction contractor shall implement noise-reducing construction practices to reduce noise to the greatest extent feasible. Measures that can be implemented include, but are not limited to, the following:

- At directional bore construction locations on either 6th or 10th Street, installation of an 8-foot-high temporary noise barrier shall be required around the selected cable landing site on all sides facing sensitive receptors.
- All stationary construction equipment shall be located at the greatest distance feasible from residences and other noise-sensitive receptors.
- Based on the equipment layout, portable noise barriers shall be strategically positioned around equipment at each cable landing site to absorb and reduce noise generated by operation of the equipment. The noise barriers will be positioned so as not to interfere with the operation of the equipment. These portable noise barriers will be in addition to the perimeter noise barrier to be installed around the cable landing site.
- All construction equipment, including the horizontal directional drill rig, shall be well maintained and include mufflers or other sound attenuation devices consistent with manufacturer specifications (as applicable).
- Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, shall be for safety warning purposes only.

N-3 **Construction Noise Complaint Program.** Prior to construction, the Applicant and/or construction contractor shall establish a telephone number for use by the public to report any nuisance noise conditions associated with construction activities. The Applicant and/or construction contractor shall ensure that a noise liaison is assigned to respond to all public construction noise and vibration complaints in a timely manner, and either (a) the telephone number is staffed by the noise liaison during construction hours; or (b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. Public noise complaints shall be forwarded to the City of Hermosa Beach within 48 hours.

This telephone number shall be posted at entrances to all work areas and construction yards in a manner visible to passersby.

The Applicant and construction contractor(s) shall document how noise complaints were responded to and the resolution of those complaints. These actions shall include, but not be limited to:

- Ambient noise measurements shall be taken near the complainant location(s).
- In the event construction noise levels have significantly exceeded 85 dBA Lmax at residences, additional attenuation methods shall be explored to reduce temporary construction noise levels to the degree feasible. These additional noise-attention methods might include repositioning equipment and/or noise barriers, or adding more noise shielding (e.g., barriers, acoustical blankets, etc.).

In the event a noise or vibration complaint cannot be resolved, the Applicant and construction contractor(s) shall notify the City of Hermosa Beach within 12 hours.

Vibration During Construction (Threshold N-3)

Impact N-3:	***Construction activity could result in vibration levels that could potentially cause annoyance.***

Based on the vibration levels presented in Tables 3.10-2 (for human response) and 3.10-3 (for preventing damage to various structure types), vibration exceeding 0.1 inches per second would be considered the threshold of concern. At this level, vibration would be somewhere between barely perceptible and distinctly perceptible by humans, with a doubling of vibration level still required to potentially generate damage to fragile residential structures.

During construction, minor localized vibration may result from construction activities at directional bore and terrestrial cable pulling work areas. The primary sources of temporary vibration would be from stationary diesel engines powering directional bore machines, as well as heavy truck trips on uneven road surfaces. Along the proposed conduit routes, roadways were observed to be generally smooth with relatively few uneven surfaces. Typically, ground-borne vibrations generated by man-made activities attenuate rapidly with distance from the source of the vibration. Ground vibrations from construction activities do not often reach the levels that can damage structures but can achieve the audible ranges in buildings very close to the source (FHWA 2006).

During construction of the Project, vibration from typical heavy construction equipment operation (including heavy truck trips on uneven pavement) are estimated to be 0.076 inches per second peak particle velocity (PPV) at 25 feet from the source of activity (City of Hermosa Beach 2015). Vibration levels would decrease to 0.038 inches per second at 40 feet from the source (City of Hermosa Beach 2015). At these distances, based on the levels provided in Tables 3.10-2 (for human response) and 3.10-3 (for preventing damage to various structure types), temporary and periodic vibration from construction activities would not reach levels that could cause significant annoyance or damage. Therefore, impacts from construction vibration would be less than significant (Class III).

3.10.3.4. Cumulative Effects

Introduction

The geographic area of analysis for cumulative noise impacts is generally limited to areas within approximately 0.5 mile of a construction site or operational noise source. This area is defined as the geographic extent of the cumulative noise analysis because noise generated by the proposed Project would only affect the local area and would decrease in intensity as distance from the noise source increases. At distances greater than 0.5 mile, noise would attenuate such that the level of any Project-related noise would blend in with background noise levels.

Ground vibrations dissipate more rapidly than noise levels, limiting the geographic extent of ground vibration to the immediate vicinity of the vibration source. As discussed in Section 3.10.3.3 (Impact N-3), the geographic extent of potentially significant ground vibrations would not extend more than 50 feet from the source of the vibrations.

Historically, noise levels near the onshore landing locations have likely been steady over time, with the main noise source being traffic. Along the cable routes, both ambient noise levels and vibration have gradually increased over time with continued development and traffic growth. Current ambient noise levels along these locations are presented in Table 3.10-4.

Project Contribution to Cumulative Impacts

Based on the geographic scope of cumulative noise analysis discussed above, only public works (road maintenance and sewer line) and the City Yard projects would be close enough to proposed Project activities such that they would result in cumulative noise impacts. These projects are located within 0.5 mile of the Project's proposed terrestrial cable routes and directional boring locations. Therefore, if construction of the proposed Project were to be completed concurrently with construction of these other projects, temporary cumulative noise impacts could result with the potential to affect residences and other sensitive receptors located in close proximity to two or more construction sites. Therefore, the potential for cumulative construction noise impacts would be greatest for receptors located near multiple active construction sites. Construction noise from cumulative projects would attenuate with distance similar to noise generated by construction of the proposed Project. Once operational, terrestrial Project components would be located underground, which would generate no noise and have no potential to contribute to cumulative noise impacts. As discussed in Section 2.6.2, Cable Operations and Maintenance, once operational, no routine maintenance is planned for the terrestrial components of the cable network. These cables typically operate for 25 years without maintenance.

While Project construction noise could combine with construction noise generated by other projects if they were completed concurrently, any increase in ambient daytime noise levels would be temporary, and the Project's contribution would be reduced with the implementation of MMs N-1, N-2, and N-3. It should be noted that cumulative construction noise impacts would only result when the Project and other nearby projects are under construction at the same time, which substantially reduces the potential for cumulative effects, especially considering the short construction time period for the proposed Project. While construction noise impacts at receptors near the Project would be significant (refer to Section 3.10.3.3), with the implementation of MM N-2, the Project's potential contribution to cumulative temporary noise impacts would be reduced to the maximum extent feasible. This mitigation measure includes noise reduction best management practices and requires the Applicant to install an 8-foot-high temporary noise barrier around the cable landing site on all sides facing sensitive receptors. These sound reduction techniques and temporary barriers are conservatively anticipated to reduce noise levels by 5 dBA. Therefore, the overall temporary construction noise level of the Project would be reduced.

The Project would only have the potential to contribute to cumulative noise impacts if construction of other projects were completed in relatively close proximity and at the same time as the proposed Project. However, as discussed above in Impact N-2, the proposed Project would result in significant temporary construction noise impacts at either cable landing site where directional boring would be required. Therefore, impacts related to noise would be cumulatively considerable in these locations.

Because segments of 6th Street and 10th Street would be closed at the cable landing locations, and work area safety buffers around the terrestrial cable pulling locations would be established, no cumulative projects would be located within close enough proximity to these Project activities where temporary vibration could combine cumulatively. Therefore, impacts would not be cumulatively considerable related to vibration effects.

3.10.3.5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Noise

Table 3.10-6, below, provides a summary of the Project’s impacts related to noise and vibration. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.10-6. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Noise

Impact	Mitigation Measures	Significance Conclusion
Threshold N-1: Result in construction or operational activity that would occur outside the permissible hours identified within the Hermosa Beach Municipal Code, Chapter 8.24.050 (Noise Control - Construction).		
Impact N-1: Noise would be generated from construction activities outside of the hours allowed by the Hermosa Beach Municipal Code.	N-1 Construction Work Hours Authorization	Class II
Threshold N-2: Result in construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (with no work allowed on Sundays and legal holidays) that exceed: - An L50 noise level of 65 dBA or a Lmax of 85 dBA at a property line zoned R-1 (single-family residential). - An L50 noise level of 70 dBA or a Lmax of 90 dBA at a property line zoned R-2 and R-3 (multi-family residential). - An L50 noise level of 75 dBA or a Lmax of 95 dBA at a property line zoned C-1, C-2, and C-3 (commercial).		
Impact N-2: Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed an L50 noise level of 65 or Lmax of 85 at the property line of nearby residences.	None required	Class III (Terrestrial Conduit System and Construction Traffic)
	N-2 Employment of Noise-Reducing Construction Practices N-3 Construction Noise and Vibration Complaint Program	Class I (Cable Landing Site and Directional Bores)
Threshold N-3: Cause vibration levels at the property line of any neighboring use that exceeds 0.1 inches/second over the frequency range 1 - 100 Hz.		
Impact N-3: Construction activity could result in vibration levels that could potentially cause annoyance.	None required	Class III

Impact	Mitigation Measures	Significance Conclusion
Cumulative Effects	N-1 through N-3 (see above)	Cumulatively Considerable (Noise) Not Cumulatively Considerable (Vibration)

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.
Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.
No Impact: A change that results in no impact on the environment relative to the environmental baseline.

3.10.4. References

CA DOT (California Department of Transportation, Environmental Program Environmental Engineering Noise, Vibration, and Hazardous Waste Management Office). 2004. Transportation- and Construction-Induced Vibration Guidance Manual, Tables 6 and 15. [online]: http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf. Accessed July 2019.

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FTA (Federal Transit Authority). 2018. Transit Noise and Vibration Impact Assessment Manual. [online]: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed July 2019.

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3.11. Transportation

This section focuses on the proposed Project's potential to affect both terrestrial and marine circulation and hazards during construction and operation of the Project. Also, please refer to Section 3.9, Land Use and Recreation, for a discussion of impacts related to use of recreational facilities, including designated pedestrian/bicycle routes and The Strand beach access.

3.11.1. Environmental Setting

3.11.1.1. Terrestrial Circulation System

Roadways

The local circulation system in the City of Hermosa Beach consists primarily of a network of surface streets that provide access to properties and support the movement of people and goods. Roads in Hermosa Beach are classified into three categories (City of Hermosa Beach 1990):

- **Arterial streets** generally function to move vehicles into and through the City and to serve adjacent commercial land uses. They carry the majority of traffic entering or traveling through the City. A major arterial would contain either four or six lanes of through traffic, plus left-turn lanes, while a minor arterial would typically have four lanes of through traffic and possibly separate left-turn lanes.
- **Collector streets** are intended to carry traffic between residential neighborhoods and the arterial street network. They are generally two-lane roadways, which have a mixture of residential and commercial land uses along them.
- **Local residential** streets are designed to serve adjacent residential land uses only. They allow access to residential driveways and often provide parking for the neighborhood. They are not intended to serve through traffic traveling from one street to another, but solely local traffic.
- **Major local** streets provide circulation within and between residential neighborhoods, generally with a maximum of one lane in each direction and space for curbside parking. Major local streets are designed to discourage longer distance through-trips and higher speeds.

The terrestrial transportation environmental setting for the Project includes roadways and pedestrian/ bicycle access routes along each proposed terrestrial cable route, as well as those roadways that provide construction vehicle access to the Project work areas. The following discussion describes the terrestrial transportation study area, which consists of primary roadway segments directly accessing either landing site and those along the terrestrial cable route alignments. The proposed Project cable routes and regional/ local roadways identified below are shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2**Error! Reference source not found.**~~ in Section 1.2, Project Location and Setting.

Regional Access

- **Pacific Coast Highway.** Pacific Coast Highway (PCH) is under the jurisdiction of the California Department of Transportation (Caltrans) and provides regional/local access to the City of Hermosa Beach. Within Hermosa Beach, PCH is classified as an arterial street serving traffic from residents, businesses, and commuters. As the roadway travels through the City of Hermosa Beach, PCH contains six lanes with a dedicated center turn lane. Year 2016 average daily traffic (ADT) volumes on PCH at Pier Avenue/14th Street in Hermosa Beach were 54,000 vehicles per day (Caltrans 2019).
- **Artesia Boulevard.** This four-lane divided arterial street connects Hermosa Beach and PCH with Interstate 405 (I-405) freeway. For travelers coming from outside adjacent beach communities, this

roadway would connect motorists from I-405 to Hermosa Beach. West of the junction with PCH, Artesia Boulevard is renamed as Gould Avenue.

- **Hermosa Avenue.** Hermosa Avenue south of Pier Avenue is designated as an arterial street, providing north-south access through the City. This roadway provides direct access to the Project area. Hermosa Avenue is a four-lane roadway (two lanes in each direction) divided by a concrete island. Street parking is available along both sides of the road.

Local Access and Roadways Directly Affected by the Project

- **Valley Drive.** Valley Drive, designated a collector street, connects with Gould Avenue (portion of Artesia Boulevard west of PCH) and runs north-south parallel with PCH in Hermosa Beach. Valley Drive is two lanes (with dedicated turn lanes at intersections) and provides direct access to the Project area. Street parking is prohibited on Valley Drive; however, a perpendicular parking area is available between 11th Street and 8th Street on the east side. The Hermosa Valley Greenbelt~~ (Veterans Parkway)~~ running parallel to Valley Drive would be directly affected by the Project. Valley Drive runs parallel to Ardmore Avenue. The Greenbelt, formerly the Atchison, Topeka, and Santa Fe railroad right-of-way, separates the two roadways.
- **Ardmore Avenue.** Designated a collector street, south of Pier Avenue the travel lanes narrow to substandard widths of 8 to 9 feet to provide unmetered parking on the east (northbound) side of the street. The posted speed limit is 30 miles per hour (mph). Land uses around the roadway are residential and recreational, except between 18th Street to 11th Street, where they are commercial and institutional.
- **10th Street.** Classified as a local street serving adjacent residential land uses only, 10th Street runs between Hermosa Avenue and Loma Drive. 10th Street has two lanes with marked street parking spaces available along both sides of the road. West of Hermosa Avenue, motorized vehicles are prohibited on 10th Street as it becomes a pedestrian walkway providing access to The Strand.
- **Loma Drive.** Classified as a local street serving adjacent residential land uses only, Loma Drive runs between Pier Avenue and 6th Street. Loma Drive lacks center dividing lines but is of sufficient width to accommodate two lanes of travel (one lane in each direction). This road primarily provides direct access to residential garages and driveways, with minimal curb provided. Street parking is prohibited on the east side of the road, with limited street parking space available on the west side.
- **11th Street.** Classified as a local street serving adjacent residential land uses only, 11th Street runs between Loma Drive and Valley Drive. 11th Street lacks center dividing lines but is of sufficient width to accommodate two lanes of travel (one lane in each direction). Street parking is available along both sides of the road.
- **6th Street.** Classified as a local street serving adjacent residential land uses only, 6th Street runs between Hermosa Avenue and Valley Drive. 6th Street is two lanes with marked street parking spaces available along both sides of the road. West of Hermosa Avenue, motorized vehicles are prohibited on 6th Street as it becomes a pedestrian walkway providing access to The Strand.

