

MINUTE ITEM

This Calendar Item No. 66 was approved as  
Minute Item No. 66 by the California State Lands  
Commission by a vote of 3 to 0 at its  
8-8-05 meeting.

Minute Item  
66

08/08/05  
W 25980  
N. Quesada  
M. Brown

MONTEREY BAY AQUARIUM RESEARCH INSTITUTE  
(APPLICANT)

**Regular Item 66:** Commission staff listened to a staff report on the installation of a research cable in Monterey Bay and was asked to approve an EIR and to issue a general lease. The item was approved as presented by a 3-0 vote.

001675

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**CALENDAR ITEM**

**66**

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08/08/05

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W 25980  
N. Quesada  
M. Brown

**GENERAL LEASE – RIGHT OF WAY USE**

**APPLICANT:**

Monterey Bay Aquarium Research Institute, a nonprofit public benefit corporation

**AREA, LAND TYPE, AND LOCATION:**

20.63 acres, more or less, of sovereign lands in Monterey Bay, Moss Landing, Monterey County.

**AUTHORIZED USE:**

Proposed construction, installation, operation, maintenance, and use of a submarine cable extending 51 kilometers or 31.7 miles oceanward from the shore station in Moss Landing to an offshore formation known as Smooth Ridge, Monterey Bay.

**LEASE TERM:**

25 years, beginning August 8, 2005

**CONSIDERATION:**

The public use and benefit, with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be the State's best interest.

**SPECIFIC LEASE PROVISIONS:**

Liability Insurance: Combined Single-limit of no less than \$1,000,000

Bond: \$500,000

**OTHER PERTINENT INFORMATION:**

1. Applicant has the right to use the uplands adjoining the lease premises.
2. The Monterey Accelerated Research System (MARS) Cabled Observatory Project is proposed by the Monterey Bay Aquarium Research Institute

CALENDAR ITEM NO. 66 (CONT'D)

(MBARI), a nonprofit public benefit corporation, in cooperation with the National Science Foundation (NSF), which approved funding for the project, and is also a cooperating agency. The Project consists of a submarine cable extending 51 kilometers or 31.7 miles oceanward from the shore station in Moss Landing to an offshore submerged formation known as Smooth Ridge, Monterey Bay. A scientific node would be located at the end of the cable approximately 2,923 feet (891 m) below the ocean surface on Smooth Ridge. The node would contain eight separate science ports to accommodate a variety of oceanographic research instruments. Each port would support bi-directional data transfer of up to 1 Gbit per second from the node to the shore (data from 8 science ports), but only 100Mb/sec from each science port to the science instruments placed on an individual science port, and the capability to support a variety of scientific instrumentation arrayed within 2.5 miles (4 km) of the node. The trawl resistant frame measures 14.8 feet (4.5 m) long by 11.7 feet (3.6 m) wide, and 4.2 feet (1.3 m) high. In the initial years after deployment, the node would support a variety of scientific research equipment and be utilized to test technologies, ROV Operations, and operational management systems that would eventually be used on the NEPTUNE (a proposed North-East Pacific Time Series Undersea Networked Experiments) project. The MARS Project would also serve as the engineering test bed for future cable observatories, including the proposed NEPTUNE Project. The NEPTUNE System is a 1,864-mile (3,000-kilometer) cable network, the goal of which is to establish a regional ocean observatory in the Northeast Pacific Ocean to be constructed off the Washington and Oregon coasts, proposed to be the world's largest cable-linked seafloor observatory.

3. The cable would be buried along approximately 76% or 25.3 miles (39 km) of the route to a depth of 3.3 feet (1m), where feasible, using an hydraulically-operated plow that is towed by a cable laying installation vessel. The plow would cut a narrow trench for the cable and bury the cable. The plow has a patented method of cutting through the sediment and can bury cables to a maximum depth of 3.6 feet (1.1 m) achieving 3.3 feet (1 m) of cover. In areas where the cable cannot be buried with this method, the cable would be laid on the sea bottom and would be post-lay buried by jetting using an ROV, where feasible. Only a small portion of the route, 7.4 miles (12 km), would not achieve maximum burial. The cable will be fully buried in State waters. Prior to the main lay operation, a pre-lay grapnel run would be conducted along the proposed cable route where

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burial is required. The intent of the pre-lay grapnel run is to clear the route of any seabed debris. A burial assessment survey was conducted to determine the route in which the cable could be installed to the burial depth and the level of cable armor necessary to protect the cable. The Project route was selected to maximize cable burial and to avoid or minimize potential impacts to important environmental resources and commercial fishing activities. A post-lay inspection and burial program has been designed to verify cable burial and to reduce the risk of exposed cable.

