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STAFF REPORT: REGULAR CALENDAR

Application No.: 3-89-40-A4

Applicant: Monterey Bay Aquarium

Location: Offshore of Cannery Row, Monterey.

Project Description: Request by Monterey Bay Aquarium to amend permit granted for construction and operation of aquarium and associated infrastructure to authorize after-the-fact the underwater placement and removal of concrete sacks used for temporary reinforcement of the aquarium's dual intake pipelines and the proposed installation, retrofit, and removal of underwater pipeline support structures along the 950-foot long pipeline corridor offshore of the Monterey Bay Aquarium at 886 Cannery Row in Monterey, Monterey County.

Staff Recommendation: Approval with conditions.

SUMMARY

Monterey Bay Aquarium (MBA) submitted to the Coastal Commission a request for after-the-fact authorization for the installation and proposed removal of several hundred small concrete sacks used to reinforce the existing concrete block support structures for the aquarium's dual 950 foot long offshore intake pipelines. These pipelines provide seawater for the aquarium's desalination system as well as its exhibits and its approximately 10,000 marine animals. In

addition, MBA also proposes to retrofit 41 of the pipelines' existing concrete block supports and to replace another 23 supports with 13 new elevated post-and-beam support structures.

All proposed work would be carried out through the use of divers with the aid of support vessels and a motorized construction barge. In addition, a nearly 300 square foot temporary underwater work platform would be constructed and moved between each of the approximately 44 proposed construction sites during the course of the project. This work platform would be positioned over each work site and would be supported on six metal legs and equipped with perimeter silt curtains to minimize the movement of turbidity out of the work areas.

The key Coastal Act issues raised by this project are its effects on marine resources - including benthic habitats and marine wildlife. The location of the proposed project sites within an area included in both the Monterey Bay National Marine Sanctuary and the Lover's Point State Marine Reserve (one of California's Marine Protected Areas) necessitates that the project be carried out with the highest level of protection for marine biological resources. Potential adverse impacts associated with the project include: (a) accidental release of marine debris; (b) entanglement of marine wildlife in construction equipment or mooring lines; (c) loss, disturbance or alteration of seafloor habitats due to the installation, removal, and retrofit of pipeline supports; and (d) accidental release of hazardous liquids or materials from construction vessels and equipment.

To address these potential impacts and minimize their likelihood and magnitude, **Special Conditions 1 through 10** would require MBA to: (1) obtain all other relevant regulatory authorizations prior to proceeding with the project; (2) relocate mobile invertebrate species away from construction areas that would be subject to burial or disturbance; (3) develop and implement an Anchoring Plan for the placement of anchors and mooring devices outside of sensitive benthic habitat; (4) make use of a marine biological monitor to help ensure that construction activities occur in a minimally disruptive manner; (5) avoid disposal or release of construction waste or debris; (6) develop and implement marine debris, habitat mitigation and wildlife protection programs; and (7) develop and implement a hazardous materials spill prevention and response plan.

Commission staff therefore recommends that the Commission **APPROVE** coastal development permit amendment application 3-89-40-A4, as conditioned. The motion and resolution are on Page 4 of this report. The standard of review for this amendment is the Chapter 3 policies of the Coastal Act.

TABLE OF CONTENTS

I. MOTION AND RESOLUTION.....	4
II. STANDARD CONDITIONS.....	4
III. SPECIAL CONDITIONS	5
IV. FINDINGS AND DECLARATIONS.....	9
A. Background and Project Description	9
B. Other Approvals and Consultations	11
C. Placement of Fill in Marine Waters	13
D. Marine Resources.....	17
E. Oil Spills.....	24
F. Alleged Violation.....	25
G. California Environmental Quality Act.....	26

APPENDICES

Appendix A – Substantive File Documents

EXHIBITS

[Exhibit 1 – Proposed Project Location](#)

[Exhibit 2 – Existing and Proposed Pipeline Supports](#)

[Exhibit 3 – Proposed Design of Underwater Work Platform](#)

I. MOTION AND RESOLUTION

Motion:

I move that the Commission approve the proposed amendment to Coastal Development Permit No. 3-89-40-A4 pursuant to the staff recommendation.

Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves the coastal development permit amendment on the ground that the development as amended and subject to conditions, will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment, or 2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. STANDARD CONDITIONS

- 1. Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by Monterey Bay Aquarium or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
- 2. Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
- 3. Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
- 4. Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
- 5. Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and Monterey Bay Aquarium to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