Roadway Capacity – Level of Service

Terminology

Level of service (LOS) is a qualitative indicator used for describing the performance of a roadway segment or intersection operating conditions. The indicator ranges from LOS A (excellent conditions) to LOS F (extreme congestion), with LOS A through D considered to be acceptable. The LOS is based on the intersection capacity utilization (ICU) methodology value, which is a comparison of the traffic volume to the overall capacity (V/C). The relationship between the V/C value and the level of service is shown in Table 3.11-1.

Table 3.11-1. Relationship Between Volume/ Capacity Values and Levels of Service

V/C Value	LOS
0.00 to 0.60	A
> 0.60 to 0.70	B
> 0.70 to 0.80	C
> 0.80 to 0.90	D
> 0.90 to 1.00	E
> 1.00	F

Source: FHWA, 2019
Notes: LOS = level of service; V/C = volume to the overall capacity

Roadway Segment LOS

The data presented in Table 3.11-2 provides traffic counts for the general Project vicinity that were recently conducted for a different project just north of the proposed Project site. As discussed later in Section 3.11.3.1, a quantitative LOS analysis is not required for the Project. Therefore, the LOS data provided in Table 3.11-2 is included just as a general representation of baseline traffic volume conditions in the general Project area.

Table 3.11-2. Study Area Roadway Characteristics and Existing LOS Conditions

Roadway	Project Use	Lanes	ADT	Capacity [1]	V/C	LOS
Artesia Boulevard (PCH to Prospect Avenue)	Truck Route	4	26,400	30,000	0.88	D
30th Gould Avenue (Ardmore Avenue to PCH)	Truck Route	4	13,300	30,000	0.44	A
Hermosa Avenue (27th St to 6th Street)	Truck Route	4	8,400	18,000	0.47	A
Valley Drive (Gould Avenue to Pier Avenue)	Truck Route	2	5,000	9,000	0.56	A
Valley Drive (Pier Avenue to 8th Street)	Truck Route/Cable Route (Greenbelt)	2	6,500	9,000	0.72	C
Ardmore Avenue (8th Street to 2nd Street)	Truck Route/Cable Route (Greenbelt)	2	3,000	9,000	0.33	A

Source: City of Hermosa Beach, 2014
Notes: PCH = Pacific Coast Highway; ADT = average daily traffic; V/C = volume to overall capacity; LOS = level of service; Greenbelt = Hermosa Valley Greenbelt ~~(Veterans Parkway)~~
1. Assumes capacity of 15,000 for a two-lane arterial and 9,000 for a two-lane collector.

Intersection LOS

Table 3.11-3 provides the intersection delays that were calculated for a different project just north of the proposed Project site. As discussed later in Section 3.11.3.1, Methodology/Approach, a quantitative LOS analysis is not required for the Project. Therefore, the LOS data provided in Table 3.11-3 is included just as a general representation of baseline intersection conditions in the general Project area.

Table 3.11-3. Study Area Intersection Characteristics and Existing LOS Conditions

			A.M. Peak Period [1]		P.M. Peak Period [1]	
Intersection	**Project Use**	**Control**	V/C or Delay	LOS	V/C or Delay	LOS
Artesia Boulevard and PCH	Truck Route	Signal	0.85	D	0.85	D
30th Artesia Boulevard and Prospect Avenue	Truck Route	Signal	0.57	A	0.68	B
Valley Drive and Pier Avenue	Truck Route	AWSC	12.3 seconds	B	20.1 seconds	C
Ardmore Avenue and Pier Avenue	Truck Route	AWSC	12.2 seconds	B	17.1 seconds	C
Valley Drive and 11th Street	Truck Route/Cable Route (Greenbelt)	AWSC	7.8 seconds	A	9.2 seconds	A
Valley Drive and 6th Street	Truck Route/Cable Route (Greenbelt)	AWSC	7.9 seconds	A	9.4 seconds	A

Source: City of Hermosa Beach, 2014; 2015
Notes: PCH = Pacific Coast Highway; AWSC = All way stop controlled; V/C = volume to the overall capacity; LOS = level of service; Greenbelt = Hermosa Valley Greenbelt ~~(Veterans Parkway)~~
1. Peak Periods are 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.

Roadway – Vehicle Miles Traveled

A key transportation performance metric is vehicle miles traveled (VMT), which is a summation of the trip length for each vehicle trip multiplied by the number of trips. Table 3.11-4 presents the most recently published VMT per household in Hermosa Beach and Los Angeles County. As shown, the VMT per household in Hermosa Beach is higher than the countywide average.

Table 3.11-4. VMT Per Household for Hermosa Beach and Los Angeles County

Year	Hermosa Beach	Los Angeles County
2010	72.6	66.1

Source: City of Hermosa Beach, 2014
Note: VMT = vehicle miles traveled

Pedestrians and bicyclists use all study area roadways (except PCH), with particular emphasis on roadways that provide direct access and dead-end at beach areas (refer to Section 1.2, Project Location and Setting, Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~, which show study area roads that provide direct access to the alternative landing sites and the terrestrial cable route alignments). The Strand contains paved, designated bicycle and pedestrian paths, which run parallel with the coastline and Hermosa Avenue. Furthermore, designated bicycle and pedestrian paths are located within the recreational Greenbelt ~~(Veterans Parkway)~~ running between and parallel to Valley Drive and Ardmore Avenue (refer to Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~).

Public Transportation

Public transit in Hermosa Beach and Manhattan Beach consists of bus routes that function locally and link to light rail stations in Los Angeles. The Beach Cities Transit (BCT) and the Los Angeles County Metropolitan Transportation Authority (Metro) operate the bus system. BCT Bus Route 109 and the Los Angeles Department of Transportation Commuter Express Route 438 travel north along Hermosa Avenue, Manhattan Avenue, and Highland Avenue to the residential and commercial areas of Hermosa Beach, Manhattan Beach, and El Segundo, 7 days per week. Metro Route 232 runs along PCH and terminates at the Los Angeles International Airport City Bus Center. The Metro Route 130 runs along Pier Avenue, PCH, and Artesia Boulevard.

3.11.1.2. Marine Navigation

The following section includes a discussion of the marine portion of the Project, specific to the impacts on marine traffic and navigation safety. Marine components of the Project area include the fiber-optic cables and the marine (ocean landing) locations of the directional bores. The marine portion of the directional bores is defined to be from the mean high water mark (MHWM) to the edge of the continental shelf (water depth approximately 5,904 feet [1,800 meters]). Further details on the tasks to be completed as part of the marine portions of the Project can be found in Chapter 2, Project Description.

The marine portion of the Project is described to be from the MHWM seaward to the outer limit of United States (U.S.) Territorial Seas, defined to be the 12-nautical mile mark with reference to navigation. The Federal Fisheries and outer limit of the State jurisdiction is defined to be "the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles."

The U.S. end of the fiber-optic cables and the marine portions of the directional bores would be located in Santa Monica Bay. Santa Monica Bay is a bight in the Pacific Ocean in Southern California. From a marine navigation perspective, the Bay is located northeast of the San Pedro Channel Traffic Separation Scheme. The Bay is characterized by generally shoreline parallel bathymetry out to the continental shelf, intersected by two submarine canyons, the Redondo and Santa Monica Canyons, with depths in excess of 100 feet.

Nearshore Area

The larger Santa Monica Bay contains navigation features shown in Table 3.11-5 below. Marine traffic outside of the immediate nearshore consists of commercial vessels using the anchorage areas (a place where boats and ships can safely drop anchor). Transit routes are likely to be from the Traffic Separation Scheme to the anchorage and back out again.

Table 3.11-5. Navigation Features in Santa Monica Bay

Feature	Description	Reference
Existing submarine cables	TyCom – perpendicular to beach; assumed to be partially buried, landfall at Hermosa Beach	Nautical Charts 18748, 17840, and 18744
	Global West – perpendicular to the beach diverging north and south, landfall at Manhattan Beach	
Hermosa Beach Municipal Pier	750 feet from mean high water (MHW) line	
Manhattan Beach Pier	650 feet from MHW	
Pilot Boarding Area	Commercial vessels and pilot boats transiting to/from the Pilot Boarding Area	
Commercial anchorages (ES-1 and ES-2)	Commercial vessels transiting to/from the anchorage areas, under anchor swinging with tide	
Safety Zone	Submerged sewers extending seaward from El Segundo	
Exploratory survey and drilling operations in the vicinity of the Southern California Traffic Separation Scheme	Floating oil and gas drill rigs and platforms extending to the ocean floor	

Feature	Description	Reference
Uncharted submarine pipelines and cables in the vicinity of oil well structures	Known, but not mapped, historic submerged pipelines and cables extending seaward from various shoreline areas	
Fishing vessels between King Harbor and Marina Del Ray	Recreational and commercial fishing vessels routinely traversing nearshore and deeper waters	
Pleasure craft transiting from Marina del Ray and King Harbor along the coast	Recreational vessels routinely using the immediate nearshore area to travel the coastline	

Santa Monica Basin and San Pedro Channel

Commercial marine traffic movements outside of Santa Monica Bay are largely dictated by the Traffic Separation Scheme indicated on nautical charts – northbound running southeast to northwest and southbound running northwest to southeast, divided by a separation zone. The intention of traffic separation zones is to aid in the prevention of collisions at the approaches to major harbors and/or heavily transited coastal waters. The separation zone between the lanes should be free of marine traffic and used only for crossing purposes. The Traffic Separation Scheme in this area runs from Santa Barbara inshore of the Channel Islands and Catalina Island, terminating at the regulated navigation area immediately offshore of the Ports of Los Angeles and Long Beach (POLA/POLB). Traffic Separation Schemes are enforced by the U.S. Coast Guard (USCG).

Both the POLA and POLB have cruise terminals, scheduled ferries running to and from Catalina Island, and seasonal whale-watching cruises. The large cruise ships are required to use the Traffic Separation Scheme when traversing Santa Monica Bay. The ferries have designated routes and are not expected to deviate far from them. The whale-watching tours are not typically focused in Santa Monica Bay and run on a schedule. Smaller fishing and pleasure craft are expected to avoid the Traffic Separation Scheme crossing only on dedicated voyages.

3.11.2. Regulatory Setting

3.11.2.1. Federal

Terrestrial Transportation

No federal regulations are applicable to the proposed Project with respect to terrestrial transportation.

Marine Transportation

The Code of Federal Regulations (CFR) consists of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. Federal regulations governing marine navigation and navigable waters are covered by 33 CFR Volumes 1 through 3, otherwise referred to as Parts 1-399 (Parts 400-499 concern the Great Lakes region of the Saint Lawrence Seaway and are, therefore, not applicable to the Project). 33 CFR Parts 1-399 are implemented and enforced by the USCG and the U.S. Army Corps of Engineers. The regulations contained in 33 CFR 1-399 include vessel operating regulations, use of anchorages, marine pollution, and activities in the outer continental shelf area. Federal regulations governing shipping are covered by 46 CFR Parts 1-399, and are implemented and enforced by the USCG and Department of Transportation, Maritime Administration. Specifically, CFR Title 33, Chapter I, Subchapter P, Part 161 defines the purposes and intent of the Vessel Traffic Services (VTS). VTS in Los Angeles/Long Beach are jointly operated by the USCG and the Marine Exchange of Southern California. The purpose of VTS is to provide active monitoring and navigational advice for vessels in particularly confined and busy waterways. The two main types of VTS are surveilled and non-surveilled. Surveilled systems consist of one or more land-based sensors (i.e., radar, closed circuit television sites), which output a vessel's signals to a central location where operators monitor and manage vessel traffic movement. Non-surveilled systems consist of one or more reporting points at which ships are required to report their identity, course, speed, and other data to the monitoring authority.

The marine transportation limits of this assessment, defined to be from the mean high water mark seaward to the outer limit of U.S. Territorial Seas, 12 nautical miles, are within the jurisdiction of the Eleventh Coast Guard District, Sector Los Angeles-Long Beach Marine Inspection Zone. The USCG is responsible for maritime safety. Broadcast Notice to Mariners are made by the USCG containing important navigational warnings, such as reports of deficiencies and changes to aids to navigation, the positions of derelict vessels, and other important hydrographic information. Local Notice to Mariners (LNM) are published weekly and are used to report changes and discrepancies to aids to navigation, channel depths, naval operations, regattas, etc., which may affect vessels and waterways. Reports of channel conditions, obstructions, menaces to navigation, danger areas, new chart editions, etc., are also included in the LNM.

The USCG publishes a Navigation Rules and Regulations Handbook, a compendium of international and U.S. applicable regulations pertinent for waterway users. All U.S. flag vessels are ratified to the rules contained in this handbook, including the provisions of the International Navigational Rules Act of 1977 (Public Law 95-75, 91 Statute 308, or 33 United States Code [USC] 1601–1608). The Rules define a "vessel engaged in laying, servicing or picking up a navigation mark, submarine cable or pipeline," as being "restricted in her ability to maneuver." To this extent, a cable-laying vessel is given special compensation, such as exemption from complying with certain rules to the extent necessary to carry out the operation that the vessel is engaged in. The vessel is also required by the Navigation Rules to display the appropriate lights and shapes (defined by Rule 27), or sound signals in the case of restricted visibility. Other power-driven (or sailing) vessels are required by the Rules to "keep out of the way of" a vessel with restricted ability to maneuver. The Rules stipulate the steering and sailing use of Traffic Separation Schemes for all vessels and exemption from the Rules. Further information on the applicable Traffic Separation Scheme in the vicinity of the Project is provided in Section 3.11.1.2. All vessels engaged in the Transpacific Fiber-Optic Cable Project must comply with the requirements described above.

Section 24 of Title 47, Telecommunications, states under clause, "Vessels laying cables; signals; avoidance of buoys," if the master of any vessel does not withdraw to or keep at a distance of at least 1 nautical mile; or the master of any vessel that seeing or being able to see buoys intended to mark the position of a cable when being laid or when out of order or broken, does not keep at a distance of at least a quarter of a nautical mile, the master of the vessel will be guilty of a misdemeanor. Upon conviction, the master of the vessel may be liable to imprisonment for a term not exceeding 1 month, or to a fine of not exceeding $500. Section 25 further prohibits fishing vessels from deploying nets or other implements at the same distances stated above.