The cable would be installed from the shore landing site seaward. The plow would be retrieved when the main cable-laying vessel gets to within 2km of the science node installation point. The main lay vessel would then surface lay the cable and deploy the trawl-resistant node frame on the end of a ground rope and continue surface laying the ground rope. After the cable and the trawl resistant node frame have been deployed, the Applicant's Research Vessel, *Point Lobos*, would lower the science node onto the ocean floor near the trawl resistant node frame. The ROV would then attach the underwater mateable connectors between the node and the trawl resistant node frame to allow the node electronics to be connected to the shore through the cable.

4. To bring the MARS cable to shore, a 5-inch (12.7 cm) diameter steel pipe would be installed underground from shore to a point below the seafloor approximately .89 miles (1.4 km) offshore to a depth of 50 feet (15 m). The pipe would be installed beneath the bed by means of horizontal directional drilling (HDD). The drill path recommended by the HDD contractor is -90 feet (27) to -100 feet(30m) below the sea level. This depth would result in a drill path of approximately 56 feet (17 m) below sea floor and is intended to hinder the release of drilling mud to the surface while remaining above relatively unknown subterranean sediments of rock formations that would adversely affect HDD operations that may occur at greater depths. Once onshore, the MARS cable would be connected to an existing fiber optic line on MBARI-owned property. Commission engineering and environmental staff have reviewed the material submitted by the Applicant to support the proposed drilling depth and found that the proposed drill depth was acceptable and feasible.

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5. Shore facilities would consist of equipment housed in a 20-foot (6m) long ISO van, a portable structure typically used by scientists as portable laboratory space. The van would be placed on MBARI property located on the west side of Sandholdt Road at the road's terminus in Moss Landing, Monterey County.
6. Prior to initiating cable laying and HDD operations, a Marine Mammal Monitoring Plan will be prepared describing protocols for marine mammal observations and avoidance during installation activities. The Plan will be submitted to the Commission and the Monterey Bay National Marine Sanctuary for review and approval. As provided by the California Environmental Quality Act (CEQA), a program has been prepared for reporting or monitoring the implementation of mitigations measures for this project. The Mitigation Monitoring Program (MMP) will ensure that measures adopted to mitigate or avoid significant impacts are implemented and, once implemented, are evaluated as to their effectiveness.
7. At the time of publication of the Final EIR/EIS, the Applicant and local fishing industry representatives had not agreed to formal reimbursement provisions for fishing gear that is lost on or damaged by the proposed cable. The California State Lands Commission (Commission) has made establishment of a mechanism for reimbursing fishermen for lost or damaged gear a standard condition of leases for past submarine cable projects, and has recommended it as part of the proposed project. Based on the analysis presented in the Final EIR/EIS, the proposed Project's effect on commercial fishing would be adverse (Class III) but not significant and, therefore, mitigation reimbursement provisions for lost or damaged fishing gear in this circumstance is not required under the CEQA. The Applicant has committed to addressing gear entanglement, recovery, and compensation, and Commission staff has included this process as a provision of the proposed lease. The Monterey Bay National Marine Sanctuary will also work with State agencies to implement necessary reimbursement provisions for fishing gear, e.g. trawl equipment, that is lost or damaged by potential interactions with the proposed cable or science node.
8. The installation of the cable and node is proposed between September 1 and November 14, 2005. The total estimated installation time for cable laying is 5 to 6 days. However, the installation timeframe may vary from

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10 to 14 days depending on weather conditions and other difficulties that may arise. Cable laying operations would occur continuously for 24 hours per day during this period. HDD activities would require about two weeks.

9. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Title 14, California Code of Regulations, section 15025), the staff has prepared an EIR/EIS identified as CSLC EIR/EIS No. 731, State Clearinghouse No. 2004051138. Such EIR/EIS was prepared and circulated for public review pursuant to the provisions of the CEQA. A Mitigation Monitoring Program has been prepared in conformance with the provisions of the CEQA (Public Resources Code section 21081.6).
10. Findings made in conformance with the State CEQA Guidelines (Title 14, California Code of Regulations, sections 15091) are contained in Exhibit B, attached hereto.
11. All documents and material that constitute the record of proceedings upon which staff's recommendation is based are on file in the Sacramento Office of the Commission located at 100 Howe Avenue, Suite 100.