1. **Other Agency Review and Approval.** PRIOR TO COMMENCEMENT OF CONSTRUCTION AND/OR INSTALLATION ACTIVITIES, the applicant shall submit to the Executive Director written evidence that all necessary regulatory permits, permissions, approvals, and/or authorizations for the approved project have been granted, such as those from the California Department of Fish and Wildlife, Regional Water Quality Control Board, Monterey Bay National Marine Sanctuary and U.S. Army Corps of Engineers. Any changes to the approved project required by these agencies shall be reported to the Executive Director by the applicant. No changes to the approved project shall occur without an additional amendment to this permit unless the Executive Director determines that no amendment is legally necessary.
2. **Pre-work Relocation of Marine Life.** Prior to the initiation of construction activities each day, an appropriately qualified marine biological monitor approved by the Executive Director shall, to the extent feasible, relocate all mobile marine organisms (such as shellfish, starfish, sea urchins, mollusks, crabs, and lobsters) from (1) support structures to be removed and (2) areas that would be permanently or temporarily occupied by construction equipment, materials or new pipeline support structures. Relocated marine life shall be placed in appropriate nearby habitat outside of the area subject to disturbance from construction activities. Any species listed as threatened or endangered observed during this relocation effort shall be addressed as required in **Special Condition 4**.
3. **Anchoring Plan.** PRIOR TO THE INITIATION OF OFFSHORE PROJECT ACTIVITIES, the applicant shall provide for review and approval by the Executive Director a project Anchoring Plan. This Anchoring Plan shall indicate the number, type, and size of proposed anchors/moorings to be used for each project vessel and provide information demonstrating that the holding capacity of these anchors/moorings is sufficient to prevent them from dragging away from their installation location. The Anchoring Plan shall also indicate the proposed installation location for each anchor/mooring within areas of soft substrate, measures to ensure that anchors/moorings are accurately installed in these locations and completely removed upon project completion and steps to minimize (1) the total number of anchors/moorings; (2) the total anchoring footprint; (3) the total number of anchor/mooring locations used during the project; and (4) the placement of anchoring/mooring lines through kelp beds. Such steps may include use of diver assistance during anchor placement and the use of helical sand anchors in place of traditional mooring blocks or embedding anchors. Upon approval by the Executive Director, the applicant shall implement the Anchoring Plan.
4. **Biological Surveys and Monitoring.** An appropriately qualified, third-party, independent marine biological monitor that is approved by and reports to the Executive Director shall carry out surveys of the construction areas immediately before and after construction in order to help construction personnel avoid and minimize adverse impacts to marine species and habitats and to document any adverse impacts that occur. Specifically:
 - (a) Prior to the initiation of construction activities each day, the marine biological monitor shall carry out an underwater survey of that day's construction area to search for marine species listed as threatened or endangered and to help direct construction personnel to locate

temporary and permanent construction materials (including the supports for the underwater construction platform, sidecast excavation spoils, and anchor rods or posts), to the extent feasible, in areas of soft substrate or other areas where marine life and habitat would be less prone to adverse impacts from disturbance and damage. If any marine species listed as threatened or endangered (such as black abalone) are observed within the construction area during the pre-work survey, work in that area shall not proceed unless the appropriate state and/or federal agency is contacted and authorizes the work.

(b) Following the conclusion of pipeline support structure removal, retrofit or installation activities within a work site, the marine biological monitor shall carry out an underwater survey of that site and shall document the type and extent of adverse impacts to marine species and habitats that occurred as a result of construction activities. The results of all such surveys carried out each week shall be compiled and provided to the Executive Director in a report at the end of each week of construction work.

5. **Follow-up Survey and Removal.** Any concrete sacks reported to the Executive Director or observed by the applicant during quarterly pipeline maintenance surveys and inspections shall be immediately collected by the applicant and disposed of at an appropriate onshore facility.
6. **Marine Debris and Hard Substrate Habitat Mitigation.** PRIOR TO PERMIT ISSUANCE, the applicant shall submit for review and written approval by the Executive Director a Marine Debris and Hard Substrate Habitat Mitigation Plan (Mitigation Plan). This Mitigation Plan shall include three components: (1) underwater marine debris collection and removal activities carried out no less than three times per year for four years in partnership with one or more third parties within the Lover's Point State Marine Reserve and Monterey Harbor. Shortly before each collection effort, an investigative survey shall be carried out to direct clean-up efforts towards areas with high volumes of debris or areas with debris that poses a particular risk to marine life (such as derelict fishing gear). To the extent feasible, clean-up efforts shall prioritize the removal of debris from within areas of hard substrate habitat. All debris collected during these clean-up activities shall be disposed of at an appropriate onshore facility and shall be documented (type, quantity, location found, likely origin) and described in annual reports submitted to the Executive Director no later than December 31st of each year; (2) the Mitigation Plan shall also describe how the information on debris type, quantity, location and likely origin will be used to develop and implement four years of annual debris prevention efforts within Monterey Harbor and the Lover's Point State Marine Reserve to reduce the future discharge of waste and debris into these areas; and (3) the Mitigation Plan shall also include four years of funding (a total of \$8,000) for the Monterey Bay Fisheries Trust's Lost Fishing Gear Recovery Program to aid in the removal of marine debris and prevention of wildlife entanglement.
7. **Marine Wildlife and Habitat Protection Plan.** PRIOR TO THE INITIATION OF OFFSHORE PROJECT ACTIVITIES, the applicant shall provide for review and approval by the Executive Director a Marine Wildlife Protection Plan (Protection Plan). The applicant shall implement the Protection Plan during all in-water project activities. The Protection Plan shall

include the following elements, and shall be implemented consistent with vessel and worker safety:

(a) Prior to the start of offshore activities the applicant shall provide awareness training to all offshore project-related personnel, construction divers and vessel crew, including information about the most common types of marine wildlife and habitats likely to be encountered in the project area, the types of activities that have the most potential for adversely affecting these habitats and wildlife, and a review of the relevant permit requirements and protective measures to avoid and minimize these adverse impacts.

(b) The applicant or its contractors shall not dispose of, discharge, or release any waste, including garbage, bags, unused or broken construction equipment, wrappers, lines, buoys, fabric, plastic mesh, anchors, or other equipment into the marine environment. No loose tools or equipment shall be stored at underwater construction sites outside of active work hours and all equipment and materials stored or staged on project vessels shall be securely stowed so as to prevent loss into the marine environment during inclement conditions. In addition, at the completion of work at each pipeline support structure retrofit or replacement site, to the extent feasible, all excavated and/or displaced sediment and rock shall be returned to its initial location.

(c) At least one National Marine Fisheries Service (NMFS)-qualified marine mammal observer shall be located on the main project vessel to conduct observations during specific project activities that pose a harassment, entanglement, or injury risk to marine mammals and reptiles, including vessel transit, anchoring or anchor repositioning, installation of equipment in the water column or seafloor, or any other activity that has the potential to harm marine mammals or sea turtles. The Protection Plan shall identify the appropriate number and placement of observers to ensure adequate coverage during each affected activity, additional activities not listed above that require an observer, and justification for any project activities that do not warrant an observer due to no potential for adverse impacts. Any additional marine mammal observer requirements established through authorization by another agency (such as the U.S. Army Corps of Engineers or Monterey Bay National Marine Sanctuary) shall also be described in the Protection Plan.