3.11.2.2. State

Terrestrial Transportation

California Vehicle Code, division (div.) 2, chapter (chap.) 2.5; div. 6, chap. 7; div. 13, chap. 5; div. 14.1, chap. 1 & 2; div. 14.8; div. 15 (DMV 2019) includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials (including fuels).

Caltrans Guide for the Preparation of Traffic Impact Studies (TIS)

The following criteria are a starting point in determining when a TIS is needed (Caltrans 2002):

1. Generates over 100 peak-hour trips assigned to a State highway facility.
2. Generates 50 to 100 peak-hour trips assigned to a State highway facility, and affected State highway facilities that are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. Generates 1 to 49 peak-hour trips assigned to a State highway facility, and affected State highway facilities that are experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F").

The only applicable Caltrans roadway is PCH. As discussed below in Section 3.11.3.3, the proposed Project would not exceed these peak-hour trip generation thresholds on PCH. During peak construction, a maximum of 50 daily trips (38 passenger vehicles, 12 large trucks) are expected to be required. These daily traffic volumes would not exceed any of the thresholds identified above. Once operational, the Project would generate negligible daily trips. Therefore, a separate full TIS analysis was not warranted or prepared for the Project.

Marine Transportation

Within California, the Harbors and Navigation Code governs "Navigable waters" defined to be waters that are under the jurisdiction of the U.S. Army Corps of Engineers. Specifically, this refers to the State's jurisdiction within 3 nautical miles from the Mean High Water (MHW) line.

As mentioned under federal regulations, the VTS are provided by a joint venture between the USCG and the Marine Exchange of Southern California. The USCG Marine Exchange provides traffic monitoring and reporting through two sectors, the San Pedro Channel/Santa Monica Bay and the POLA/POLB. The Transpacific Fiber-Optic Cables Project lies within the San Pedro Traffic sector (25 nautical miles from Point Fermin to the Federal Breakwater), referred to as San Pedro Traffic. Any vessel associated with the Project must report through San Pedro Traffic.

3.11.2.3. Local

Terrestrial Transportation

Los Angeles County Metropolitan Transportation Authority (Metro)

As the Congestion Management Agency for Los Angeles County, Metro is responsible for implementing the Congestion Management Program (CMP) for the County. The CMP addresses the impact of local growth on the regional transportation system. Statutory elements of the CMP include Highway and Roadway System monitoring, multi-modal system performance analysis, the Transportation Demand Management Program, the Land Use Analysis Program, and local conformance for all the County's jurisdictions (Metro 2010). A review of the CMP indicated that no specific goals or policies related to transportation are applicable to the proposed Project.

PLAN Hermosa

The City's PLAN Hermosa (Integrated General Plan and Coastal Land Use Plan) includes goals and policies related to long-term transportation planning for and encouraging the use of alternative modes of transportation (City of Hermosa Beach 2017). The Mobility Element's policies also guide and promote the provision of adequate parking and transportation improvements (City of Hermosa Beach 2017). A review of PLAN Hermosa indicated that no specific goals or policies related to transportation are applicable to the proposed Project.

City of Hermosa Beach Municipal Code

The City of Hermosa Beach Municipal Code establishes a number of ordinances that regulate motorized traffic on City streets and transportation facilities, such as bike paths and The Strand. A review of the City's Municipal Code indicated that no specific ordinances are applicable to the proposed Project when determining potential impacts under CEQA, as discussed in Section 3.11.3.3.

Marine Transportation

The Los Angeles County Code does not allow motorized or non-motorized vessels within 300 yards (274 meters) of the shoreline (defined to be the MHW line). Los Angeles County lifeguards and the USCG are responsible for enforcing this code. The lifeguard headquarters station is on the beach to the south of the Hermosa Beach Pier. The USCG is stationed to the north in Marina Del Rey and patrols 300 miles between Morro Bay and Dana Point.

3.11.3. Potential Environmental Impacts

3.11.3.1. Methodology/Approach

Terrestrial Transportation

This section evaluates impacts associated with the addition of temporary and long-term vehicle trips to the local circulation network, temporary disruptions to lanes and pathways during construction, access restrictions, disruption of emergency vehicle access flow, disruptions to public transportation generated by the proposed Project, and hazards to motorists and pedestrians/ bicyclists.

Existing transportation conditions were used as a baseline to identify impacts associated with Project implementation. The significance thresholds identified below are evaluated based on their potential to be triggered during construction and operation/maintenance of the proposed Project. The analysis considered accessibility for emergency operations, private residences, and public spaces, as well as traffic flow disturbances or obstructions in the vicinity that would result from the proposed Project.

In 2013, the California legislature passed Senate Bill (SB) 743, which mandates that beginning January 2020, jurisdictions can no longer use automobile delay – commonly measured by LOS – in transportation analysis under the California Environmental Quality Act (CEQA). The State has issued guidelines calling for the use of vehicle miles traveled (VMT), which measures the amount of travel for all vehicles in a geographic region over a given period of time. VMT is calculated by adding up all the miles driven by all the cars and trucks on all the roadways in a region. This metric plays an integral role in the transportation planning, policy making, and revenue estimation processes due to its ability to indicate travel demand and behavior. The State's intent in making this switch is to promote:

- The reduction of greenhouse gas emissions
- The development of multimodal transportation networks (i.e., networks that serve a variety of users, including pedestrians, bicyclists, transit riders, and drivers)
- A diversity of land uses (i.e., neighborhoods and cities with housing, jobs, shops and services in close proximity to each other)

Per CEQA Guidelines section 15064.3, subdivision (b), a VMT analysis under CEQA may be based on the following:

- **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a Lead Agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
- **Methodology.** A Lead Agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A Lead Agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgement based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project.

Marine Navigation

Existing marine transportation routes and practices were used as a baseline against which potential impacts associated with Project implementation were evaluated. The assessment considered marine traffic flow disruption, navigational safety, and potential obstructions, permanent or temporary, that could result from the proposed Project.

General information on traffic flow, including local navigation features and restrictions, was considered. Detailed information on marine traffic including Automatic Identification Systems (AIS) data and VTS records was not used in the impact analysis. AIS electronically identifies a ship using data transmitted to shore stations by VHF radio. International Maritime Organization (IMO) made adoption of the AIS requirements for ships over 300 gross tons mandatory by the year 2003. San Pedro Traffic records marine traffic movements at specific points within their jurisdiction and provides advice to marine traffic on speed, destination, navigable areas, and other marine traffic in the area.

Given the volume of commercial and recreational marine traffic present in the jurisdictional boundaries of the Marine Exchange of Southern California, a numeric marine traffic survey is not deemed necessary. With over 8,000 commercial vessel transits (refers to a ship call either inbound or outbound) per annum to the POLA and POLB, the percentage increase in marine traffic as a result of the proposed Project would be negligible. Similarly, the number of recreational marinas and pleasure craft close to the Project site limits the effectiveness of a numerical assessment.

The assessment of impacts focuses on safety and disruption.

3.11.3.2. Significance Thresholds

Terrestrial Transportation

Based on the findings of the Initial Study, an impact on terrestrial transportation would be considered significant if the proposed Project's construction, operation, or decommissioning would:

- **Threshold T-1:** Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- **Threshold T-2:** Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), thereby resulting in a substantial and sustained increase in vehicle miles traveled compared to regional averages.

- **Threshold T-3:** Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- **Threshold T-4:** Result in inadequate emergency access.
- **Threshold T-5:** Permanently or temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access.
- **Threshold T-6:** Temporarily disrupt transit service such that there would be no suitable alternative routes or stops.
- **Threshold T-7:** Impede pedestrian/bicycle movements such that there would be no suitable alternative pedestrian/bicycle routes.

Marine Navigation

An impact related to marine transportation would be considered significant if the Project would:

- **Threshold T-8:** Restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.
- **Threshold T-9:** Create a navigational hazard to marine traffic due to Project vessels operating in the marine area.
- **Threshold T-10:** Require a change in regional Vessel Traffic Services, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation.
- **Threshold T-11:** Result in a condition that presents a long-term impediment to marine traffic after construction.
- **Threshold T-12:** Cause an increase in the risk of vessels in the Project area running aground or striking floating or submerged debris resulting from either the construction or permanent works.

3.11.3.3. Impact Analysis

Terrestrial Transportation

Conflicts with Transportation Programs, Plans, Ordinances, or Policies (Threshold T-1)

Impact T-1:	***Project-related temporary road or travel lane closures could affect traffic flow and create congestion, thus reducing the planned effectiveness of the Hermosa Beach transportation system.***

A roadway closure, one city block in length, would be necessary on either 6th Street (between Hermosa Avenue and Manhattan Avenue) or 10th Street (between Hermosa Avenue and Manhattan Avenue) to accommodate marine directional bore activities and landing manhole installation. These potential closure locations are shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~ in Section 1.2, Project Location and Setting. The closure would last approximately 4 to 5 weeks at the marine landing location and would require traffic detours around the closure area, which is expected to result in traffic delays along the roadway segments adjacent to the closure areas.

Temporary lane closures during daytime hours would be necessary at select locations along the terrestrial cable routes shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~. As shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~, intermediate manholes would be constructed at intervals of approximately 800 feet along the cable routes. The terrestrial conduit system is proposed to be installed in public rights-of-way

(ROW) and areas zoned as Open Space (i.e., the Greenbelt ~~[Veterans Parkway]~~ running parallel to Valley Drive and Ardmore Avenue). Cable pulling along these routes would last approximately 1 week total, with lane disruptions only required for 1 to 2 days at each manhole location. As discussed in Chapter 2 (Project Description), because a manhole would be placed every 800 feet, approximately 20 to 25 total manhole locations along the entire terrestrial cable routes would be required. While the specific location of intermediate manholes is not known, cable conduit installation, trenching, and manhole construction at each location would temporarily disrupt traffic at work locations along the cable routes.

Activities around each cable pulling manhole site, such as the laydown of equipment and material, would take place within approximately 1,000 square feet and require occupation of one lane of traffic for approximately 40 feet. Construction activities within the public ROW along the cable routes would require temporary travel lane closures, which would result in traffic delays. These temporary impacts on traffic and parking would be similar to those impacts that result from street maintenance activities or utility repair projects. While traffic delays can result in temporary nuisance impacts on motorists, the associated detours and lane merges would only result in minor changes to baseline circulation patterns around temporary closure locations. These detours and standard practices for lane closures (such as cone and sign markings alerting motorists to merge around the lane closure) would ensure that the Project would not result in a substantial impact on the performance of the circulation system. Impacts from temporary disruptions to the affected circulation system would be less than significant (Class III).

Once operational, no routine maintenance is planned for the terrestrial components of the cable network. These cables typically operate for 25 years without maintenance. Therefore, operation of the Project would have no impacts related to roadway disruptions.

Vehicles Miles Traveled (Threshold T-2)

Impact T-2:	***Construction trips would result in a short-term increase in traffic volumes and a temporary increase in vehicle miles traveled.***

Project-related construction trips would not require a substantial or sustained increase in vehicle miles traveled (VMT) compared to regional averages, or result in temporary emission increases that could conflict with plans and policies related to the reduction of greenhouse gas emissions. Construction activities are anticipated to be intermittent over two phases, which would be completed approximately 2 years apart, in 2024 and 2026, respectively. These activities would generate short-term, temporary increases in construction-related traffic volumes. Daily passenger vehicle trips would be generated by worker commutes, and construction would include truck trips during the workday for the delivery of equipment and materials, movement of cut-and-fill material, watering for dust control, concrete delivery, disposal of waste, and other various construction needs. During peak construction, a maximum of 50 daily trips (38 passenger vehicles, 12 large trucks) would be expected for the Project. On average, 18 daily trips (16 passenger vehicles, 2 large trucks) would be required.

Most temporary workers needed for construction of the Project are expected to reside within a 20- to 30-mile radius of the Project area. As a whole, given the amount of skilled construction labor available within the greater City of Los Angeles area, all construction workers are expected to come from the local workforce within a reasonable commute area. Based on U.S. Census data, 51.9 percent of those residing within the City of Hermosa Beach have a daily work commute less than 30 minutes in duration, and 25.1 percent have a commute ranging between 30 to 60 minutes (U.S. Census Bureau 2019). Similarly, for the City of Los Angeles, 46.3 percent of those residing within the City of Hermosa Beach have a daily work commute of less than 30 minutes in duration, and 39.3 percent have a commute ranging between 30 to 60 minutes (U.S. Census Bureau 2019). Therefore, the expected commute range and resulting VMT for construction workers is considered to be consistent with that of the Hermosa Beach and greater Los Angeles areas. Additionally, as discussed in Section 3.11.1.1, the site is accessible through various local and regional public transportation facilities. Based on estimates presented in Appendix B, construction worker commutes would be 29.4 VMT per worker. This is consistent with typical commute VMTs within the City of Los Angeles and the region. Project construction worker commute trips, which are temporary, would have impacts that are less than significant related to a substantial or sustained increase in VMT.

Truck trips for materials and equipment deliveries would likely come from within the central City of Los Angeles area, with some materials trips likely originating from the Ports of Long Beach and Los Angeles. Due to the urban location of the Project site, construction truck trips are expected to result in typical VMT to access the site compared to other infrastructure projects developed within the Hermosa Beach area. The construction contractor is expected to seek local building materials, when available, to reduce transportation costs. Additionally, all construction-related trips would be temporary and only in volumes necessary to deliver equipment and materials to the site. Based on estimates presented in Appendix B, truck trips associated with construction would be 13.8 VMT for local deliveries and 40 VMT for specialized equipment deliveries associated with the horizontal directional drilling (HDD). These VMTs are expected to be similar to typical construction-related trips within the City of Los Angeles and the region. Therefore, impacts from construction-related truck trips, which are temporary, would be less than significant related to a substantial or sustained increase in VMT (Class III).

Upon completion of construction, all construction-related trips would cease. Once operational, occasional worker trips would be required to inspect and test the power feed and transmission equipment at the power feed equipment (PFE) facility. No routine maintenance would be needed for the terrestrial components of the cable network. Therefore, Project operation would have no impacts related to traffic volumes and VMT.

Hazards Resulting in Unsafe Road Conditions (Threshold T-3)

Impact T-3:	***Construction activities and temporary road or travel lane closures could create hazards to motorists, pedestrians, and bicyclists.***

As discussed for Impact T-1, construction of the Project would require temporary road and travel lane closures. These disruptions and the presence of construction equipment could create temporary roadway hazards. Mitigation Measure (MM) T-1 requires the preparation of a detailed Construction Traffic Control Plan for the Project. As part of this Plan, the Applicant would provide methods to reduce temporary transportation hazards in a variety of ways, including the use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc. on affected roadways. The Plan would also require ways to ensure the safe movement of pedestrians and bicyclists through work areas. With the incorporation of MM T-1, potential surface transportation hazard impacts would be reduced to less than significant (Class II).