**PUBLIC AND ENVIRONMENTAL PROCESSES:**

The CSLC is the Lead Agency under the CEQA and the Monterey Bay National Marine Sanctuary is the Lead Agency under the NEPA, for preparation of the Joint EIR/EIS. The public's involvement in the environmental process began on May 25, 2004. The CSLC filed a Notice of Preparation of a Draft EIR/EIS and a Notice of Public Scoping Meetings for the Project with the State Clearinghouse (SCH No. 2004051138). The publication of a Notice of Intent to prepare a joint EIS/EIR for the proposed Project by the Monterey Bay National Marine Sanctuary (MBNMS) was published on May 25, 2004, in the Federal Register. Two public scoping meetings to solicit public and agency input on the appropriate range of issues and alternatives to be examined in the EIR/EIS were conducted on June 9, 2004, at Moss Landing Marine Laboratories in Moss Landing, California.

The Draft EIR/EIS was released for public review on March 11, 2005. The Commission and Monterey Bay National Marine Sanctuary provided a public review period of 45 days, which extended from March 11, 2005, to April 26, 2005. Two public hearings to receive comments on the Draft EIR/EIS were held jointly by the Commission and the Monterey Bay National Marine Sanctuary on

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April 7, 2005, at the Moss Landing Marine Laboratories in Moss Landing. The comments received by the Commission and the Monterey Bay National Marine Sanctuary during the public review period and at the public hearing were reproduced in the Final EIR/EIS with the responses to such comments.

The Final EIR/EIS was released on July 25, 2005. The public notice identifying release of the Final EIR/EIS and notice of the proposed hearing by the CSLC was sent to the State Clearinghouse, and to Federal, State, and local agencies and to interested parties.

Upon Commission certification of the Final EIR/EIS, the Monterey Bay National Marine Sanctuary will prepare a Record of Decision, which is a written public record explaining the Monterey Bay National Marine Sanctuary's decision on the proposed Project. The Applicant has applied for a research permit and the National Marine Sanctuary Program staff has been evaluating the Project as such.

**APPROVALS OBTAINED:**

None

**ADDITIONAL APPROVALS REQUIRED:**

Monterey Bay National Marine Sanctuary; County of Monterey, Monterey Bay Unified Air Pollution Control District, California Coastal Commission, Moss Landing Harbor District ; United States Army Corps of Engineers, NOAA Fisheries Service, United States Fish and Wildlife Service; National Science Foundation; Central Coast Regional Water Quality Control Board, California Department of Fish and Game, United States Environmental Protection Agency; California Department of Parks and Recreation State Historic Preservation Officer; Northwest Information Center.

**EXHIBIT:**

- A. Site Map and Location Map
- B. CEQA Findings
- C. Mitigation Monitoring Program

**RECOMMENDED ACTION:**

IT IS RECOMMENDED THAT THE COMMISSION:

CALENDAR ITEM NO. 66 (CONT'D)

**CEQA FINDING:**

1. CERTIFY THAT AN EIR NO. 731, STATE CLEARINGHOUSE NO. 2004051138, WAS PREPARED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA, THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN AND THAT THE EIR REFLECTS THE COMMISSION'S INDEPENDENT JUDGMENT AND ANALYSIS.
2. ADOPT THE FINDINGS, MADE IN CONFORMANCE WITH TITLE 14, CALIFORNIA CODE OF REGULATIONS, SECTION 15091, AS CONTAINED IN EXHIBIT B.
3. ADOPT THE MITIGATION MONITORING PROGRAM AS CONTAINED IN EXHIBIT C.
4. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.

**SIGNIFICANT LANDS INVENTORY FINDING:**

FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED BY THE COMMISSION FOR THE LAND PURSUANT TO PUBLIC RESOURCES CODE SECTIONS 6370, ET SEQ.

**AUTHORIZATION:**

AUTHORIZE ISSUANCE TO MONTEREY BAY AQUARIUM RESEARCH INSTITUTE, A NONPROFIT PUBLIC BENEFIT CORPORATION, OF A GENERAL LEASE – RIGHT OF WAY USE, BEGINNING AUGUST 8, 2005, FOR A TERM OF TWENTY-FIVE YEARS, FOR THE CONSTRUCTION, INSTALLATION, OPERATION, AND MAINTENANCE OF A SUBMARINE CABLE FOR SCIENTIFIC RESEARCH PURPOSES AS REPRESENTED ON THE LANDS SHOWN ON EXHIBIT A ATTACHED AND BY THIS REFERENCE MADE A PART HEREOF; CONSIDERATION: THE PUBLIC USE AND BENEFIT, WITH THE STATE RESERVING THE RIGHT TO FIX A DIFFERENT RENT PERIODICALLY DURING THE LEASE TERM, AS PROVIDED IN THE LEASE; LIABILITY INSURANCE FOR COMBINED SINGLE LIMIT COVERAGE OF NO LESS THAN \$1,000,000; SURETY IN THE AMOUNT OF \$500,000.