(d) Shipboard observers shall maintain a daily sighting report that shall be of sufficient detail to determine whether observable effects to marine mammals are occurring.

(e) The observers shall have the appropriate safety and monitoring equipment adequate to conduct their activities (such as binoculars and range finders).

(f) The observers shall have the authority to stop or delay any activity that could result in harm to a marine mammal or sea turtle. For monitoring purposes, the observers shall establish a 1,640 foot (500 meter) radius avoidance zone around the Project vessels for the protection of large marine mammals (i.e., whales) and a 500-foot (152-meter) radius avoidance zone for the protection of smaller marine mammals (i.e., sea otters, dolphins, sea lions, seals, etc.) or sea turtles. Initiation of project activities that involve the placement of lines or materials in the water column from surface vessels shall not occur if large marine mammals are observed in the larger radius avoidance zone or small marine mammals are observed in the smaller radius avoidance zone. If such activities are underway when a marine mammal enters the appropriate

zone, the observer shall determine if their continuance poses a risk to marine wildlife and the activities shall cease if such a determination is made.

(g) During transit to and from the project site: (1) if a vessel is travelling parallel to a whale, the vessel shall operate at a constant speed that is not faster than the whale; (2) vessel operators shall coordinate with the observer to make every effort to ensure that mother and calf whale pairs are not separated; (3) vessel operators shall not try to influence a whale's swim pattern; (4) if a whale engages in defensive action, support vessels shall drop back until the animal moves out of the area; (5) vessel speeds shall be limited to 10 knots or less to minimize the likelihood and consequences of collisions with marine mammals and sea turtles; (6) in the event that any project activities result in a collision or any take involving harassment or harm to a marine mammal, the observer shall immediately notify the Executive Director, NMFS, CDFW, the NOAA Office of Law Enforcement Hotline (1-800-853-1964) and any other required regulatory agency; (7) propeller noise and other underwater noises associated with project activities shall be reduced or minimized to the extent feasible; (8) a final report summarizing the results of monitoring activities shall be submitted to the Executive Director and other appropriate agencies no more than 90 days following completion of offshore project activities.

- 8. Lighting and Operations at Night.** All operations shall be completed during daylight hours. No operations after sunset and no above-water artificial lighting of the project site shall occur, except for that associated with navigational buoys if required by the U.S. Coast Guard.
- 9. Notice to Mariners.** No less than 15-days prior to the start of in-water activities associated with the installation phase of the project, the applicant shall submit to (a) the Executive Director; (b) the U.S. Coast Guard (for publication in a Notice to Mariners); and (c) the harbor master at Monterey Harbor (for posting on relevant notice boards), notices containing the anticipated project start date, the anticipated schedule, and the coordinates of the proposed work sites. During offshore project activities, the applicant shall also make radio broadcast announcements on the appropriate radio frequency to provide nearby vessel operators the location of the active work site and a toll-free number that can be called for additional information.
- 10. Spill Prevention and Control Plan.** WITHIN 60 DAYS OF PERMIT ISSUANCE, the applicant shall submit for Executive Director review and written approval, a project specific Spill Prevention and Response Plan (SPRP) for work vessels that will be used during project construction and operational activities. The applicant and its contractors shall be trained in, and adhere to, the emergency procedures and spill prevention and response measures specified in the SPRP during all project installation and operations. The SPRP shall provide for emergency response and spill control procedures to be taken to stop or control the source of the spill and to contain and clean-up the spill. The SPRP shall include, at a minimum: (a) identification of potential spill sources and quantity estimates of a project specific reasonable worst case spill; (b) identification of prevention and response equipment and measures/procedures that will be taken to prevent potential spills and to protect marine and shoreline resources in the event of a spill. Spill prevention and response equipment shall be kept onboard project vessels at all times; (c) assurances that all hydraulic fluid to be used for installation, maintenance, planting, and harvesting activities shall be vegetable based; (d) the

use of at least one dedicated support boat during facility construction/installation activities to direct other non-project vessels in the project area away from the installation site; (e) a prohibition on at-sea vessel or equipment fueling/refueling activities; and (f) emergency response and notification procedures, including a list of contacts to call in the event of a spill.

IV. FINDINGS AND DECLARATIONS

A. BACKGROUND AND PROJECT DESCRIPTION

In 1984, the Monterey Bay Aquarium (MBA) was completed under CDP No. P-80-213. This CDP authorized construction of the aquarium buildings as well as installation and operation of dual 16 inch diameter 950 foot long seawater intake pipelines and associated concrete block support structures directly offshore of Monterey's Cannery Row. The location and orientation of the pipeline route and the project site is shown in [Exhibit 1](#). These intake pipelines are the primary source of seawater for the aquarium's extensive exhibits and marine life collections. Over the course of the next 20 years, the Commission issued another CDP (CDP No. 3-89-40) and a variety of CDP amendments (P-80-213-A1 and 3-89-40-A1 through -A3) to the Monterey Bay Aquarium for a variety of onshore remodel and expansion projects, including installation and use of a desalination system that relies on the same seawater intake pipelines used to supply water to the exhibits. This desalination system is used to provide water for onsite and visitor non-potable uses, thereby offsetting the aquarium's need to be supplied with municipal water from outside sources.