Mitigation Measure

T-1 **Construction Traffic Control Plan.** Prior to the start of construction, the Applicant shall submit a Construction Traffic Control Plan for review and approval by the City of Hermosa Beach. The Construction Traffic Control Plan shall include, but not be limited to:

- The locations and use of flaggers, warning signs, lights, barricades, delineators, cones, arrow boards, etc. according to standard guidelines outlined in the Manual on Uniform Traffic Control Devices, the Standard Specifications for Public Works Construction, and/or the California Joint Utility Traffic Control Manual.

- The locations of all road or traffic lane segments that would need to be temporarily closed or disrupted due to construction activities.
- Planned detour routes around road closures on 6th Street (between Hermosa Avenue and Manhattan Avenue) and 10th Street (between Hermosa Avenue and Manhattan Avenue).
- Methods to reduce temporary traffic delays to the maximum extent feasible and prohibit delivery of construction materials during peak traffic periods (6:00 to 9:00 a.m. and 3:30 to 6:30 p.m. Monday through Friday, or as directed in writing by the affected public agency in encroachment or other permits). This should also include feasible ways to avoid construction-related trips during peak traffic periods.
- Plans to provide written notification to property owners and tenants at properties affected by access restrictions to inform them about the timing and duration of obstructions and to arrange for alternative access if necessary. The coordination shall be conducted at least 1 week prior to any blockages.
- Plans to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles. Police departments and fire departments shall be notified in advance by the Applicant of the proposed locations, nature, timing, and duration of any roadway disruptions, and shall be advised of any access restrictions. At locations where roads will be blocked, provisions shall be ready at all times to accommodate emergency vehicles, such as immediately stopping work for emergency vehicle passage, providing short detours, and developing alternate routes in conjunction with the public agencies. Documentation of the coordination with police and fire departments shall be provided to the City of Hermosa Beach Planning Department prior to the start of construction.
- Provisions for ensuring safe movement of pedestrians and bicyclists through all detours or affected transportation facilities.
- Define the method for maintaining close coordination, prior to and during construction, with all agencies responsible for encroachment permits on each affected roadway, to minimize the cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system.

Restriction of Emergency Vehicles (Threshold T-4)

Impact T-4:	***Project activities requiring temporary road or travel lane closures could affect emergency vehicle response.***

As discussed for Impact T-1, construction of the Project would require temporary road or travel lane closures and may temporarily restrict the movement of emergency vehicles. Temporary detours, roadway closures, and disruptions to property access as a result of the Project would affect emergency vehicle response times near the work areas. To reduce these impacts, MM T-1 would be implemented to require the preparation of a detailed Construction Traffic Control Plan for the Project. The Plan would require the Applicant to coordinate in advance with emergency service providers to avoid restricting the movements of emergency vehicles and identify provisions that would be ready at all times to accommodate the movement of emergency vehicles. With the incorporation of this mitigation, impacts on emergency service vehicle flow and access during temporary disruptions to the affected circulation system would be reduced to less than significant (Class II).

Mitigation Measure

T-1 **Construction Traffic Control Plan.** See above for the full text of this measure.

Access Restriction during Construction (Threshold T-5)

Impact T-5:	***Project activities requiring temporary road or travel lane closures could affect beach access and access to adjacent residential and business properties.***

During construction, the Project would result in temporary disruptions to property access on either 6th Street (between Hermosa Avenue and Manhattan Avenue) or 10th Street (between Hermosa Avenue and Manhattan Avenue) to accommodate marine directional bore activities and landing manhole installation. These potential closure locations are shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~ in Section 1.2, Project Location and Setting. The closure would last approximately 4 to 5 weeks at each marine landing location. The necessary closure of the street would require approval by the City of Hermosa Beach. Access to residences at these locations would not be blocked during construction, but local traffic movements and vehicle access to these properties would be affected by the temporary street closures.

Figures 3.11-1 and 3.11-2 provide diagrams of the temporary traffic changes at the proposed 6th Street and 10th Street cable landing sites. As shown, traffic flow would shift to the intersections that are nearest to the closure area, with access to the parking structures available for apartment buildings located on both 6th Street and 10th Street available through the two-way alleys. Field observations conducted for the Project indicate that these apartment buildings do not have driveways to parking areas from either 6th Street or 10th Street. Therefore, tenants would continue to have full access to their parking structures and apartments. Street closures would result in the short-term temporary loss of either 15 street spaces on 6th Street or 13 street parking spaces on 10th Street.

Along the cable routes shown in Figure 1-1~~Figure 1-1~~ and Figure 1-2~~Figure 1-2~~, intermediate manholes would be constructed at intervals of approximately 800 feet. Activities around each manhole site would result in temporary access disruptions to properties immediately adjacent to the work area. Short-term and temporary disruptions to property access during construction would be required during daylight hours, Monday through Saturday. The impacts would be similar to those caused by routine street maintenance activities or utility repair projects. While this may result in temporary nuisance impacts on residents along the closure segments of 6th Street and 10th Street, access to these properties would be maintained. Therefore, temporary impacts on property access would be less than significant (Class III).

Figure 3.11-1. Temporary Traffic Changes at the Proposed 6th Street Cable Landing Site

Figure 3.11-2. Temporary Traffic Changes at the Proposed 10th Street Cable Landing Site

The temporary closure of either 6th Street (between Hermosa Avenue and Manhattan Avenue) or 10th Street (between Hermosa Avenue and Manhattan Avenue) would require detours. The difference in traffic flow and congestion impacts between the two options are as follows:

- **Temporary closure of 6th Street (between Hermosa Avenue and Manhattan Avenue):** This segment is primarily for residential use. However, given that this roadway segment connects two arterial roads (Hermosa Avenue to Valley Drive), a number of motorists (primarily those traveling north on Hermosa Avenue) may use 6th Street to connect to Valley Drive, which connects to Pacific Coast Highway and Aviation Boulevard (with Aviation Boulevard providing several connections with I-405). Because of this connectivity, greater average daily trip volumes are expected on this segment of 6th Street when compared to the below-mentioned segment of 10th Street. Therefore, the temporary closure of 6th Street would have more trip volumes diverted to the detour intersections shown in Figure 3.11-1, resulting in greater potential impacts when compared to those affected by the closure of 10th Street. Impacts would still be less than significant for both locations (Class III).
- **Temporary closure of 10th Street (between Hermosa Avenue and Manhattan Avenue):** This segment is primarily for residential use, with the primary arterial connection being Hermosa Avenue. Because this roadway segment does not connect two arterial roads, traffic volumes are expected to be less than those on 6th Street (which connects Hermosa Avenue to Valley Drive). Therefore, temporary closure of 10th Street would likely have less trip volumes diverted to the detour intersections shown in Figure 3.11-2, resulting in less potential impacts when compared to those affected by the closure of 6th Street. Impacts would still be less than significant for both locations (Class III).

Disruption of Bus Transit Service (Threshold T-6)

Impact T-6:	***Project activities requiring temporary road or travel lane closures could affect bus transit service.***

As discussed earlier, both Beach Cities Transit (BCT) and the Los Angeles County Metropolitan Transportation Authority (Metro) operate bus lines along Hermosa Avenue and Manhattan Avenue. While the Project would require temporary closures on 6th Street (between Hermosa Avenue and Manhattan Avenue) or 10th Street (between Hermosa Avenue and Manhattan Avenue), the temporary closures are not expected to disrupt any bus transit routes or stops because the bus routes do not travel through the closure areas and would not be detoured. While vehicle detours around these closure areas could potentially slow down bus movements in the Project area, this is not considered an impact on bus service as the bus routes would not change and could be affected by other numerous causes of delay. Furthermore, delays to bus schedules from roadway incidents can result from a variety of reasons (accidents, vehicle breakdown, etc.). Therefore, because the Project would not directly affect public transit routes or stops, and Project effects on bus movements are expected to be minor, this impact would be less than significant (Class III).

Disruption of Pedestrian and/or Bicycle Movements (Threshold T-7)

Impact T-7:	***Project activities requiring temporary road or travel lane closures could affect pedestrian/bicycle routes.***

As discussed for Impact T-1, construction and maintenance of the Project would require temporary road and travel lane closures. Additionally, temporary disruptions to segments of the Hermosa Valley Greenbelt ~~(Veterans Parkway)~~ may result from cable pulling and OGB installation if the Greenbelt is selected instead of the beach area or ocean floor. These closures would temporarily affect pedestrian and bicycle movements near the work areas. To reduce this impact, MM T-1 is proposed to require the preparation of a detailed Construction Traffic Control Plan for the Project. The Plan would require the Applicant to ensure detours or safe movement of pedestrians and bicyclists through all affected facilities. With the incorporation of this mitigation measure, impacts on pedestrian and bicycle movements during temporary disruptions to the affected circulation system would be reduced to less than significant (Class II).

Mitigation Measure

T-1 **Construction Traffic Control Plan.** See above for the full text of this measure.

Marine Navigation

Restriction of Movement of Coast Guard or Lifeguard Vessels (Threshold T-8)

Impact T-8:	***Cable-laying activities could inadvertently restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.***

The U.S. Coast Guard (USCG) air station is located at Los Angeles International Airport (LAX), and USCG Station Los Angeles-Long Beach is located within the Port of Los Angeles (POLA). The Los Angeles (LA) County Lifeguards is a division of the LA County Fire Department. Apart from the beach-based lifesavers, rescue boat services deploy from LA Harbor, King Harbor (Redondo), Marina del Rey, and Malibu. The marine portions of the proposed Project would not block or inhibit the passage or movement of either Baywatch Redondo or Baywatch Del Rey. Movements between these groups and the cable-laying vessel would be coordinated using radio, Global Positioning Systems (GPS), and other locating and communication devices, which would minimize any conflicts between these vessels. Therefore, this impact would be less than significant (Class III).

Navigational Hazards (Threshold T-9)

Impact T-9:	***The marine boring operation would create a temporary hazard for marine traffic.***

A hazard to navigation is defined as an object or action that could cause other marine users, such as commercial or recreational vessels, to act dangerously or enter a dangerous situation as a direct result of the Project. Several Project-related activities could result in navigational hazards.

The support of the marine bores would involve the use of a primary work boat (approximately 100 to 200 feet length overall [LOA]) moored approximately 50 feet from the bore exit points. The work boat would utilize a four-point anchor mooring with a spread of approximately 328 feet. The primary work boat would be supported by a secondary smaller vessel, used to set and retrieve anchors, plus a shuttle crew to and from King Harbor, as needed.

Once the marine bore has exited, a marine support crew would be dispatched to dive the location. The dive crew would use surface supply and would be working with hydraulic or pneumatic equipment. A pipe pig would be hydraulically pushed through the drill pipe, and a check valve and bell mouth would be installed on the seaward end with a locator ball. All of the dive work is assumed to be completed in the immediate vicinity of the moored work boat, within the spread of the anchors.

The cable ship (approximately 500 feet LOA) would be positioned approximately 328 feet (100 meters) from the seaward end of the bore pipe into which the cable would be pulled. The cable vessel is assumed to not require tug support and can be assisted by the secondary work boat if needed. The cable ship would drop anchor until ready to proceed. The work boat would then assist with the wire rope feed and cable attachment. Once the cable is hydraulically winched back to the landing manhole and anchored, the dive crew is assumed to no longer be needed in the water. Once the water is clear, the cable vessel would be ready to move away on course.

The activities that have the potential to result in navigation hazards are summarized as follows:

- Presence of a moored work boat and spread anchors,
- Regular transits of a secondary work boat to and from King Harbor to the work site,
- Movements of a secondary work boat in the vicinity of the moored work boat,
- Divers in the water, and
- Cable vessel transiting to and moored 300 feet from the marine bore exit.

When the Project is taken out of service and retired, the Applicant proposes to abandon the marine cable in place. However, the California Coastal Commission may require removal of the marine cable from State waters at the end of the Project's life. The removal of the marine cable would involve marine vessel operations on a scale similar to cable installation, resulting in potential hazards to marine navigation similar to those described above for cable installation. With implementation of MMs T-2 through T-4 below, which include notification to appropriate agencies of the Project's marine navigation activities, impacts would be reduced to less than significant (Class II).

Mitigation Measures

T-2 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** The Applicant will ensure that sufficient information is provided to the U.S. Coast Guard (USCG) in order for a Local Notice to Mariners ~~(LNM)~~ to be issued. Location of the moored vessels, likely transit routes of mobile vessels, notice of divers in the water, and the approximate dates, durations and working times shall be given.

- All vessels (working boats and cable vessel) shall show the appropriate shapes and lights for their status, whether moored or in transit. When divers are in the water, the appropriate shapes and lights will be displayed to warn other marine vessels and users.
- Stationary anchors will be appropriately marked.
- All vessels shall follow the Navigation Rules and will inform San Pedro Traffic of all intended movements.
- All vessels shall meet the minimum requirements for navigation safety (crewing, navigation systems, etc.), as stipulated by 46 CFR Parts 1-399.

T-3 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** In addition to the Local Notice to Mariners, all vessel movements will be reported to the local Vessel Traffic Services (VTS) (San Pedro Traffic). If the grapnel tow is halted (to clear or retrieve debris), San Pedro Traffic shall be informed immediately, and again when towing starts up again.

T-4 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** In addition to the Local Notice to Mariners, all vessel movements, particularly estimated times and exact routes, will be reported to the local VTS (San Pedro Traffic). The cable-laying vessel, by law, is defined to be a vessel with restricted movement. Therefore, all other marine traffic utilizing the Traffic Separation Scheme will be required to avoid the cable-laying vessel. The VTS is assumed to convey this information to approaching vessels.

Impact T-10:	***The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.***

The towing of the grapnel would involve either the cable-laying ship or an alternative work boat transiting the proposed cable routes, which cross the Traffic Separation Scheme. Depending on whether debris is present, this activity may also involve unscheduled stoppages to remove debris or free the grapnel. Vessel stoppage may impede other vessel traffic temporarily during grapnel clearing operations. However, with implementation of MMs T-2 through T-4, which include notification to appropriate agencies of the Project's marine navigation activities, impacts would be reduced to less than significant (Class II).

Mitigation Measures

T-2 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** See above for the full text of this measure.

T-3 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** See above for the full text of this measure.

T-4 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** See above for the full text of this measure.