NO SCALE

# SITE

## MONTEREY BAY RESEARCH INSTITUTE, MARS CABLE

WATSONVILLE

GRANT TO  
MOSS LANDING  
HARBOR DISTRICT

CASTROVILLE

STATE OF CALIFORNIA  
OFFSHORE BOUNDARY

36°53'12.1812"  
122°02'41.1000"  
AC 5

36°53'02.8212"  
121°57'26.2980"  
AC 4

S59°52'23"W 2447.501 m  
**POINT OF TERMINATION**  
LAT: 36°52'32.9992" N  
LONG: 122°04'07.0956" W

N88°28'47"W 7798.269 m  
N70°43'53"W 8228.437 m

36°51'31.8492"  
121°52'13.8540"  
AC 3

N61°44'37"W 2669.522 m  
36°50'49.9308"  
121°50'39.5268"  
AC 2

N45°27'02"W 5545.279 m  
36°48'42.1308"  
121°48'01.9584"  
AC 1

36°48'36.7340"  
121°47'55.7342"  
HDD PIPE

N43°33'38"W 226.828 m  
N65°25'38"W 208.579 m

**POINT OF BEGINNING**  
LAT: 36°48'33.8423" N  
LONG: 121°47'48.1241" W

N02°25'03"W 3898.367 m

36°46'27.4017"  
121°47'43.4681"  
**POC USC&GS HOR. CONT. STA.**  
"CASTROVILLE RESET"

CALENDAR PAGE

000497

### Exhibit A

W 25980  
GENERAL LEASE  
RIGHT-OF-WAY USE  
MONTEREY BAY  
MONTEREY COUNTY

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**BASIS OF BEARING:** BEARINGS AND DISTANCES SHOWN HEREON ARE GRID IN METERS AND ARE BASED ON UNIVERSAL TRANSVERSE MERCATOR PROJECTION, ZONE 10, NAD 1983 GEOGRAPHICAL COORDINATES SHOWN HEREON ARE NAD 1983

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

# Exhibit B. CEQA Findings

These findings on the Monterey Accelerated Research System (MARS) Cabled Observatory Project (proposed Project) proposed by the Monterey Bay Aquarium Research Institute (MBARI or "the Applicant") are made by the California State Lands Commission (CSLC), pursuant to the Guidelines for Implementation of the California Environmental Quality Act (CEQA) (California Code of Regulations, Title 14, section 15091). All significant adverse impacts of the proposed Project identified in the joint Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) are included herein and organized according to the resource affected.<sup>1</sup>

For discussion of impacts in the EIR/EIS, significance levels are defined as follows:

- Class I – Significant adverse impact that remains significant after mitigation.
- Class II – Significant adverse impact that can be eliminated or reduced below an issue's significance criteria.
- Class III – Adverse that does not meet or exceed an issue's significance criteria.
- Class IV – Beneficial impact.

Class III and Class IV impacts require neither mitigation nor findings. No Class IV impacts were identified in the Final EIR/EIS for the proposed Project.

For each significant impact, i.e., Class I or II, a finding has been made as to one or more of the following, as appropriate:

- a) "Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR/EIS."
- b) "Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency."
- c) "Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR/EIS."

A discussion of the facts supporting them follows the findings.

Whenever Finding (b) occurs, the agencies with jurisdiction have been specified. These agencies, within their respective spheres of influence, have the ultimate responsibility to adopt, implement, and enforce the mitigation discussed within each type of impact that could result from project implementation. However, under the CEQA (Public Resources Code section 21081.6), the CSLC, as CEQA Lead Agency, has the responsibility to ensure that the mitigation measures contained are effectively implemented. Other specified State, federal, local, and regional public agencies include, but are not necessarily limited to, the following:

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<sup>1</sup> The CEQA Findings are numbered in accordance with the impact and mitigation numbers identified in the Mitigation Monitoring Program table (see Section 6 of the Draft EIR/EIS, with revisions in Section 4 of the Final EIR/EIS). The CEQA Finding numbers are not numbered sequentially because some of the impacts were less than significant before mitigation (Class III).

- California Coastal Commission;
- State Water Resources Control Board;
- California Department of Fish and Game;
- California Department of Parks and Recreation;
- Monterey Bay National Marine Sanctuary
- National Science Foundation;
- U.S. Army Corps of Engineers;
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service;
- County of Monterey;
- Moss Landing Harbor District; and
- Other local districts or jurisdictions.

Whenever Finding (c) is made, the CSLC has determined that sufficient mitigation is not practicable to reduce the impact to a level below an issue's significance criteria and, even after implementation of all feasible mitigation measures, there will or could be an unavoidable significant adverse impact due to the project. A Statement of Overriding Considerations must be adopted considering all such unavoidable impacts as required by State CEQA Guidelines sections 15092 and 15093.