For many years, the seafloor along the intake pipeline route was stable and the roughly 64 sets of concrete block collars placed at intervals on the seafloor as support and ballast for the twin lines remained in place and secure. More recently, however, aquarium staff began to notice that the sand underlying many of the supports was eroding and scouring, leaving about half of them partially or completely undercut. Because this condition put the integrity of the pipelines at risk, in 2012, MBA received a CDP waiver (No. 3-12-028-W) to place burlap and paper wrapped concrete sacks on the seafloor as reinforcement directly beneath portions of 29 of the block support structures.

However, a survey of the intake pipelines and their support structures several years later indicated that scouring had continued to occur beneath the lines and that the piles of concrete sacks were unlikely to provide a sustainable long-term solution to the issue. In addition, these surveys also showed that more concrete sacks were installed than initially proposed and that most or all had been put in place with plastic mesh coverings rather than biodegradable burlap. As this plastic mesh material weathered, it was being released into the environment. To address this source of marine debris and provide more robust, long-term reinforcement for the intake lines, in 2017 MBA started developing the current project and also received a CDP waiver (No. 9-17-0468-W) to begin removing some of the concrete sacks that had been put in place several years before around the support structures (an example of the existing support structures and associate sacks is provided in [Exhibit 2](#)). Of the roughly 600 three square foot sacks that were installed in 2012, over 130 have already been removed. In addition to the retrofit and replacement of the existing concrete block supports, the current project includes the complete removal of these remaining concrete sacks.

Retrofits

To address ongoing and future scour of the sand and loose rock below 41 of the pipelines' existing concrete block supports, MBA proposes to install a series of retrofits to secure them to the more stable underlying bedrock. These retrofits would be comprised of stainless steel brackets or collars that would encircle the ends and center of the blocks – securing them together – and then anchor them to the underlying bedrock with six 1.5 inch diameter anchor rods that would pass through the brackets. The anchor rods would be installed in two inch diameter holes that would be drilled approximately two feet deep into the bedrock and would be capable of supporting the concrete blocks in an elevated fashion even if the sand and/or cobbles currently beneath them were to be removed. Each of the anchor rods would be affixed in place using marine epoxy and the holes for the anchors would be created using a diver operated rotary-percussion drill.

To ensure that the intake pipelines remain secure and functional during the retrofit work and to facilitate access to the drill sites, MBA is also proposing to install a temporary underwater work platform that would be moved between retrofit sites. The platform would measure approximately 10 feet wide by 20 feet long and would be supported on the corners by eight foot high legs. Once the platform is in place at the work site, a hoist on it would be used to elevate the intake lines and concrete block supports from the seafloor. This would allow divers to collect and remove any underlying concrete sacks and work to expose the bedrock at each of the six anchor rod drill sites. Bedrock would be exposed through hand removal work by the divers and through the use of a “drill shield” – a tube that is able to excavate material within a contained area by using forced air and water pumped from the surface barge.

Once the six holes are drilled and anchor rods cemented in place with marine epoxy, they would be threaded onto the three stainless steel brackets placed around the concrete block supports, the blocks and pipelines would be lowered from the hoist, and the work platform would be moved to the next work site by the divers and support vessels. This retrofit approach would be used in areas where less than two feet of sand and loose rock is present between the concrete block supports and underlying bedrock.

Post-and-Beam Supports

In addition to the proposed retrofit work, MBA is also proposing to install up to 13 new post-and-beam support structures for the pipelines. These would be installed in portions of the pipeline route that pass over deeper (greater than two feet) patches of sand. The pipe-and-beam supports would be “H” shaped structures made up of two vertical four inch diameter posts that would be embedded into bedrock and used to support a horizontal four inch diameter cross beam. The intake pipelines would then be hung from this cross beam with stainless steel brackets.

To gain access to the bedrock to install the vertical posts, divers would use several methods to clear away the overlying sand. One method would include the use of a water-jet (a low pressure underwater hose) to push a corrugated metal barrier into the sand. The sand behind the barrier would then be excavated into an adjacent area, exposing the underlying bedrock. Alternatively,

12 inch diameter steel casings would be driven through the sand to the bedrock. Once in place, the sand inside the casings would be removed. Once the bedrock is exposed using these methods, a 30 inch long by ten inch diameter hole would be made in it for each support post. These holes would be made with a diver-operated coring device or air hammer. Each support post would then be installed within a ten inch diameter hole and secured in place by divers using a cement grout.

Removal of Existing Supports

Because these post-and-beam supports would provide a greater level of structural reinforcement compared to the existing concrete blocks, the installation of the 13 proposed post-and-beam structures would allow MBA to remove up to 23 of the existing concrete block supports. These six foot wide by three foot long blocks are currently resting on the seafloor along the pipeline route and would be removed through the use of a barge-mounted hydraulic hoist. Divers would affix a sling to each of the blocks and the hoist would lift it off of the seafloor and onto the awaiting barge for transport and disposal onshore. The proposed removal of the 23 existing concrete support blocks would expose a total area of approximately 414 square feet of benthic habitat.

Support Vessels

MBA proposes to use up to four different vessels to support the construction, removal and retrofit operations and may operate up to three of them concurrently. The proposed vessels include the following: (1) *Retriever* – a 14 foot wide by 50 foot long motorized barge equipped with a 2,000 pound capacity hydraulic hoist; (2) *Akula* – a 15 foot wide by 42 foot long pontoon utility vessel equipped with a 5,000 pound capacity hoist; (3) *Shana Rae* – a 16 foot wide by 52 foot long converted fishing vessel with a 5,000 pound capacity hoist; and (4) *Bay Responder* – a nine foot wide by 26 foot long utility vessel to be used primarily for personnel transport.

The support and work vessels would be concentrated above or in the immediate vicinity of the active work area on the pipeline route and would be maintained in place using temporary moorings. These moorings would be placed along the pipeline route so that the vessel can move sequentially between work areas.