Impact T-11:	***Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.***

From the exit of the marine bores, the cable would be paid out by the cable ship along the predetermined route. Divers in the water would bury the cable using water jets in depths up to 98 feet (30 meters). The dive crew (assumed to be using surface supply) would be deployed and supported by the primary work boat anchored at locations along the route. The secondary work boat is expected to provide support and services transiting between King Harbor and the work site. At water depths greater than 98 feet but less than 328 feet, or in areas where the cable plow is not effective (due to seabed conditions), a remotely operated vehicle (ROV) would be used to bury the cable. The ROV would be deployed either from the main cable ship or similar vessel. The ROV transits at 0.3 knots; however, several passes may be required to reach satisfactory burial depth. Therefore, the cable ship or similar vessel is assumed to proceed along the route at a rate of less than 0.1 knot. At depths greater than 328 feet, the cable ship would deploy the cable plow and make way with the plow in tow. The plow is towed from the stern of the ship at a speed of approximate 0.2 knots.

Cable laying is expected to be achieved by the cable ship and plow at the point the route intersects the Traffic Separation Scheme. Traveling at an average of 0.2 knots, noting that 1 knot equals 1 nautical mile per hour, the cable-laying vessel is assumed to take 15 hours to pass across the Traffic Separation Scheme.

MMs T-2 through T-4 would be implemented to reduce this impact on navigation; however, due to the long duration of this activity, which would be completed along the extent of the nearshore area, and the slow vessel speed under which work would be conducted, complete avoidance of this impact would not be feasible. Therefore, this impact would remain significant and unavoidable (Class I).

Mitigation Measures

T-2 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores.** See above for the full text of this measure.

T-3 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing.** See above for the full text of this measure.

T-4 **Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing.** See above for the full text of this measure.

Changes in Regional VTS, Navigation Aids, or Other Established Marine Traffic Systems (Threshold T-10)

The marine portions of the proposed Project would be located in the jurisdiction of San Pedro Traffic, a sector of the joint venture between the USCG and Marine Exchange of Southern California. The Project would not require any change in regional VTS, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation. Therefore, no impacts would result from the Project.

Long-term Impediments to Marine Traffic (Threshold T-11)

Following completion of the cable laying and submittal of the location of the as-installed cables to the National Oceanic and Atmospheric Administration (NOAA)/USCG, the Project would not result in a long-term impediment to marine traffic. Therefore, the Project would have no impacts.

Increase in Risk of Vessels Running Aground or Striking Floating or Submerged Debris (Threshold T-12)

Impact T-12:	***The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.***

The marine bore installation could result in debris from drilling around the bore exit. Similarly, equipment from the dive support vessel (cutting/jetting, etc.) could potentially be discarded on the seabed. Parts of anchors or wires may also be left behind. Burial of the cable (up to depths of 98 feet) may result in an uneven seabed.

Sediment and discarded equipment have the potential to be left on the seabed causing an uneven bathymetric condition that could impede future deep-draft vessel traffic. However, with implementation of MM T-5, which requires the removal of construction-related equipment and debris, this impact would be reduced to less than significant (Class II).

Mitigation Measure

T-5 **Removal of Construction-Related Equipment and Debris.** After construction, the Applicant shall remove all construction-related equipment, including anchors, debris, etc. from the seabed, and confirm through either photography, video, or survey that the seabed has been returned to its pre-construction elevation – i.e., no ridges or humps higher than the chart-documented elevation. This documentation shall be submitted to the City and, if requested, the California Coastal Commission.

3.11.3.4. Cumulative Effects

Introduction

For the purposes of the cumulative analysis of terrestrial transportation impacts, only other projects that contribute to traffic along the same roadways that would be utilized and disrupted by the proposed Project are considered. Roadway segments where Project-related trips would combine with those of other ongoing projects could experience appreciable increases in traffic, particularly if the construction schedules of projects overlap. All of the projects identified in Table 3-1 have been considered with respect to this cumulative traffic analysis in case they may utilize roadways affected by Project traffic or by Project construction in public ROWs. However, based on location and timing, all of these projects are not likely to utilize the same streets at the same time.

The marine components of the cable systems are located in Santa Monica Bay between the MHW line and the outer limit of the Continental Shelf – that is, areas where seawater depth is no greater than approximately 5,904 feet (1,800 meters). Santa Monica Bay is a semi-enclosed shelf centrally located in the Southern California Bight. The region surrounding Santa Monica Bay has been substantially altered in the last 100 years and terrestrial areas have been developed. Marine transportation and traffic have increased over time. Marine traffic includes non-reporting motorized and non-motorized pleasure craft, immediately outside of the 300-yard shoreline exclusion zone, and marine traffic outside of the immediate nearshore, consisting of commercial vessels using the anchorage areas. Submarine cables have also been previously installed in Santa Monica Bay. All of the projects listed in Table 3-1 are terrestrial and not considered within the extent of the water area of Santa Monica Bay as defined by the marine components of the Project. No cumulative projects or activities have been identified within the region of the marine portion of the Project other than those represented by current conditions.

Project Contribution to Cumulative Impacts

As discussed in Section 3.11.3.3, temporary road or lane closures would affect traffic flow and contribute congestion to affected roadways. The cumulative projects identified in Table 3-1 would contribute daily traffic to the area, both temporarily during construction and permanently from operations. Most identified cumulative projects are not expected to require temporary travel lane closures or disruptions. Further, the potential for cumulative traffic impacts would only result if multiple projects were constructed simultaneously and utilized the same roadways affected by the Project. Project operation and maintenance would contribute only a small number of periodic trips to local roadways and, therefore, would not make a substantial contribution to local traffic congestion.

The Project's contribution to local roadway congestion would be reduced with the implementation of MM T-1, which requires the preparation of a Construction Traffic Control Plan that would be reviewed and approved by the City of Hermosa Beach. The Plan would require the Applicant to define the method to maintaining close coordination, prior to and during construction, with all agencies responsible for encroachment permits on each affected roadway, to minimize cumulative impacts of multiple simultaneous construction projects affecting shared portions of the circulation system. While vehicle trips generated by cumulative projects could overlap with temporary travel lane disruptions from construction of the Project, the proposed Project's cumulative contribution would not be considerable because impacts would be temporary and reduced with implementation of MM T-1. Therefore, with implementation of mitigation measures, impacts would not be cumulatively considerable.

The nature and location of the marine components of the Project provide a distinct geographic separation from the terrestrial projects listed in Table 3-1 and would not contribute to effects caused by these projects. Further, the projects listed in Table 3-1 also do not consist of any activity that would utilize marine transportation on Santa Monica Bay. Regarding marine traffic, any Project disturbances to marine transportation and traffic would be avoided with implementation of MMs T-2, T-3, T-4, and T-5, including the issuance of appropriate notification regarding marine construction activities and the removal of construction-related equipment and debris. Project construction would be short term and limited mainly to the water, and the scale would be relatively small. Therefore, the Project is not expected to make a significant contribution to cumulative impacts related to marine vessel traffic. With implementation of mitigation measures, impacts would not be cumulatively considerable.

3.11.3.5. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Transportation

Table 3.11-6, below, provides a summary of the Project's impacts related to transportation. The table also indicates the mitigation measures proposed to reduce significant impacts.

Table 3.11-6. Summary of Potential Environmental Impacts, Mitigation Measures, and Significance Conclusions: Transportation

Impact	Mitigation Measures	Significance Conclusion
Terrestrial Transportation		
Threshold T-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.		
Impact T-1: Project-related temporary road or travel lane closures could affect traffic flow and create congestion, thus reducing the planned effectiveness of the Hermosa Beach transportation system.	None required	Class III
Threshold T-2: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), thereby resulting in a substantial and sustained increase in vehicle miles traveled compared to regional averages.		
Impact T-2: Construction trips would result in a short-term increase in traffic volumes and a temporary increase in vehicle miles traveled.	None required	Class III
Threshold T-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).		
Impact T-3: Construction activities and temporary road or travel lane closures could create hazards to motorists, pedestrians, and bicyclists.	T-1 Construction Traffic Control Plan	Class II
Threshold T-4: Result in inadequate emergency access.		
Impact T-4: Project activities requiring temporary road or travel lane closures could affect emergency vehicle response.	T-1 Construction Traffic Control Plan	Class II
Threshold T-5: Permanently or temporarily restrict access to or from adjacent land uses during construction such that there would be no suitable alternative access.		
Impact T-5: Project activities requiring temporary road or travel lane closures would affect beach access and access to adjacent residential and business properties.	None required	Class III

Impact	Mitigation Measures	Significance Conclusion
Threshold T-6: Temporarily disrupt transit service such that there would be no suitable alternative routes or stops.		
Impact T-6: Project activities requiring temporary road or travel lan~~d~~e closures could affect bus transit service.	None required	Class III
Threshold T-7: Impede pedestrian/bicycle movements such that there would be no suitable alternative pedestrian/bicycle routes.		
Impact T-7: Project activities requiring temporary road or travel lane closures would affect pedestrian/bicycle routes.	T-1 Construction Traffic Control Plan	Class II
Marine Navigation		
Threshold T-8: Restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.		
Impact T-8: Cable-laying activities could inadvertently restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.	None required	Class III
Threshold T-9: Create a navigational hazard to marine traffic due to Project vessels operating in the marine area.		
Impact T-9: The marine boring operation could create a temporary hazard for marine traffic.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bore T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	Class II
Impact T-10: The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	Class II
Impact T-11: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.	T-2 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Marine Bores. T-3 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Grapnel Towing	Class I

Impact	Mitigation Measures	Significance Conclusion
	T-4 Appropriate Notification and Location of Activities for Navigation Hazards Associated with Cable Laying and Plowing	
Threshold T-10: Require a change in regional Vessel Traffic Services, existing navigation aids, or other established marine traffic systems in the Los Angeles/Long Beach area during cable installation.		
No Impact	None required	No Impact
Threshold T-11: Result in a condition that presents a long-term impediment to marine traffic after construction.		
No Impact	None required	No Impact
Threshold T-12: Cause an increase in the risk of vessels in the Project area running aground or striking floating or submerged debris resulting from either the construction or permanent works.		
Impact T-12: The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.	T-5 Removal of Construction-Related Equipment and Debris	Class II
Cumulative Effects	T-1 through T-5 (see above)	Not Cumulatively Considerable

Class I: **Significant impact; cannot be mitigated to a level that is not significant.** A Class I impact is a significant adverse effect that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.

Class II: **Significant impact; can be mitigated to a level that is not significant.** A Class II impact is a significant adverse effect that can be reduced to less than significant through the application of feasible mitigation measures presented in this EIR.

Class III: **Adverse; not significant.** A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.

Class IV: **Beneficial impact.** Class IV impacts represent beneficial effects that would result from project implementation.

No Impact: A change that results in no impact to the environment relative to the environmental baseline.

3.11.4. References

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4. ALTERNATIVES TO THE PROPOSED PROJECT

4.1. Introduction

A required component of an EIR is the identification and evaluation of a "range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" (State CEQA Guidelines Section 15126.6(a)). Therefore, the selection of alternatives focuses on those alternatives capable of eliminating or reducing any significant environmental effects of the proposed Project, even if these alternatives would impede to some degree the attainment of Project objectives or would be more costly (State CEQA Guidelines, Section 15126.6(b)).

The range of alternatives analyzed within an EIR is governed by the "rule of reason." An EIR need not consider every conceivable alternative to a project (State CEQA Guidelines Section 15126.6(a). Rather, the EIR must evaluate only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed Project (State CEQA Guidelines, Section 15126.6(f)). An EIR also need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote or speculative (State CEQA Guidelines, Section 15126.6(f)(3)). Additionally, the "no project" alternative must be evaluated along with its impacts. The "no project" analysis discusses the existing conditions at the time the Notice of Preparation (NOP) is published, as well as projects that would be reasonably expected to be completed in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services (State CEQA Guidelines, Section 15126.6(e)(2)).

Based on the alternatives analysis, an environmentally superior alternative is designated from among the alternatives. If the environmentally superior alternative is the "no project" alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (State CEQA Guidelines, Section 15126.6(e)(2)).

4.2. Criteria for Selection of Alternatives

To determine a reasonable range of feasible alternatives, the following screening criteria were applied, which are derived from the State CEQA Guidelines (Section 15126.6 et seq.):

- Does the alternative meet most of the basic Project objectives?
- Is the alternative feasible (e.g., site suitability; economic viability; availability of infrastructure; general plan consistency; other plans or regulatory limitations; ability to reasonably acquire, control, or otherwise have access to an alternative site)?
- Does the alternative avoid or substantially lessen any significant effects of the proposed Project (including consideration of whether the alternative itself could create significant effects potentially greater than those of the proposed Project)?

As discussed in Section 2.1, Project Objectives, the purpose of the RTI-I Transpacific Fiber-Optic Cables Project is to install multiple high-speed telecommunication cable systems across the Pacific Ocean to provide additional telecommunications capacity and redundancy between the Los Angeles Basin and Asian and other Pacific Rim countries. The Applicant intends to install the cables in two separate phases. The objectives of the Project identified by the Applicant and the Lead Agency are:

- Provide a direct telecommunications links to Guam and/or Pacific Rim cities and ~~countires~~countries;

- Provide for increased telecommunications reliability between the United States and Pacific Rim cities and countries by avoiding historically seismically unstable zones;
- Provide for increased diversity of telecommunications pathways between the United States and Pacific Rim cities and countries;
- Provide for increased data transmittal speeds;
- Provide for a more streamlined ability for telecommunications connectivity between the Los Angeles basin and Pacific Rim cities and countries; and
- Respond to Asia's increasing demand for connectivity to the United States.

The alternatives selected for analysis must meet all or most of these objectives. The screening process for alternatives also focuses on identifying alternatives that would reduce or avoid the identified significant impacts. Significant and unavoidable impacts have been identified for the proposed Project related to air quality, noise, and transportation (marine navigation), which means that feasible mitigation is not available to reduce these impacts to less than significant.

4.3. Alternatives Eliminated from Further Consideration

Per the State CEQA Guidelines, Section 15126.6(c), an EIR must identify any alternatives that were considered, but rejected by the Lead Agency, and provide a brief explanation as to the reasons underlying the Lead Agency's determination. As discussed above, alternatives were assessed for their ability to reasonably achieve the primary or basic Project objectives and reduce the significant environmental impacts of the proposed Project. Also, their technical, legal, and regulatory feasibility were evaluated. Based on these screening criteria, the alternatives eliminated from consideration in the EIR are briefly described below along with the rationale for their elimination.

4.3.1. Other Landing Locations

Alternate Landing Sites in Hermosa Beach

This potential alternative involves the identification of other suitable landing sites for the proposed subsea cable system in Hermosa Beach. The proposed Project includes two landing sites: 6th Street (Option A) and 10th Street (Option B).