No impacts requiring Finding (c) were identified in the Final EIR/EIS.

**CEQA FINDING NO. AQ-1**

**AIR QUALITY**

Impact: **AQ-1: Vessels used for construction and decommissioning could temporarily exceed daily emission thresholds for ozone precursors and particulate matter within the MBUAPCD.**

Class: II

- Finding(s):
- a) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the final EIR/EIS.
  - b) Such changes or alterations are within the responsibility and jurisdiction of the Monterey Bay Unified Air Pollution Control District (MBUAPCD) and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency

**FACTS SUPPORTING THE FINDING(S)**

Construction and decommissioning activities would affect air quality in the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The activities would involve on-shore staging and locally intense use of marine vessels. Along the cable route, emissions would occur from support boats and the cable-laying vessel, including propulsion engines, auxiliary power generators, or hydraulic pump engines for the underwater plow or jetting devices. At the landing site, emissions would occur from horizontal directional drilling (HDD) equipment, drill site preparation of the concrete pad and sump pit, drilling fluid pumping, site cleanup, and the on-road vehicles necessary to bring and remove construction materials, cable, and work crews to the staging area. Decommissioning and cable removal activities have not been identified in detail, but would involve equipment similar to construction.

Marine vessel emissions would exceed the thresholds established by the MBUAPCD. Up to six days of cable-laying, and three additional days of vessel preparation and off-loading could occur within the 12-nm territorial sea area. This would result in approximately nine days when MBUAPCD thresholds could be exceeded, and the emissions could substantially contribute to violations of the ozone and particulate matter standards. This is a potentially significant impact.

Mitigation Measure AQ-1a (Low-Emission Fuel) requires the use of on-road diesel fuel designed for motor vehicles to ensure that combustion-related diesel particulate matter emissions from all construction equipment are reduced to the extent feasible. The CARB currently requires low-sulfur fuel (500 ppm sulfur content) in construction equipment and, in many locations, ultra-low sulfur diesel fuel (15 ppm sulfur content) is already available. In advance of CARB rulemaking, use of on-road diesel fuel in smaller marine vessels (such as research and support boats) would be feasible and appropriate. The cable-laying vessel would operate on heavier distillate and residual fuel oils, which are not available with reduced sulfur content.

Use of these fuels in construction related equipment and smaller marine vessels would ensure that combustion-related diesel particulate matter emissions are reduced to the maximum extent feasible as determined by the CARB.

Mitigation Measure AQ-1b (Off-site NOx Mitigation) requires a contribution by the Applicant to previously established programs administered by the MBUAPCD to mitigate NOx emissions. Air quality management plans for attainment partially depend on these programs, which provide emission reductions from sources that are not Project-related and traditionally are not regulated. This is a method of offsetting impacts that has been by developed in consultation with the MBUAPCD for other cable-laying projects, i.e., Global West in March 2000. For example, contributions from MBARI could be used to fund the Carl Moyer Program (for upgrading or replacing existing engines in agricultural operations or other local marine operations) and the Clean School Bus Program, depending on the discretion of the MBUAPCD. The MBUAPCD would identify the level of funding necessary to address the impact in a manner consistent with the applicable attainment plan.

The funding would in turn be used by the MBUAPCD to secure emission reductions from non-project sources that would be sufficient in quantity and timing to offset the effects of the Project emissions and, on balance, reduce the Project impact from marine vessels to a less than significant level.

**CEQA FINDING NO. CR-1**

**CULTURAL RESOURCES**

Impact: **CR-1: The Project could disturb unknown prehistoric resources that may lie along the sea route between the +24.5-mile (39.4-km) and +29.0-mile (46.7-km) marks.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR/EIS.

**FACTS SUPPORTING THE FINDING(S)**

Areas sensitive for submerged prehistoric resources that could be affected by cable installation may be located along the cable route between the 24.5-mile (39.4 km) mark and the +29-mile (46.7 km) mark.

Mitigation Measure CR-1 (Review Existing Sub-Bottom Profiler Data) requires an examination of existing sub-bottom profile data by a qualified marine archaeologist and a geologist to determine whether deposits of sand and gravel, or relic channel, river, or stream features can be identified along that portion of the cable route (about 24.5 (39.4 km) to 29 miles (46.7 km) out) in which the cable would be laid on the exposed substrate, or in which plowing would affect areas with less than 3.3 feet (1 m) of sediment cover. If archaeologically sensitive features or areas are identified, the cable route shall be altered to avoid them. If that is not possible, the locations of any features that are not covered with sediment should be re-investigated with an ROV-mounted video camera to determine whether there is any artifactual evidence of prehistoric activity in those areas. If present, those areas shall be avoided.