B. OTHER APPROVALS AND CONSULTATIONS

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is the primary state agency responsible for management and enforcement of California's network of marine protected areas (MPAs). The Monterey Bay Aquarium's intake pipelines and all of the proposed work areas are within one of these MPAs, the Lover's Point State Marine Reserve. Within this MPA, the take or removal of all marine life is prohibited. Although the intake pipeline was installed and brought into initial operation prior to the designation of this marine protected area, its regulations do not provide an exemption for the Monterey Bay Aquarium's recent and proposed work on its intake pipelines. As a result, the take of marine life associated with this pipeline work (primarily associated with the loss and disturbance of benthic habitat around the pipelines' support structures) conflicts with the state's MPA regulations. CDFW, the Ocean Protection Council, and the California Fish and Game Commission are currently discussing options for addressing

this situation, including by coordinating with the MBA to define marine habitat and wildlife restoration efforts the aquarium can implement within the Monterey area and Lover's Point State Marine Reserve.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (ACOE) has regulatory authority over the proposed project under Section 404 of the Clean Water Act of 1972 and Section 10 of the Rivers and Harbors Act of 1899 (*33 U.S.C. 1344*). MBA is currently seeking authorization from ACOE to carry out the proposed retrofit and replacement of its intake pipelines' support structures. **Special Condition 1** would require MBA to provide the Executive Director with evidence that this authorization has been granted prior to initiating the proposed work.

Pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA) the Corps cannot issue an individual permit to MBA until the Commission either concurs or is conclusively presumed to concur in a federal consistency certification. Commission approval of this CDP application would constitute concurrence under the CZMA.

Regional Water Quality Control Board

Projects involving discharges of dredged or fill material to waters of the United States that require ACOE permits under Clean Water Act Section 404 are also required to obtain authorization from the Regional Water Quality Control Board under Clean Water Act Section 401. MBA has indicated to Commission staff that it is in the process of developing and submitting an application for a 401 certification to the Central Coast Regional Water Quality Control Board. **Special Condition 1** would require MBA to provide the Executive Director with evidence that this certification has been granted prior to initiating the proposed work.

Monterey Bay National Marine Sanctuary

The proposed project site is within the Monterey Bay National Marine Sanctuary (Sanctuary) and Sanctuary staff were some of the first to identify the ongoing issues associated with MBA's use of plastic wrapped concrete sacks for previous pipeline repair work. Consistent with the Sanctuary's management plan and regulations, MBA has applied for a permit to authorize the proposed removal of these concrete sacks and the retrofit and replacement of pipeline supports. Sanctuary staff are currently reviewing this permit application and evaluating the proposed project's potential to affect Sanctuary uses and resources. Commission and Sanctuary staff have coordinated closely throughout the course of this project and **Special Condition 1** would require MBA to provide the Executive Director with evidence that authorization from the Sanctuary has been granted prior to initiating the proposed work.

National Marine Fisheries Service

The National Marine Fisheries Service (NMFS) has responsibilities over the proposed project under the Marine Mammal Protection Act (MMPA), the Magnuson-Stevens Fisheries Conservation and Management Act (MSA), the Endangered Species Act (ESA), and the Fish and Wildlife Coordination Act. NMFS will be coordinating its review of the proposed project with the U.S. Army Corps of Engineers and providing recommendations.

Tribal Outreach and Consultations

During the process of reviewing the Monterey Bay Aquarium's CDP amendment application for this project and developing this recommendation, Commission staff reached out to representatives from Native American Tribes understood to have current and/or historic connections to the project area. These Tribes include the Amah Mutsun Tribal Band, the Esselen Tribe of Monterey County, the Xolon-Salinan Tribe, the Costanoan Ohlone Rumsen-Mutsun Tribe, the Indian Canyon Mutsun Band of Costanoan, and the Salinan Tribe of Monterey and San Luis Obispo Counties. Contact information for these Tribal Representatives was gathered from the Native American Heritage Commission's Native American Contact List dated July 23, 2018. At the time of publication of this staff report and recommendation, no questions or concerns had been brought to the attention of Commission staff by representatives of these Tribes. Any concerns raised subsequent to the publication of this report will be brought to the attention of the Commission through the development of an addendum to this staff report and recommendation. In addition, because the Monterey Bay Aquarium is required to obtain authorization for the proposed project from the U.S. Army Corps of Engineers, a federal Tribal consultation will also be carried out by that agency.

C. PLACEMENT OF FILL IN MARINE WATERS

Section 30233(a) of the Coastal Act states in part:

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:

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (4) 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.*
- (5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (6) Restoration purposes.*
- (7) Nature study, aquaculture, or similar resource dependent activities.*

The proposed installation of anchoring bolts as part of the retrofit of the MBA intake pipelines' existing concrete block supports and the installation of 13 new post-and-cross beam supports on the seafloor constitutes the placement of fill in open coastal waters. Coastal Act Section

30233(a) restricts the Coastal Commission from authorizing a project that includes fill of open coastal waters unless it meets three tests. The first test requires that the proposed activity must fit into one of seven categories of uses enumerated in Coastal Act Section 30233(a). The second test requires that there be no feasible less environmentally damaging alternative. The third test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

Allowable Use Test

One of the seven allowable uses of fill is "maintenance of existing intake and outfall lines" (Section 30233(a)(4)). Because the proposed anchoring posts would be installed as part of an effort to maintain the Monterey Bay Aquarium's existing intake pipeline, the Commission finds that the proposed project meets the allowable use test of Coastal Act Section 30233(a).

Alternatives

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed placement of fill in open coastal waters. No known project alternatives would meet the objective of the proposed project – to retrofit and maintain the MBA intake pipelines and their support structures – without the placement of at least some fill material in open coastal waters.