A suitable street landing site would have the following characteristics:

- Is near enough to the beach to avoid making the length of the marine bore impractical;
- Has adequate width and length to accommodate the boring operation;
- Is not constrained by existing buried utilities;
- Is aligned with a street or other public right-of-way that continues inland to provide a path for the terrestrial cable alignments;
- Provides a suitable location for installation of an ocean ground bed at the beach;
- Does not completely block access to the beach or The Strand at that location;
- Does not completely block access to garage entrances, driveways, or parking lots;
- Does not block the primary access points for any residences or businesses;
- Is not located adjacent to a highly noise-sensitive land use (e.g., a school, hospital, convalescent facility, or day care center); or
- Is not located adjacent to a business with an outdoor use important to that business (e.g., an outdoor eating area for a restaurant).

Rationale for Elimination

Per the State CEQA Guidelines, Section 15126.6(f)(2), the key question and first step in an alternative location analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location.

Based on the criteria listed above, the City has limited potential for an alternative cable landing site. In the southern portion of the City, the main entrances of residences face the streets or walkways leading to the beach and, therefore, a landing would block the primary access to these residences. In addition, these streets and walkways are generally too narrow to accommodate the boring operation. If the boring operation could be accommodated in these narrow streets, access to the beach and The Strand in these locations would be completely blocked, and the boring operations would be completed closer to residences than in areas with wider streets or setbacks. Also, many streets near the beach do not continue inland and, therefore, do not provide a path inland for the terrestrial cables.

Other potential landing sites near the beach are considered undesirable due to disruption of heavily used recreation areas, such as areas where beach volleyball courts or other recreational facilities are concentrated. In some cases, storm drain outlets on the beach preclude use of certain locations for landing sites. One suitable site at 2nd Street is not available because the site is currently built-out with existing marine cable landings, and construction of an additional cable landing could damage the cables that were previously installed.

After reviewing potential landing sites in the City of Hermosa Beach in relation to the criteria listed above, none of the sites were considered to be a feasible alternative to the proposed Option A or Option B.

Morro Bay Landing Location

In the application materials submitted to the City, the Applicant identified Morro Bay on the central California coast as a potential landing area for marine cables. Morro Bay was identified because this area includes the nearest existing cable landing location to Los Angeles. However, no specific site in Morro Bay has been identified by the Applicant. Other locations along the California coast could be considered for a cable landing location but would be subject to certain disadvantages described below. Landing locations in other states (i.e., Oregon and Washington) would likely be feasible, but would offer similar disadvantages.

Rationale for Elimination

One of the Project objectives is to provide “telecommunications connectivity between the Los Angeles basin and Pacific Rim cities and countries.” Landing the cable in Morro Bay or another coastal location removed from Los Angeles would not be an effective approach to achieving this objective.

Another of the Project objectives is to “provide for increased data transmittal speeds.” A very small amount of delay is introduced by increasing the length of the telecommunications path. The light waves traveling along the fiber-optic cable can go only so far (about 50 kilometers) before they need to be amplified. Each time the signal is amplified, it slows the signal down a very small amount. Adding distance to the cable would create the need to add additional amplifiers, which slows down the light wave transmittal. Therefore, a Morro Bay landing site has the disadvantage of decreasing telecommunication transmission speeds compared to locations in the Los Angeles area and, therefore, does not achieve the Project objectives as well as the proposed Project. Also, it is worth noting that the greater the length of the cable, the greater the opportunity for it to be damaged by human interaction (e.g., backhoe excavation) or by an environmental cause (e.g., a landslide).

If a coastal cable landing location remote from Los Angeles were to be utilized for the Project, system reliability would be reduced by the need to have the telecommunication signals relayed to Los Angeles by a third-party carrier. Transmission speeds would be reduced due to the need to connect through multiple additional switching systems. Further, each additional switch along the path introduces an opportunity for failure as a particular switch could fail causing an interruption in the transmission.

While the remote distance from Los Angeles presents several disadvantages for system performance and reliability, as described above, another coastal site in southern or central California could be feasible, although would be less successful in fulfilling the Project objectives. The Applicant is likely to design a similar project that would land at another location and would submit an application for such a project to another coastal jurisdiction for consideration. While this would be feasible and would partially fulfill the Project objectives, CEQA requires that the Lead Agency also consider whether such a proposal would offer any substantial environmental advantages over the proposed Project. If the short-term, localized impacts associated with Project construction are discounted, another coastal location would not necessarily offer clear advantages in reducing the Project's significant environmental impacts. For example, the Applicant has routed the marine cables to avoid marine protected areas and known marine hazard areas. As proposed, the subsea cables would avoid busy port areas where navigation hazards are greater. Cable routes associated with other possible coastal landing sites could have impacts on the environment that are similar, or even greater, than the proposed Project. The proposed subsea cable systems would not have a significant impact on marine resources that need to be remedied by consideration of an alternate coastal landing site.

Alternate Landing Location in the Los Angeles Basin

One possible alternative is a different landing location in the Los Angeles Basin. Such an alternative would better meet the Project objective to provide "telecommunications connectivity between the Los Angeles basin and Pacific Rim cities and countries" than a location in another region or state.

Rationale for Elimination

The Applicant is likely to design a similar project that would land at another location in the Los Angeles Basin and would submit an application for such a project to another coastal jurisdiction for consideration. While this would be feasible and meet Project objectives, CEQA requires that the Lead Agency also consider whether such a proposal would offer any substantial environmental advantages over the proposed Project. If the short-term, localized impacts associated with Project construction are discounted, another coastal location would not necessarily offer clear advantages in reducing the Project's significant environmental impacts. For example, short-term impacts associated with installation of fiber-optic cables and ancillary facilities (air pollutant emissions, noise, trip generation, etc.) would generally be very similar at another location as they would be at the proposed location. Differences would primarily relate to different sensitivities at another location (e.g., sensitive resources, sensitive receptors, hazards). Due to the highly populated nature of the Los Angeles Basin's coast, sensitive receptors are likely to exist near almost any site. Sensitive resources and hazards are relatively few in Hermosa Beach, and potential impacts on these resources or hazards would not be substantially reduced by selecting an alternative landing site.

4.3.2. Vessel Engine Retrofit

The Project's cable-laying activities require a specialized cable-laying vessel. The calculated maximum daily emissions from this vessel would exceed the South Coast Air Quality Management District (SCAQMD) significance thresholds for oxides of nitrogen (NOx) emissions. The Vessel Engine Retrofit Alternative considers the feasibility of retrofitting the vessel engine to lower daily emissions.

Rationale for Elimination

According to the California Air Resources Board's (CARB) 2018 Technology Assessment for Ocean-Going Vessels (OGVs), the primary method to achieving NOx reductions is through the installation of newer tier engines. Significant NOx reductions across the industry are not anticipated until after 2040, when the introduction of Tier 3 engines to California is expected (CARB 2018).

CARB's 2018 Technology Assessment for OGVs summarizes the challenges to engine retrofits. Engines on OGVs are very large and account for a significant portion of the capital costs associated with retrofitting (CARB 2018). This can lead to hesitancy on the owner's part to experiment with new technologies that may add additional costs to the vessel. Because the vessel is typically built around the large main engine, space is limited, which makes retrofits involving modifications, such as large control equipment or changes in piping, either impossible or extremely expensive. Also, as the operator of the vessel is typically responsible for the fuel costs, the owner(s) of the vessel has less incentive to pay for expensive retrofits that may cost in the millions of dollars to reduce fuel consumption if the vessel is chartered out.

In addition to these challenges, the number of Tier 3 vessels that have been constructed is currently limited. The SCAQMD does not expect to see deployment of Tier 3 vessels at local ports in the near-term (SCAQMD 2018).

At this time, the Vessel Engine Retrofit Alternative is not considered a feasible alternative for the proposed Project.

4.3.3. Satellite Technologies

Satellite communications systems are currently available that can transport telecommunications and data between the western and eastern coasts of the Pacific Ocean.

Rationale for Elimination

Satellite technology would not achieve the Project objectives because of its limitations in terms of capacity, latency, and quality. Satellite transmission rates are slower than fiber-optic cables and thus would not meet the objective for high data transmission speeds and low latency. Therefore, satellite systems are not capable of carrying enough traffic to meet the anticipated demand for services. Additionally, the signal quality of satellite transmissions is inferior to fiber-optic cables. For these reasons, the use of satellite technology would not meet the Project objectives.

4.4. Alternatives Carried Forward for Analysis in the EIR

In selecting feasible alternatives for analysis, the EIR preparers considered alternatives to the various components of the Project, as well as alternate methods of installation and operation. Note that the Project as proposed already includes options for the Project components, including two choices for cable landing sites and terrestrial cable routes. The EIR preparers have expanded upon these built-in Project options by evaluating an additional route alternative. The alternative is described below along with discussions of the respective impacts in comparison to the proposed Project.

The EIR must provide sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison to the proposed Project. If an alternative would cause significant effects in addition to those that would be caused by the proposed Project, the significant effects of the alternative must be discussed, but in less detail than the effects of the proposed Project (State CEQA Guidelines, Section 15126.6(d)).

Two alternatives have been selected for evaluation: (1) the 10th Street Cable Route Alternative, and (2) the No Project Alternative. These alternatives were selected because they are capable of achieving most Project objectives, are feasible, and have the potential to result in reduced impacts compared to the proposed Project. Conceptual descriptions of the alternatives are provided below, along with brief descriptions of their impacts in comparison to the proposed Project, including how each alternative could reduce the significant impacts of the proposed Project.

4.4.1. No Project Alternative

Under the No Project Alternative, the proposed Project would not be implemented. Therefore, this alternative would not result in the impacts associated with the construction and operation of the Project. As a result, existing conditions in the Project area would persist, subject to changes over time associated with local and regional growth, including new development projects currently proposed and others not yet known. See Section 3.1.5 for a list of proposed, approved, or recently constructed projects in the Project vicinity.

If the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. The details, including location of such a project cannot be known at this time, but would likely entail a proposal similar to the proposed Project to install fiber-optic cables across the Pacific Ocean. Such a future project would likely involve impacts similar to those described for the proposed Project, including significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation), as discussed in Chapter 3. The adverse impacts of such a project could be more or less severe than those of the proposed Project, depending on the characteristics of the locations of the marine cable alignments, landing sites, and terrestrial cable alignments.

4.4.2. 10th Street Cable Route Alternative

Figure 4-1~~Figure 4-1~~ illustrates the location of this route alternative. This alternative cable route is most ~~S~~similar to the proposed Option B (10th Street) route~~,~~ in that ~~-~~the alternative ~~cable~~ route would begin at the 10th Street landing site and would be installed in 10th Street from the landing manhole to Loma Drive. However, unlike the proposed Option B (10th Street) route that turns north along Loma Drive and then east along 11th Street, this~~The~~ alternative route would turn northerly and continue along Loma Drive to a pedestrian passage that extends east from Loma Drive along the northern edge of Clark Field to the Hermosa Valley Greenbelt~~ (Veterans Parkway).~~. At the Greenbelt, the alternative route would turn north and follow the proposed Option B route to the PFE facility. The purpose of this alternative cable route would be to avoid construction within 11th Street by installing the route along the northern edge of Clark Field. However, this alternative would directly affect Clark Field, which would disrupt recreational uses and result in more severe aesthetics and noise impacts on this recreational facility when compared to the proposed Project.

Figure 4-1. 10th Street Cable Route Alternative

4.5. Comparison of the Proposed Project and Alternatives

4.5.1. Aesthetics

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.2.3), which include impacts related to scenic vistas (Class III), visual character and quality of public views of the site and surroundings (Class III), and light or glare (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of Mitigation Measure (MM) A-1 (Nighttime Lighting Guidelines). In summary, impacts on aesthetics from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.2.3), including impacts related to scenic vistas (Class III), visual character and quality of public views of the site and surroundings (Class III), and light or glare (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MM A-1 (Nighttime Lighting Guidelines). However, this alternative would directly affect Clark Field during construction; therefore, temporary construction impacts related to aesthetics from the 10th Street Cable Route Alternative would be more severe for this recreational facility when compared to the proposed Project.

4.5.2. Air Quality

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.3.3), which include impacts related to consistency with the Air Quality Management Plan (No Impact), regional air pollutant emissions (Class I [construction] and Class III [operation and decommissioning]), local air pollutant emissions (Class I [construction] and Class III [operation and decommissioning]), toxic air contaminant emissions (Class III), and odor emissions (Class III). Similar to the proposed Project, cumulative impacts would be cumulatively considerable, even with implementation of MM AQ-1 (Vessel Emissions Reduction). In summary, impacts on air quality from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.3.3), including impacts related to consistency with the Air Quality Management Plan (No Impact), regional air pollutant emissions (Class I [construction] and Class III [operation and decommissioning]), local air pollutant emissions (Class I [construction] and Class III [operation and decommissioning]), toxic air contaminant emissions (Class III), and odor emissions (Class III). Similar to the proposed Project, cumulative impacts would be cumulatively considerable, even with implementation of MM AQ-1 (Vessel Emissions Reduction). In summary, impacts on air quality from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.3. Biological Resources

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.4.3), which include impacts related to effects on candidate, sensitive, or special-status species (Class II [snowy plover, California least tern, nesting birds, and marine mammals/vessel activities] and Class III [marine mammals/noise]), effects on riparian habitat or other sensitive natural community (Class II), effects on State or federally protected wetlands (Class III), effects on migratory fish or wildlife species movement, native resident or migratory wildlife corridors, and native wildlife nursery sites (Class II [vessel activities and rocky reef EFH] and Class III [entanglement with suspended cables and soft sediment EFH]), and compliance with local policies or ordinances protecting biological resources (Class II [construction/installation] and Class III [decommissioning]). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs BIO-1 through BIO-7, as described in Section 3.4.3. In summary, impacts on biological resources from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.4.3), including impacts related to effects on candidate, sensitive, or special-status species (Class II [snowy plover, California least tern, nesting birds, and marine mammals/vessel activities] and Class III [marine mammals/noise]), effects on riparian habitat or other sensitive natural community (Class II), effects on State or federally protected wetlands (Class III), effects on migratory fish or wildlife species movement, native resident or migratory wildlife corridors, and native wildlife nursery sites (Class II [vessel activities and rocky reef EFH] and Class III [entanglement with suspended cables and soft sediment EFH]), and compliance with local policies or ordinances protecting biological resources (Class II [construction/installation] and Class III [decommissioning]). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs BIO-1 through BIO-7, as described in Section 3.4.3. In summary, impacts on biological resources from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.4. Cultural and Tribal Cultural Resources

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.5.3), which include impacts related to historical resources (Class II), archaeological resources (Class II), disturbance of human remains (Class II), and Tribal Cultural Resources (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs CULT-1 through CULT-6, as described in Section 3.5.3. In summary, impacts on cultural resources and Tribal Cultural Resources from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.5.3), including impacts related to historical resources (Class II), archaeological resources (Class II), disturbance of human remains (Class II), and Tribal Cultural Resources (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs CULT-1 through CULT-6, as described in Section 3.5.3. In summary, impacts on cultural resources and Tribal Cultural Resources from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.5. Geology and Soils