Avoidance of an impact is the most effective mitigation and will ensure that any identified areas of submerged prehistoric resources are preserved.

**CEQA FINDING NO. MVT-4**

**MARINE VESSEL TRANSPORTATION**

Impact: **MVT-4: Potential cumulatively increased risk of marine vessel conflict during construction.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR/EIS.

**FACTS SUPPORTING THE FINDING(S)**

The Cable Act of 1992 (47 CFR §76) states that other vessels must maintain a 1.15-mile (1-nm) separation from a vessel laying or repairing an undersea cable. If the construction periods of the IODP Borehole Project (identified as a potentially concurrent nearby project in Section 4 of the Draft EIR/EIS) and proposed Project were to overlap, it would bring other vessels within 1.15 miles (1 nm) of the cable laying vessel, conflicting with safety provisions stated in the Cable Act of 1992.

Mitigation Measure MVT-4 requires scheduling of cable laying for the proposed Project so as to avoid vessels performing borehole construction. Avoidance would be achieved if the vessels for the two projects are not operating at the same time or if a 1.15-mile (1-nm) separation can be maintained between the vessels at all times.

This mitigation measure would prevent navigational or space conflicts between the various construction vessels of the two projects, which would protect public health and safety and avoid events, e.g., a fuel spill, that could adversely affect area resources.

**CEQA FINDING NO. N-1**

**NOISE**

Impact: **NOI-1: Construction and decommissioning equipment could cause noise levels exceeding the 85 dBA limit of the Monterey County Noise Control Ordinance.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the final EIR/EIS.

**FACTS SUPPORTING THE FINDING(S)**

At the cable landing site, notable noise would be caused by HDD equipment, drill site preparation of the concrete pad and sump pit, drilling fluid pumping, site cleanup, and the on-road vehicles necessary traveling to the staging area. Decommissioning activities have not been identified in detail, but they would involve equipment similar to construction.

Short-term use of the equipment at the landing site could exceed the Monterey County Noise Control Ordinance level of 85 dBA at 50 feet (15.2 m). This would be a potentially significant impact.

Mitigation Measure NOI-1a (Noise Control of Equipment) requires the use of proper mufflers on equipment engines and enclosing engines or mounting noise shields around noisy equipment to minimize the likelihood of exceeding the noise threshold specified in the Noise Control Ordinance. Enclosures or other barriers to noise normally provide a 5 dBA reduction by breaking the line-of-sight to the receptor.

With proper shielding or enclosures, the noise levels would comply with the local ordinance and therefore would not constitute a public nuisance or health issue.



**Exhibit C**

**Mitigation Monitoring Program**

Table 6.5-1. Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<b>Air Quality</b>						
<b>AQ-1:</b> Vessels used for construction and decommissioning could exceed daily emission thresholds for ozone precursors and particulate matter.	<b>MM AQ-1a:</b> Use low-emission fuel on all diesel-powered vessels and construction equipment.	HDD site.	Construction contractors shall retain receipts of fuel purchases to verify use of CARB on-road diesel fuel.	Use of low-emission fuels verified, thereby reducing NOx exhaust emissions.	CSLC/MBNMS	During construction.
	<b>MM AQ-1b:</b> Contribute to a NOx off-site emission reduction program.	N/A	MBARI shall fund an off-site emission reduction program identified by the MBUAPCD.	Evidence submitted of funding contribution to an off-site emission reduction program.	CSLC/MBNMS	Prior to construction.
<b>Cultural Resources</b>						
<b>CR-1:</b> The Project could disturb unknown prehistoric sites that lie along the sea route between the +24.5-mile (39.4-km) and +29.0-mile (46.7-km) marks.	<b>MM CR-1:</b> Review existing sub-bottom profiler data and avoid any potential archeologically sensitive areas.	Sea route.	MBARI shall submit archival research results to the CSLC and MBNMS.	Archival research verified as complete and in accordance with professional standards.	CSLC/MBNMS	Prior to construction.
<b>Marine Vessel Transportation</b>						
<b>MVT-4:</b> Potential cumulatively increased risk of marine vessel conflict during construction	<b>MM MVT-4:</b> Schedule proposed Project construction so as to avoid the presence of a cable lay vessel within 1.15 miles (1 nm) of vessels performing borehole construction.	Sea route.	Verify scheduling and locations of cable laying and borehole projects.	Conflicts between marine vessels avoided.	CSLC/MBNMS	During construction.