Commission staff therefore evaluated several alternative methods that would require differing amounts of fill to retrofit and maintain the pipelines' support structures. These methods included the placement of additional concrete sacks around eroding pipeline supports, the replacement of all existing concrete block supports with post-and-cross beam supports, and the retrofit of existing concrete block supports through the installation of anchoring posts. These three approaches represent a range of fill amounts and seafloor footprint areas. The addition of concrete sacks would fill the most area - approximately three hundred square feet if limited to the placement of 100 additional sacks. The replacement of all the existing concrete block supports with new post-and-cross beam supports would take up the least area - a net reduction of over a thousand square feet of fill area compared to the existing condition, because it would involve the replacement of 64 concrete blocks (each with a footprint of approximately 18 square feet) with several dozen small diameter posts (each with a footprint of no more than 0.5 square feet). The retrofit/anchoring of existing blocks would fall in between the other methods and result in a small amount of additional fill - a total of roughly eight square feet spread across the 64 support structure sites.

While the replacement of all the existing concrete block supports with post-and-cross beam structures would minimize both the amount of fill and the total amount of benthic habitat occupied by the pipeline structures, the geotechnical and engineering analysis commissioned by MBA indicates that such wholesale replacement may be problematic. The intake pipeline route crosses through a variety of substrate types, depths and wave and current energy regimes and MBA's analysis recommends that the ideal pipeline support system should be responsive to the unique challenges presented by each of these areas. As noted by MBA in its permit application:

There are three general 'zones' of varied conditions along the pipelines – the surf zone (surf), at three to 20 feet of water at mean lower low (MLLW), comprised of rock with

cobbles and boulders and stretching from the pump house through block 18; the sand zone (sandy), at 20 to 55 feet water depth (MLLW), comprised of sediment with rock monuments and outcroppings and stretching from blocks 19 through 56; and the intake zone (intake), at approximately 55 feet of water (MLLW), comprised of rock with sand and a rock pinnacle, containing blocks 57 through 61 and 62C, 62M, and 63.

Given the three geologic zones and their unique characteristics and demands on a support system, the proposed two-pronged approach is 1) retrofit existing concrete blocks in place in the surf and intake zones and wherever existing concrete blocks are in 28" or less of sand in the sandy zone, and 2) install socketed pipes with cross beams in the sandy zone where the existing blocks are covered by significant depths of sand (>28"), removing the existing concrete blocks and associated monuments from use in these areas.

...

Retrofitting the existing blocks is recommended in the surf zone as this area is subject to swell action and supports should remain at close intervals to protect pipes from damage due to pipe movement and/or wave and debris impact. Similarly, at the intake zone, the pipe geometry changes such that pipes have limited tolerance to either externally or internally driven movement, thus retrofitting existing blocks will maintain their current level of support. Disturbance to the seafloor is expected to be minimal and consist principally of drilling rock to embed 1 1/2" diameter anchor rods.

In the sandy zone, existing blocks should be retrofitted wherever sand cover is 28" or less. Where sand depths at existing blocks exceed 28", a socketed pipe and cross beam support should be installed. The pipe-and-beam system has pairs of steel pipes socketed into the basement rock at approximately 30 foot intervals along the pipeline, with a cross beam between them that then supports the pipelines. Pipes and cross beams will be AL-6XN stainless steel. It is anticipated that 13 socketed pipe and beam supports will be installed.

Socketed pipes and cross beam supports are recommended in the sandy zone as this method provides a single solution along the majority of the pipeline, responds to varying sand depths to basement rock and variations in surface profile, and can be located as needed along the length of the pipeline.

MBA is therefore proposing to use a mix of the retrofit and replacement approaches for the upgraded pipeline support system. Specifically, MBA would retrofit 41 existing concrete blocks with anchor rods and replace 23 concrete blocks with 13 post-and-cross beam supports. This mix of approaches would result in the removal of concrete and pipeline support structures from up to 414 square feet of benthic habitat and the placement of fill (posts and anchoring rods) on a total of roughly 35 square feet (spread across roughly 270 sites). This would be a net reduction of fill of roughly 400 square feet compared to existing conditions and would expose areas of both soft and hard substrate habitat for recolonization by marine life.

The proposed removal of the approximately 200 to 400 remaining concrete sacks from around the pipeline supports would also expose additional habitat. While it is unclear exactly how many of these sacks remain in place and how much area they occupy, assuming each one has an average size of three square feet and recognizing that many of them were stacked and piled on

top of one another, a reasonable assumption is that their removal would expose roughly 300 square feet of additional habitat along the pipeline route.

In total, the proposed project would therefore result in the permanent removal of fill from approximately 700 square feet of subtidal rock, cobblestone and sand habitat. Upon removal of the overlying artificial fill, these areas would return to a more natural condition and be increasingly able to provide productive habitat for marine life. While some of this habitat is occupied by concrete sacks that were not authorized by the Commission as part of its approval of the previous pipeline support system reinforcement effort in 2012 (CDP Waiver No. 3-12-028-W), the proposed project will nevertheless result in the removal of a substantial amount of existing artificial structure and fill from the project area.

As a result of this proposed net reduction in fill compared to the existing condition and the engineering analysis provided by MBA showing that additional removal of existing fill may negatively affect the continued structural integrity of the intake pipelines – therefore making such removal infeasible - the Commission finds that the second test of Coastal Act Section 30233(a) has been met because there are no feasible, less environmentally damaging alternatives to the proposed placement of fill.

Mitigation

The final requirement of Coastal Act Section 30233(a) is that filling of coastal waters may be permitted if feasible mitigation measures have been provided to minimize any adverse environmental effects associated with that fill.