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.6.3), which include impacts related to fault rupturing, strong seismic ground shaking, and seismic-related ground failure and landslides (Class III [terrestrial] and Class II [marine]; soil erosion; (Class III) unstable geologic units or soils (Class II); expansive soils (Class III); and paleontological resources (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs GEO-1 through GEO-3, as described in Section 3.6.3. In summary, impacts on geology and soils from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.6.3), including impacts related to fault rupturing, strong seismic ground shaking, and seismic-related ground failure and landslides (Class III [terrestrial] and Class II [marine]; soil erosion; (Class III) unstable geologic units or soils (Class II); expansive soils (Class III); and paleontological resources (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs GEO-1 through GEO-3, as described in Section 3.6.3. In summary, impacts on geology and soils from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.6. Hazards and Hazardous Materials

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.7.3), which include impacts related to the routine transport, use, or disposal of hazardous materials (Class II); upset and accident conditions (Class II); hazardous emissions or acutely hazardous emissions near a school (Class III); emergency response plans or emergency evacuation plans (Class II); and marine electrical hazards (No Impact). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs HAZ-1 through HAZ-4, as described in Section 3.7.3. In summary, impacts related to hazards and hazardous materials from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.7.3), including impacts related to the routine transport, use, or disposal of hazardous materials (Class II); upset and accident conditions (Class II); hazardous emissions or acutely hazardous emissions near a school (Class III); emergency response plans or emergency evacuation plans (Class II); and marine electrical hazards (No Impact). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs HAZ-1 through HAZ-4, as described in Section 3.7.3. In summary, impacts related to hazards and hazardous materials from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.7. Hydrology and Water Quality

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.8.3), which include impacts related to surface or ground water quality (Class II), the inadvertent release of pollutants into the marine environment (Class II), water quality control plans and sustainable groundwater management plans (Class III), and dredged sediment disposal effects on ocean water and sediment quality (Class III). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs HWQ-1 through HWQ-4, as described in Section 3.8.3. In summary, impacts on hydrology and water quality from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.8.3), including impacts related to surface or ground water quality (Class II), the inadvertent release of pollutants into the marine environment (Class II), water quality control plans and sustainable groundwater management plans (Class III), and dredged sediment disposal effects on ocean water and sediment quality (Class III). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs HWQ-1 through HWQ-4, as described in Section 3.8.3. In summary, impacts on hydrology and water quality from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.5.8. Land Use and Recreation

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.9.3), which include impacts related to consistency with plans, policies, or regulations for reducing or avoiding environmental effects (Class II); and loss or degradation of an established, designated, or planned recreational use area (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of mitigation measures included throughout this EIR, as described in Section 3.9.3. In summary, impacts on land use and recreation from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.9.3), which include impacts related to consistency with plans, policies, or regulations for reducing or avoiding environmental effects (Class II); and loss or degradation of an established, designated, or planned recreational use area (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of mitigation measures included throughout this EIR, as described in Section 3.9.3. However, this alternative would directly affect Clark Field during construction; therefore, temporary construction impacts (disruption of recreational uses, aesthetics, and noise) from the 10th Street Cable Route Alternative would be more severe for this recreational facility when compared to the proposed Project.

4.5.9. Noise and Vibration

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.10.3), which include impacts related to construction time periods (Class II), temporary construction noise (Class III [terrestrial conduit system and construction traffic] and Class I [cable landing site and directional bores]), and vibration during construction (Class III). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable for vibration but would be cumulatively considerable for noise even with implementation of MMs N-1 through N-5, as described in Section 3.10.3. In summary, impacts related to noise and vibration from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.10.3), including impacts related to construction time periods (Class II), temporary construction noise (Class III [terrestrial conduit system and construction traffic] and Class I [cable landing site and directional bores]), and vibration during construction (Class III). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable for vibration but would be cumulatively considerable for noise even with implementation of MMs N-1 through N-5, as described in Section 3.10.3. However, this alternative would directly affect Clark Field during construction; therefore, temporary construction impacts related to noise from the 10th Street Cable Route Alternative would be more severe for this recreational facility when compared to the proposed Project.

4.5.10. Transportation

No Project Alternative

As stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. Such a future project would likely involve impacts similar to those described for the proposed Project (see Section 3.11.3), which include impacts related to conflicts with transportation programs, plans, ordinances, and policies (Class III); vehicle miles traveled (Class III); hazards resulting in unsafe road conditions (Class II); restriction of emergency vehicles (Class II); access restriction during construction (Class III); disruption of bus transit service (Class III); disruption of pedestrian and/or bicycle movements (Class II); restriction of movement of Coast Guard or lifeguard vessels (Class III); navigational hazards (Class II); changes in regional Vessel Traffic Services (VTS), navigation aids, or other established marine traffic systems (No Impact); long-term impediments to marine traffic (No Impact); and an increase in risk of vessels running aground or striking floating or submerged debris (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs T-1 through T-5, as described in Section 3.11.3. In summary, impacts on transportation from the No Project Alternative would be the same as the proposed Project.

10th Street Cable Route Alternative

The 10th Street Cable Route Alternative would result in similar impacts as those described for the proposed Project (see Section 3.11.3), including impacts related to conflicts with transportation programs, plans, ordinances, and policies (Class III); vehicle miles traveled (Class III); hazards resulting in unsafe road conditions (Class II); restriction of emergency vehicles (Class II); access restriction during construction (Class III); disruption of bus transit service (Class III); disruption of pedestrian and/or bicycle movements (Class II); restriction of movement of Coast Guard or lifeguard vessels (Class III); navigational hazards (Class II); changes in regional Vessel Traffic Services (VTS), navigation aids, or other established marine traffic systems (No Impact); long-term impediments to marine traffic (No Impact); and an increase in risk of vessels running aground or striking floating or submerged debris (Class II). Similar to the proposed Project, cumulative impacts would not be cumulatively considerable with implementation of MMs T-1 through T-5, as described in Section 3.11.3.

While this alternative would reduce temporary construction traffic impacts on 11th Street, this alternative would temporarily affect pedestrian access to and from Clark Field. Similar to the proposed Project, with implementation of MMs LU-5 (Construction Schedule Coordinated with Sports Programs) and T-1 (Construction Traffic Control Plan), temporary impacts related to pedestrian access to Clark Field during Project construction would be reduced to less than significant with mitigation (Class II). In summary, impacts on transportation from the 10th Street Cable Route Alternative would be the same as the proposed Project.

4.6. Environmentally Superior Alternative

The environmentally superior alternative is the alternative identified as meeting most of the basic project objectives, similar to satisfying the primary purpose and need, and resulting in the fewest or least severe combination of significant environmental impacts. Section 15126.6 of the CEQA Guidelines states that an EIR must identify the environmentally superior alternative among the alternatives evaluated. If the environmentally superior alternative is the "no project" alternative, the EIR must also identify an environmentally superior alternative among the other alternatives.

The No Project Alternative is not the environmentally superior alternative because, as stated previously, if the proposed Project is not implemented, some other project is likely to be proposed to increase high-speed telecommunications capacity between the United States and the western Pacific. The adverse impacts of such a project could be more or less severe than those of the proposed Project, depending on the characteristics of the locations of the marine cable alignments, landing sites, and terrestrial cable alignments. Such a future project would likely involve impacts similar to those described for the proposed Project, including significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation).

The 10th Street Cable Route Alternative is also not the environmentally superior alternative because, while this alternative would reduce temporary construction traffic impacts on 11th Street, this alternative would temporarily affect pedestrian access to and from Clark Field. Similar to the proposed Project, with implementation of MMs LU-5 (Construction Schedule Coordinated with Sports Programs) and T-1 (Construction Traffic Control Plan), temporary impacts related to pedestrian access to Clark Field during Project construction would be reduced to less than significant with mitigation (Class II). The 10th Street Cable Route Alternative would also result in significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation), which is the same as the proposed Project. However, this alternative would directly affect Clark Field during construction; therefore, temporary construction impacts (disruption of recreational uses, aesthetics, and noise) from the 10th Street Cable Route Alternative would be more severe for this recreational facility when compared to the proposed Project.

Impacts from the proposed Project would be similar to those from the No Project Alternative, as discussed above. Compared to the 10th Street Cable Route Alternative, the proposed Project would result in fewer impacts on pedestrian access to Clark Field, but more traffic impacts on 11th Street, which would be reduced to less than significant with implementation of MM T-1 (Construction Traffic Control Plan). The proposed Project and the 10th Street Cable Route Alternative would result in the same impact conclusions, including significant and unavoidable impacts related to air quality, noise, and transportation (marine navigation). However, under the proposed Project, while temporary construction impacts (disruption of recreational uses, aesthetics, and noise) could indirectly affect Clark Field because of the proximity of Project activities near the field, the Project would not directly affect Clark Field because construction would be completed within 11th Street and not within the field as proposed under the 10th Street Cable Route Alternative. Therefore, impacts from Project construction would be less severe for recreational users at this facility compared to the 10th Street Cable Route Alternative. For this reason, the proposed Project has been determined to be the environmentally superior alternative.

4.7. References

CARB (California Air Resources Board). 2018. Draft Technology Assessment: Ocean-Going Vessels. May. [online]: https://ww3.arb.ca.gov/msprog/tech/techreport/ogv_tech_report.pdf. Accessed April 22, 2020.

SCAQMD (South Coast Air Quality Management District). 2018. SCAQMD Air Quality Challenges and Critical Role of OGV Incentive Programs. December 5. [online]: http://www.aqmd.gov/docs/default-source/ocean-going-vessels/ogv-technology-forum---website-slides---2018-12-05.pdf. Accessed April 22, 2020.

5. OTHER REQUIRED CEQA TOPICS

5.1. Effects Not Found to be Significant

5.1.1. Initial Study Analysis

Analysis was performed as part of the Initial Study prior to the preparation of this EIR to determine potential significant environmental effects resulting from the proposed Project. The Initial Study addressed all criteria from Appendix G (Environmental Checklist Form) of the updated State CEQA Guidelines (effective December 28, 2018), per the State CEQA Guidelines, Section 15007(d). The following impacts were determined not to be significant. Please see the Initial Study in Appendix A for the analysis that concludes that these impacts would not be significant.

Table 5-1. Effects Not Found to be Significant

Initial Study Checklist Questions	Conclusion
Aesthetics	
Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	No State scenic highways are within the City of Hermosa Beach.
Agricultural Resources	
Would the project 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 (FMMP) of the California Resources Agency?	No agricultural uses or Farmland are within the City of Hermosa Beach.
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	The Project is not located on or near land zoned for agricultural use or lands under a Williamson Act Contract.
Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	The Project is not located on or near Farmland, nor would it involve in the conversion of Farmland to non-agricultural use.
Biological Resources	
Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Neither the Project site nor its surroundings are governed by a Habitat Conservation Plan, Natural Community Conservation Plan, or any other habitat conservation plan.
Energy	
Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Project installation would utilize standard construction techniques involving the use of vehicles and equipment that meet federal and State standards for fuel efficiency. The fuel consumption estimated for Project marine vessels would be typical of their vessel class and not wasteful or inefficient by comparison.
Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	The Project would not obstruct the use of renewable energy, nor would it displace any renewable energy facilities. There would be no conflict with a State or local plan for renewable energy or energy efficiency.

Initial Study Checklist Questions	Conclusion
Geology and Soils	
Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	The Project would not include any facilities requiring wastewater or sewage disposal and would, therefore, not require a wastewater disposal system.
Greenhouse Gas Emissions	
Would the project generate greenhouse gas emissions (GHG), either directly or indirectly, that may have a significant impact on the environment?	The Project's GHG emissions would not exceed the South Coast Air Quality Management District's (SCAQMD's) significance thresholds for GHG emissions.
Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	The Project would not conflict with any applicable plans, policies, or regulations related to GHG reduction, including the goals and policies contained within PLAN Hermosa.
Hazards and Hazardous Materials	
Would the project be located on a site that 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 listed hazardous waste sites are located within the incorporated limits of Hermosa Beach. Therefore, the Project area is not located on a listed site.
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	The Project is not located within an airport land use plan or within two miles of an airport.
Would the project expose people or structures either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	The Project location is in an urbanized environment and is not located in close proximity to any wildlands.
Hydrology and Water Quality	
Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	The Project would not use local groundwater or contribute to the lowering of the local groundwater table. The Project would not introduce substantial new impermeable surfaces that would affect groundwater recharge.
Would the project 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 which would result in substantial erosion or siltation on- or off- site?	The Project would not alter the drainage pattern of the surrounding area, nor would it contribute to erosion or siltation on or off site.
Would the project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?	The Project would not introduce substantial new impervious areas that could cause existing surface runoff to increase in velocity or quantity.
Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	The Project would not create or contribute a new source of runoff in the area and would not discharge water to the ground surface.

Initial Study Checklist Questions	Conclusion
Would the project impede or redirect flood flows?	Project facilities would be installed underground, on the ocean floor, and within an existing building. No Project features would impede or redirect flood flows.
In flood hazard, tsunami, or seiche zones, would the project result in release of pollutants due to project inundation?	The Project would not include any pollutants that could be released due to inundation.
Land Use and Planning	
Would the project physically divide an established community?	The fiber-optic cable would be buried and would not physically divide any part of the community.
Mineral Resources	
Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	No known mineral resources are located within the City of Hermosa Beach or along the proposed offshore cable alignments.
Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	No mineral resources have been identified in the City's General Plan at the Project site or the immediate vicinity.
Noise	
For a project 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, would the project expose people residing or working in the project area to excessive noise levels?	No private airstrips are in the vicinity of the Project area.
Population and Housing	
Would the project 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)?	The Project does not propose housing and would not induce the need for housing.
Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Implementation of the Project would not result in the displacement of housing, nor would it necessitate the construction of replacement housing.
Public Services	
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:	
Fire Protection?	No new or substantially altered fire facilities would be required to serve the Project.
Police Protection?	No new or substantially altered police facilities would be required to serve the Project.
Schools?	No new or substantially altered school facilities would be required to serve the Project.

Initial Study Checklist Questions	Conclusion
Parks?	No new or substantially altered park facilities would be required to serve the Project.
Other public facilities?	The Project would not create the need for any new or altered public facilities.
Recreation	
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?	No substantial increase in the use of existing parks or recreational facilities is anticipated that would substantially contribute to the deterioration of such facilities.
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?	The Project does not include recreational facilities or require the construction or expansion of recreational facilities.
Utilities and System Services	
Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	The Project would not require the relocation or construction of new or expanded water, wastewater, or storm water drainage or natural gas facilities.
Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Sufficient water supply is available from existing sources without the need for new entitlements.
Would the project 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?	The Project would not require installation or expansion of any local wastewater disposal facilities or systems.
Would the project 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?	The Project would not be an ongoing source of solid waste and would only generate a minor amount of solid waste during construction. The Project would not affect landfill capacity.
Would the project comply with federal, State, and local statutes and regulations related to solid waste?	The Project would not result in any violations of applicable solid waste regulations.
Wildfire	
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:	
Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?	The City of Hermosa Beach is not located within or near a state responsibility area or wildfire hazard severity zone.
Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	The City of Hermosa Beach is not located within or near a state responsibility area or wildfire hazard severity zone.