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MARS Cabled Observatory Final EIR/EIS  
 MITIGATION MONITORING PROGRAM

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<b>Noise</b>						
<b>NOI-1:</b> Construction equipment could cause noise levels exceeding the 85 dBA limit of the Monterey County Noise Control Ordinance	<b>MM NOI-1a:</b> Muffle, shield, or enclose the HDD activity.	HDD site.	Measure noise level at 50 feet with County-approved noise meter.	Noise levels reduced below 85 dBA at 50 feet from the HDD site.	CSLC/ MBNMS	During HDD operations.

**Table 6.5-2. Monitoring Program for Applicant-Proposed Protective Measures**

Affected Resource Area	Applicant-Proposed Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Geology and Soils, Marine Water and Sediment Quality and Oceanography	Place cable as perpendicular to slopes as possible and avoid possible areas of sediment slump or slides.	Sea route.	Review cable route in comparison to seafloor profile prior to cable laying. Review post-lay inspection results.	During post-lay inspection, verify that the cable is laid perpendicular to steep slopes to the maximum extent possible.	CSLC/ MBNMS	Before, during, and after cable installation.
Commercial and Recreational Fisheries	In the event fishing gear cannot be removed from the cable by surface vessels, the Applicant will utilize an ROV to remove the gear from the cable. If all attempts to remove the gear fail, the gear would be left in place but rendered incapable of harvesting marine resources.	Sea route.	Notify MBNMS if cable snag and gear entanglement.	Verify that gear has been removed from cable and fishermen compensated for lost gear.	CSLC/ MBNMS	After cable installation.

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Affected Resource Area	Applicant-Proposed Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	In areas where cable burial is not possible, additional cable armoring consisting of single armor light cable sheathing will be used and fishers will be notified of locations of exposed cables.	Sea route.	Review plans for cable armoring prior to installation.	Verify that additional armoring is used in all locations where cable is exposed.	CSLC/ MBNMS	Before, during, and after cable installation.
	Provide notice to the Moss Landing Harbor District and work with the District to provide notice of the cable laying operation to vessels that operate out of Moss Landing Harbor.	Sea route.	Verify that the Moss Landing Harbor District received notification.	Review methods used by the Moss Landing Harbor District to notify vessel operators and evaluate the effectiveness of the notification methods.	CSLC/ MBNMS	Before cable installation.
Marine and Near-Coastal Biological Resources	Establish a 500-foot (152-m) minimum safety zone along the proposed cable route to avoid marine mammals.	Sea route.	Confirm that a safety zone has been established and procedures implemented for suspending cable laying if a marine mammal enters the safety zone.	Verify that purpose of the safety zone is understood by the vessel crew and procedures for suspending cable laying are followed.	CSLC/ MBNMS	During cable installation.
	Two NOAA Fisheries-approved marine mammal monitors will be on watch on each vessel (cable-lay and support vessels) during cable laying activities to ensure that any marine mammal entering the established (minimum) 500-foot (152-m) safety zone is sighted.	Sea route.	Monitor and report the presence of marine mammals in the safety zone.	Verify that cable laying is suspended when a marine mammal enters the safety zone.	CSLC/ MBNMS	During cable installation.

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Affected Resource Area	Applicable Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Limit cable laying vessel speed limits to less than 2 knots. Moderate speed of support vessels (3-5 knots) to minimize the likelihood of collisions with marine mammals and sea turtles.	Sea route.	Monitor vessel speed during cable laying operations.	Verify that vessel speed is moderated and collisions with marine mammals and sea turtles are avoided.	CSLC/ MBNMS	During cable installation.
	Reduce or minimize propeller noise (through reduction of vessel speed) and other noises associated with cable laying activities to the extent possible.	Sea route.	Monitor vessel speed during cable laying operations.	Verify that vessel speeds are kept to the minimum to the extent possible during cable laying operations.	CSLC/ MBNMS	During cable installation.
	Minimize the amount of external lighting at night and shield lights downwards in order to minimize marine bird-vessel collisions.	Sea route.	Monitor the amount of external lighting in use during night operations.	Verify that all unnecessary vessel lights are kept off during nighttime cable laying operations.	CSLC/ MBNMS	During cable installation.
	Develop and implement a Marine Mammal Monitoring Plan that will be utilized during cable installation.	Sea route.	Confirm that the protocols prescribed in the approved Marine Mammal Monitoring Plan are followed during cable installation.	Verify that the protocols are understood by the marine mammal monitors and crew and that the protocols serve to avoid collisions and other direct effects on marine mammals in the area.	CSLC/ MBNMS	During cable installation.