Although the project would result in a net reduction in fill compared to existing conditions, it would nevertheless include drilling and affixing over 270 support posts and anchoring rods into exposed and buried bedrock. While the small size of the drill holes needed for these posts and rods (all less than ten inches in diameter), their dispersal along the 950 foot long pipeline route, and the installation of many of them on rock that is already buried under sand or cobblestone would help to minimize the effects of habitat loss they would cause, habitat would still be lost and damaged as a result of the placement of this fill. In addition, the proposed method of installing this fill also raises the possibility of adverse environmental effects.

For example, MBA proposes to install and use a nearly 300-square foot elevated underwater work platform to facilitate drilling activities at each work site. The placement and movement of this structure and the corresponding anchoring of support vessels along the pipeline route has the potential to result in temporary disturbance or damage to sensitive marine benthic habitats. In addition, the excavation of material from drilling sites may lead to turbidity and sedimentation in surrounding areas and the use of mechanized equipment and vessels brings with it the risk of hazardous materials spills and injury to wildlife.

Accordingly, the Commission has identified feasible mitigation measures that would minimize both potential and unavoidable adverse environmental effects associated with the placement of fill. For example, the section below on Oil Spills includes a discussion of adverse impacts associated with the potential release of hazardous materials from project vessels and the hydraulically powered equipment proposed to be used to install the pipeline support systems and

describes measures to minimize that risk. These include the requirement in **Special Condition 10** that MBA develop and submit for review and approval a Spill Prevention and Response Plan that ensures that adequate spill prevention measures are taken and response capability is provided during activities that may result in a spill. In addition, **Special Condition 7** would require the development of a Marine Wildlife and Habitat Protection Plan that includes use of a qualified marine wildlife observer who has the authority to halt operations if marine wildlife is observed or anticipated to be near a work area and installation activities have the potential to result in injury or entanglement of marine wildlife. This requirement would minimize the risk to marine wildlife and habitats associated with the proposed drilling, removal, and installation activities. Further, **Special Conditions 2 through 6** would require a variety of additional adverse impact avoidance and minimization measures, including: (1) the relocation of mobile marine organisms away from areas that would be disturbed or occupied during construction; (2) the development and implementation of an Anchoring Plan that would help ensure that anchoring and mooring devices for project vessels would have the appropriate capacity and be installed outside of sensitive hard substrate habitats; (3) marine biological surveys that would be carried out in advance of underwater construction and installation activities to help ensure that threatened or endangered wildlife is not present within the work areas, and that habitat disturbance from construction activities is minimized; (4) removal of all plastic wrapped concrete sacks that may become exposed after the completion of project activities; (5) prohibitions on the discharge into the ocean of debris or construction materials during project activities; and (6) implementation of a marine debris and habitat mitigation program that includes underwater clean-up events three times per year for four years in Monterey Harbor and the Lover's Point State Marine Reserve, as well as follow-up efforts to address likely sources of future debris release into these areas.

The Commission finds that with the addition of **Special Conditions 2 through 7 and 11**, feasible mitigation measures have been provided to minimize any adverse effects of fill, and, therefore, that the third and final test of Coastal Act Section 30233(a) has been met.

D. MARINE RESOURCES

Section 30230 of the Coastal Act states:

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 of the Coastal Act states:

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.

The presence and installation of the proposed pipeline support structures and retrofits and the removal of existing support materials have the potential to affect marine species, habitats, and biological productivity through disturbance, loss, and alteration of benthic habitat; disturbance and entanglement of marine wildlife; release of marine debris; and collision of project vessels with marine mammals or sea turtles.

Benthic Habitat

The MBA intake pipelines transit through an area of rich marine biological diversity and productivity that includes rocky reef and sandy subtidal habitats and kelp beds in between five and 55 feet of water offshore of Monterey's Cannery Row. The wealth of species and habitats found within this area was one of the principal reasons for its inclusion in the state's marine protected area network and designation as a State Marine Reserve. The area is also protected as part of the Monterey Bay National Marine Sanctuary. Recognized as both a state and federal MPA and known to support a wide range of unique marine species and habitats, the project site is considered an area of special biological significance.

Offshore of central California, hard substrate (especially high-relief substrate) and its associated biota are relatively rare, and therefore any effect on them is potentially significant. Impacts to high-relief rocky substrate in particular are significant because: (a) rocky reefs are relatively rare; (b) they support a diverse assemblage of marine invertebrate and kelp species; (c) they attract fish as a nursery ground, food source, and as shelter; and (d) marine life residing on rocky substrates are prone to injury from mechanical disturbance and increased sediment loads.

Several aspects of the project have the potential to adversely affect seafloor habitats within the project area and the array of species that occupy them. These include temporary disturbance and damage associated with the placement of vessel anchors, equipment (including the underwater work platform), and materials (including piles of excavated sediment and cobblestones removed from drill sites), as well as permanent damage and loss associated with the proposed drilling and installation of anchor rods and support posts.

Temporary Placement of Anchors, Equipment, and Materials

Two primary sources of temporary habitat disturbance and damage would be associated with the proposed project: (1) activities associated with short-term placement and use of the underwater work platform at each of the construction sites; and (2) placement of the anchors and moorings for the project construction and support vessels.