Initial Study Checklist Questions	Conclusion
Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	The City of Hermosa Beach is not located within or near a state responsibility area or wildfire hazard severity zone.
Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	The City of Hermosa Beach is not located within or near a state responsibility area or wildfire hazard severity zone.

5.1.2. EIR Analysis

Less Than Significant (Class III)

In addition to the impacts identified in the Initial Study as less than significant, the impact analyses in Chapter 3 of this EIR concludes that additional impacts resulting from Project implementation would not be significant. These are effects that the Initial Study determined might be significant and needed to receive further evaluation in the EIR; however, after analysis, the EIR concluded that these impacts would not be significant. The following impacts were identified in the EIR as less than significant (Class III):

Impact A-1: *Construction activities would temporarily obstruct or modify scenic vistas in coastal and beach areas in the City.*

Impact A-2: *Construction activities would temporarily degrade visual character and quality of public views of the site and its surroundings.*

Impact AQ-2: *Project operation or decommissioning would exceed SCAQMD regional criteria pollutant emissions thresholds.*

Impact AQ-4: *Project operation would expose local receptors to substantial pollutant emissions.*

Impact AQ-5: *Project construction, operation, and decommissioning emissions would generate air toxic pollutant emissions.*

Impact AQ-6: *Project construction, operation, and decommissioning would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

Impact BIO-3: *Marine mammals may be disturbed by vessel activities or noise. (Noise)*

Impact BIO-4: *U.S. Coastal Waters would be disturbed by marine cable installation and repair.*

Impact BIO-5: *Migrating gray whales could be disturbed by vessel activities or collision with the cable. (Entanglement with Suspended Cables)*

Impact BIO-6: *Pacific Groundfish Essential Fish Habitat (EFH) would be disturbed due to marine cable installation and repair. (Soft Sediment EFH)*

Impact BIO-7: *Project construction/installation and decommissioning may conflict with local policies protecting biological resources. (Decommissioning)*

Impact GEO-1: *The proposed Project would be subject to strong seismic ground shaking and seismic-related ground failure, including liquefaction and landslides. (Terrestrial)*

Impact GEO-2: *The terrestrial boring procedures could result in soil erosion or loss of topsoil.*

Impact GEO-4: *Expansive soils may damage terrestrial Project components, causing direct or indirect risks to life or property.*

Impact HAZ-3: *Cable installation activities would temporarily release toxic emissions within one-quarter mile of existing schools.*

Impact HWQ-3: *The Project would potentially conflict with the Los Angeles Regional Water Quality Control Board (LARWQCB) Water Quality Control Plan for the Los Angeles Region (Basin Plan).*

Impact HWQ-4: *The proposed marine dredging activities would degrade ocean water and sediment quality.*

Impact N-2: *Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed thresholds at the property line of nearby residences. (Terrestrial Conduit System and Construction Traffic)*

Impact N-3: *Construction activity could result in vibration levels that could potentially cause annoyance.*

Impact T-1: *Project-related temporary road or travel lane closures could affect traffic flow and create congestion, thus reducing the planned effectiveness of the Hermosa Beach transportation system.*

Impact T-2: *Construction trips would result in a short-term increase in traffic volumes and a temporary increase in vehicle miles traveled.*

Impact T-5: *Project activities requiring temporary road or travel lane closures would affect beach access and access to adjacent residential and business properties.*

Impact T-6: *Project activities requiring temporary road or travel lan~~de~~e closures could affect bus transit service.*

Impact T-8: *Cable-laying activities could inadvertently restrict the movements of Coast Guard or lifeguard vessels such that there would be no reasonable alternative access routes available.*

Less Than Significant with Mitigation (Class II)

Based on the analysis in the EIR, the following impacts were determined to be less than significant with the implementation of mitigation measures (Class II):

Impact A-3: *The Project has the potential to introduce night lighting during construction that could adversely affect neighboring residences.*

Impact BIO-1: *Project construction/installation and decommissioning may adversely affect western snowy plover and California least tern.*

Impact BIO-2: *Project construction/installation and decommissioning may adversely affect nesting birds.*

Impact BIO-3: *Marine mammals may be disturbed by vessel activities or noise. (Vessel Activities)*

Impact BIO-5: *Migrating gray whales could be disturbed by vessel activities or collision with the cable. (Vessel Activities)*

Impact BIO-6: *Pacific Groundfish Essential Fish Habitat (EFH) would be disturbed due to marine cable* *installation and repair. (Rocky Reef EFH)*

Impact BIO-7: Project construction/installation and decommissioning may conflict with local policies protecting biological resources. (Construction/Installation)

Impact CULT-1: Project-related ground-disturbing activities have the potential to disturb or destroy previously unknown or inaccurately recorded submerged prehistoric archaeological resources or historic shipwrecks along the marine cable routes.

Impact CULT-2: Unknown and potentially significant buried archaeological or ethnographic historical resources could be inadvertently encountered during ground-disturbing activities associated with Project construction in the terrestrial portion of the Project area.

Impact CULT-3: Project ground-disturbing activities could result in the disturbance or destruction of human remains.

Impact CULT-4: Project ground-disturbing activities could result in the disturbance or destruction of Tribal Cultural Resources.

Impact GEO-1: The proposed Project would be subject to strong seismic ground shaking and seismic-related ground failure, including liquefaction and landslides. (Marine)

Impact GEO-3: The marine cable-laying components would traverse areas of the seafloor that are potentially unstable.

Impact GEO-5: The terrestrial boring and excavation activities could disturb potentially important paleontological resources.

Impact HAZ-1: The transport, use, or disposal of hazardous materials could result in spills and expose the public and the environment to these hazardous materials.

Impact HAZ-2: The use of engines during construction and refueling of the diesel generators during operations could result in the accidental release of gasoline or diesel fuel into the environment.

Impact HAZ-3: Cable installation activities would temporarily release toxic emissions within one-quarter mile of existing schools.

Impact HAZ-4: Temporary barriers installed during construction would restrict emergency access and movement at the Project site.

Impact HWQ-1: Construction activities would temporarily release potentially hazardous substances into the environment and could violate water quality standards or waste discharge requirements.

Impact HWQ-2: Marine construction vessels and equipment would potentially inadvertently release fuel, fluids, bilge water, sewage waste, debris, or ballast water into the marine environment.

Impact LU-1: The Project could conflict with certain California Coastal Act and PLAN Hermosa policies intended to reduce or avoid adverse environmental effects.

Impact LU-2: Terrestrial construction activities would disrupt recreational activities.

Impact LU-3: Marine construction activities could temporarily preclude or disrupt recreation. ~~Impact~~

Impact N-1: Noise would be generated from construction activities outside of the hours allowed by the Hermosa Beach Municipal Code.

Impact T-3: Construction activities and temporary road or travel lane closures could create hazards *to motorists, pedestrians, and bicyclists.*

Impact T-4: Project activities requiring temporary road or travel lane closures could affect emergency vehicle response.

Impact T-7: Project activities requiring temporary road or travel lane closures would affect pedestrian/bicycle routes.

Impact T-9: The marine boring operation could create a temporary hazard for marine traffic.

Impact T-10: The grapnel tow may create a navigational hazard to marine traffic by temporarily blocking the pathway of other vessels in the marine area.

Impact T-12: The Project may cause an increase in the risk of vessels in the study area running aground or striking floating or submerged debris resulting from either the construction or permanent works.

Cumulative Effects: The Project's contribution would not be cumulatively considerable with the implementation of mitigation for Aesthetics, Biological Resources, Tribal and Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Geology and Water Quality, Land Use and Recreation, Vibration, and Transportation.

5.2. Significant and Unavoidable Impacts

The impact analysis presented in Chapter 3 disclosed the environmental impacts of the proposed Project, including impacts that would remain significant even with the implementation of feasible mitigation measures. The list below includes impacts identified in Chapter 3 as significant and unavoidable (Class I).

Impact AQ-1: Project construction emissions would exceed SCAQMD regional criteria pollutant emissions thresholds.

Impact AQ-3: Project construction would expose local receptors to substantial pollutant emissions.

Impact N-2: Construction activities between 8 a.m. and 6 p.m., Monday through Friday, and 9 a.m. and 5 p.m. on Saturday (except Sundays and legal holidays) would exceed thresholds at the property line of nearby residences. (Cable Landing Site and Directional Bores)

Impact T-11: Cable laying and plowing could create a temporary navigational hazard to marine traffic within the marine area.

Cumulative Effects: The Project's contribution would be cumulatively considerable for Air Quality and Noise.

5.3. Growth-Inducing Impacts

Background

In accordance with Section 15126.2(d) of the CEQA Guidelines, an EIR must "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." In addition, when discussing growth-inducing impacts of a proposed project, "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment" (Section 15126.2(d) of the CEQA Guidelines). Two issues must be considered when assessing the growth-inducing impacts of a project:

- **Elimination of Obstacles to Population Growth.** The extent to which additional infrastructure capacity or a change in regulatory structure would allow additional development in the City and region.

- **Promotion of Economic Growth.** The extent to which a project can cause increased activity in the local or regional economy. Economic impacts can include direct effects, such as the direction and strategies implemented within the area of a project, and indirect or secondary impacts, such as increased commercial activity needed to serve the population growth forecasts for the project area.

Elimination of Obstacles to Population Growth

The elimination of either physical or regulatory obstacles to population growth is considered to be a growth-inducing impact. A physical obstacle to population growth typically involves the lack of critical public service infrastructure. The extension of critical public service infrastructure, including roadways, water mains, and sewer lines, into areas that currently do not have these services is expected to support new development. However, the proposed Project would not remove any obstacle to growth as it does not include the extension of any critical public service infrastructure. While the Project does include the extension of telecommunication infrastructure, these services would not remove obstacles to growth because telecommunication infrastructure is already present and widely utilized in the region.

Promotion of Economic Growth

The proposed Project would result in direct economic impacts on the City through employment and the local purchase of some construction materials, as well as secondary impacts from the purchases of goods and services by those employed to construct the proposed Project. However, the proposed Project would not directly or indirectly promote sufficient economic growth to result in a population that would exceed the projections of the Southern California Association of Governments. Only a relatively small number of construction workers would be required at any time, and most construction personnel are expected to be drawn from the greater Los Angeles area. Directional boring and landing pipe installation would be completed within 6 weeks, while terrestrial conduit installation would be completed over approximately two months. Maintenance of the proposed Project would be performed by Applicant employees and would not require an additional workforce to relocate to the Project area. The Project would not contribute to growth.

5.4. Significant Irreversible Environmental Changes

Section 15126.2(c) of the State CEQA Guidelines defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the Project. Irretrievable commitments of resources should be evaluated to assure that such consumption is justified. Irreversible impacts can also result from permanent loss of habitat, damage caused by environmental accidents associated with Project construction, or operational resource use.

Construction of the proposed Project would consume nonrenewable resources during construction. This includes use of fossil fuels and construction materials that cannot be recycled at the end of the Project's useful lifetime and may be abandoned in place. Energy would also be required for the production of Project materials and components. During Project operation, small amounts of oil, gas, and other nonrenewable resources would be consumed for inspection, maintenance, and repairs. Energy would be required to operate the telecommunication cables, primarily electrical power for signal generation and amplification. Electrical power would likely be generated from a mix of renewable and nonrenewable sources. On an emergency basis, backup power would be generated at the power feed equipment (PFE) facilities using fossil fuel. Therefore, an irreversible commitment of relatively small amounts of nonrenewable resources would result from long-term Project operation. The anticipated equipment, vehicles, and materials required for construction of the proposed Project are detailed in Chapter 2 (Project Description).

Construction and operation of the proposed Project would require the use of a limited amount of hazardous materials, such as fuel, lubricants, and cleaning solvents. Additionally, during Project construction and operation, there is a possibility that pre-existing soil contamination could be encountered. All hazardous materials used in construction and operation would be stored, handled, and used in accordance with applicable federal, State, and local regulations. The Applicant would be required to develop and comply with a Spill Prevention and Contingency Plan (Mitigation Measure [MM] HAZ-1) for terrestrial construction activities, and a Marine Spill Prevention Plan (MM HWQ-2) for vessel activities. Furthermore, compliance with existing regulations (i.e., General Dewatering Permit, Coastal Development Permit, City of Hermosa Beach Storm Water Management and Discharge Control Ordinance requirements), as well as mitigation measures identified in Section 3.7 (Hazards and Hazardous Materials), would reduce the potential for accidents and associated environmental damage. Such incidents are not expected to cause irreversible damage.

Implementation of the Project would not result in any permanent loss of natural habitat (see Section 3.4, Biological Resources). The Project also would not result in any conversion of agricultural land to other uses (see Table 5-1, Agricultural Resources). Assuming implementation of the mitigation measures identified in this EIR, construction-related effects on habitat, including hard-bottom marine habitat, would be offset by mitigation, and all affected areas would recover from disturbance over time (see Section 3.4.3.3, Impact BIO-7).

Resources that would be consumed as a result of Project implementation include water, electricity, and fossil fuels during construction and operation; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources (see Table 5-1, Energy). Compliance with all applicable codes and regulations, as well as mitigation measures identified in this EIR, would ensure that all natural resources are conserved to the greatest practical extent.

6. ORGANIZATION/PERSONS CONSULTED AND EIR PREPARERS

6.1. Organizations and Persons Consulted

The following persons or organizations were contacted for information during the preparation of the EIR:

- Steven Quinn, Associate Governmental Program Analyst, Native American Heritage Commission, Sacramento, CA
- Sean Scully, Planning Manager, City of Redondo Beach Community Development Department, Redondo Beach, CA
- Maria Herrera, Planning Technician, City of Redondo Beach Community Development Department, Redondo Beach, CA

6.2. EIR Preparers

Personnel		Position or Role
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Tatiana Inouye	Master of Environmental Science and Management; BS, Biology	Land Use and Recreation, Alternatives, Other CEQA Considerations
Scott Debauche, CEP	BS, Urban Planning & Design	Noise, Transportation and Traffic
Stephanie Tang	BA, Environmental Studies	Project Description, Cumulative Scenario, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality
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Tenera Environmental		
Joe Phelan, Ph.D.	PhD, Marine Biology	Marine Biological Resources and Fisheries

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