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Affected Resource Area	Applicant-Proposed Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Marine Water and Sediment Quality and Oceanography	An approved Spill Prevention Control and Countermeasure Plan will be implemented during all cable laying and operation/maintenance activities.	Sea route.	Confirm approval of the Spill Prevention Control and Countermeasure Plan prior to cable installation. Monitor spill clean-up for compliance with all applicable plan procedures.	Verify that the Spill Prevention Control and Countermeasure Plan is properly implemented in the event of a spill.	CSLC/ MBNMS	During cable installation and operation.
	A fast response vessel will be available during installation with an absorbent boom for spill control.	Sea route.	Confirm the availability of the fast response vessel during all cable laying operations and that it is properly equipped with an absorbent boom.	Verify that the fast response vessel is able to quickly respond to a spill and effectively deploy the absorbent boom.	CSLC/ MBNMS	During cable installation.
	Avoid grapnel retrieval near outcrops by consulting charts and relocating repair to soft substrate.	Sea route.	Confirm that grapnel retrieval near outcrops does not proceed until proper charts are consulted.	Verify that outcrops are not damaged by grapnel retrieval.	CSLC/ MBNMS	During cable installation and cable repair operations.
	In the event that a repair in a heavily fished area is necessary, notify fishermen and charter a local fishing vessel to patrol the area to minimize the possibility of interference with fishing operations.	Sea route.	Confirm that notice is provided to fishermen and that a vessel is chartered to patrol the area.	Verify that noticing and patrols are effective in keeping fishing vessels away from the immediate area.	CSLC/ MBNMS	During cable repair operations.
	Place plastic barriers under drilling equipment and oil absorbent blankets around hydraulic components to add protection between the rig and ground surface in order to contain potential spills.	HDD site.	Confirm the placement of barriers and blankets prior to the initiation of drilling.	In the event of a spill, verify that the installed barriers and blankets are effective in containing the spill.	CSLC/ MBNMS	During HDD operations.

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Affected Resource Area	Applicant-Proposed Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Prior to HDD operations, construction personnel shall attend an environmental training session conducted by the Environmental Monitor.	HDD site.	All HDD construction personnel must provide proof of completion of environmental training.	Verify that procedures and practices emphasized in the training session are followed during HDD.	CSLC/ MBNMS	During HDD operations.
	Once all the HDD equipment is in place, place silt fence and hay bales around the work perimeter and around the sump pit and mud system.	HDD site.	Confirm the placement of silt fences and hay bales around the work perimeter, sump pit, and mud system.	Verify that the fencing and hay bales are effective in minimizing erosion.	CSLC/ MBNMS	During HDD operations.
	During the HDD operation, as each joint of pipe is set onto the drill rig, perform a visual inspection to make sure no debris is sent down the pipe that could cause a problem during cable installation.	HDD site.	Verify with HDD personnel that they have conducted visual inspections as each joint of pipe is set onto the drill rig.	If cable installation is hindered, determine whether the hindrance could be a result of debris introduced into the conduit during HDD.	CSLC/ MBNMS	During HDD operations.
	During the HDD operation, constantly monitor the drill path for surface releases and maintain constant communication between the monitoring vessel and the control cab at all times.	HDD site.	The monitors will be kept constantly informed of the progress of the drill head so as to be able to concentrate their search for any indications of an inadvertent release of drilling fluids.	If any inadvertent release of drilling fluid occurs, verify whether monitors were able to identify the release quickly based on the information they were provided on drill head location.	CSLC/ MBNMS	During HDD operations.
	In the event of a subsurface release, divers equipped with specialized water lifts (pumps) and filter bags will remove bentonite from the sea floor.	HDD site.	Monitor for any subsurface releases and confirm the deployment of properly equipped divers.	Interview divers and inspect filter bags to determine the effectiveness of bentonite removal.	CSLC/ MBNMS	During HDD operations.

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Affected Resource Area	Applicant-Proposed Protective Measures	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	In the event of a bentonite release on land, immediately contain the release and transfer the fluid back to the drill site for reuse or into a storage tank and removed from the site.	HDD site.	Monitor the containment and transfer of the bentonite.	Verify that containment procedures are implemented promptly and that bentonite is fully retrieved.	CSLC/ MBNMS	During HDD operations.
	Once the HDD operation is complete, return the work area to its original condition or better to the satisfaction of all permitting agencies, public works inspectors, and supervising engineer.	HDD site.	Monitor work site clean up to verify removal of all equipment and materials. Monitor actions to restore the ground surface and vegetation.	Verify that the site is returned to its original condition and that permitting agencies and inspectors are satisfied with the restoration of the site.	CSLC/ MBNMS	During HDD operations.
Marine Vessel Transportation	The Applicant will coordinate cable laying activities with the U.S. Coast Guard regarding publication of a notice in the U.S. Coast Guard's Local Notice to Mariners.	Sea route.	Notify U.S. Coast Guard regarding cable laying activities.	Verify that Notice to Mariners has been issued.	CSLC/ MBNMS	Before, during, and after cable installation.

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