In order to carry out the proposed installation of new pipeline support structures and retrofit of existing structures, MBA personnel and contractors would construct a temporary elevated underwater work platform and move it between each of the approximately 44 proposed work sites (roughly 24 sites for retrofit activities and 20 sites for removal and installation activities). This platform would measure approximately 12 feet wide by 24 feet long and would be elevated about eight feet above the seafloor on six support legs. The platform would be oriented so that it

would sit directly above two existing concrete support blocks at each work area and would be in place for a maximum of several days. The platform would then provide a staging platform, a means of enclosing the work area from the surrounding seafloor and water column, and a support for the underwater hoists that would be used to lift the intake pipelines off of the existing concrete blocks while these structures are retrofit or replaced. A schematic diagram of the platform is provided in [Exhibit 3](#). The outer edge of the platform would be affixed with turbidity curtains (sheets of semi-porous material) that would hang down to the seafloor to limit the movement of sediment plumes and dislodged material outside of the enclosed work area. In addition, a stabilizing guy-wire would extend outwards from each corner of the platform and would be secured to the seafloor with a helical sand anchor.

This proposed temporary placement and use of the platform would result in temporary disturbance or damage to benthic habitat: (1) below each of the six support legs; (2) along the base of the perimeter turbidity curtain; (3) at the installation sites for the guy-wire anchors; and (4) within the enclosed work area where rock, sand and other sediment would be excavated and displaced in order to expose each of the anchor rod and support post drilling sites.

Using a series of reasonable worst-case assumptions about the amount of habitat disturbance and damage in each of these areas suggests that a total of up to 80 square feet of benthic habitat would be adversely affected at each of approximately 44 platform installation sites (for a project-wide total of over 3,500 square feet).

Adverse impacts (e.g., crushing, scraping, and/or displacement of marine organisms and habitat) at each of these sites would extend to both soft and hard substrate habitat, as both are present along the pipeline route and would be affected. In their study on the environmental impacts of a submarine cable offshore of Half Moon Bay, Kogan et al. (2006) found that hard substrate was altered or damaged by the presence of the cable which led to scrapes, grooves and removal of typical epifaunal organisms. Placement of the proposed work platform and associated equipment and activities (including sediment excavation and movement of construction personnel) on rocky substrates would similarly disrupt associated bottom communities, likely crushing and/or dislodging algae and small, sessile or relatively sedentary invertebrates within and adjacent to the work area. Sessile species may experience repeated, localized disturbances throughout the construction effort until the platform and other temporary equipment is removed. In addition, mobile species such as crabs and fish are likely to be displaced from their refuges and habitat along the pipeline route during construction activities, potentially leading to increased predation and a reduction in the abundance of these species in this area.

A similar range of adverse impacts to marine benthic habitat and associated species may also result from the proposed placement and use of anchoring and mooring devices that would be used to secure the project's construction and support vessels. MBA is proposing to make use of up to four vessels during the project, including three that would work concurrently. The vessels would include two barge- or pontoon-style vessels, a trawler-style vessel and a smaller utility vessel. While the smaller vessel may be tied to one of the larger work barges, the other vessels are proposed to be used in a manner that would necessitate their placement directly above or immediately adjacent to each of the work areas. Because this would entail moving the vessels along the pipeline route as the work proceeds from one site to the next, MBA is proposing to use

up to several dozen anchoring sites along the pipeline route to keep the vessels in place. While MBA proposes to “pre-set” mooring blocks in order to minimize habitat loss and damage associated with their placement, the specific locations of these moorings/anchors are not described in the CDP amendment application. In addition, the specifications (type, size, capacity) for these moorings/anchors are also not included. While MBA proposes to develop this information as the project proceeds, without it to demonstrate that the anchors/moorings would be placed outside of sensitive marine habitat (such as kelp beds and rocky reef areas) and have sufficient holding capacity to remain in place, a worst-case assumption indicates that additional disturbance and damage to benthic habitat would occur as a result of this aspect of the project.

In order to help ensure that the anchors/moorings are appropriately sized to prevent drag or movement through sensitive habitats in the project area and to minimize the overall adverse impacts to benthic habitats that would result from the anchoring/mooring of project vessels, **Special Condition 3** would require MBA to develop and implement an Anchoring Plan for the project. This Anchoring Plan would show the proposed location of each of the anchors/moorings within areas of soft substrate as well as describe the measures that would be taken to ensure that anchors/moorings are accurately installed in these locations and MBA’s efforts to minimize: (1) the total number of anchors/moorings; (2) the total anchoring footprint; (3) the total number of anchor/mooring locations used during the project; and (4) the placement of anchoring/mooring lines through kelp beds. The Anchoring Plan would be required to be submitted for review and approval by the Executive Director prior to initiation of offshore project activities.

In order to help minimize adverse impacts to hard substrate habitat and associated marine species that may occur within the project work areas due to placement of anchors and other activities such as installation and use of the work platform, **Special Conditions 2 and 4** would require an appropriately qualified, independent¹ marine biological monitor approved by the Executive Director to carry out surveys of the proposed construction areas immediately before the start of work. The intent of these surveys would be for the monitor to: (1) collect and relocate into nearby areas any mobile marine organisms (such as shellfish, starfish, sea urchins, mollusks, crabs, and lobsters) that are found on support structures that would be removed from the ocean, or on areas that would be occupied by construction equipment or materials; (2) help ensure that threatened or endangered marine species are not present in or around construction sites; and (3) help direct construction personnel to locate temporary and permanent construction materials (including the supports, guy-wires and sand anchors for the construction platform) in areas of soft substrate or other areas where marine life and habitat would be less prone to adverse impacts from disturbance and damage.

In addition, **Special Condition 7** would require the development and implementation of a Marine Wildlife and Habitat Protection Plan. This plan would include a variety of measures that would provide an enhanced level of protection for marine life and habitats within the project area, including: (1) awareness trainings for project personnel that would include information on the most common types of marine wildlife and habitats in the project area, the types of project

¹ In this context, “independent” means an individual that is not a direct employee of the Monterey Bay Aquarium (MBA) and one who has not worked for MBA to develop or design the proposed project.

activities with the most potential to adversely affect them and the permit requirements and protective measures and best management practices to be implemented to avoid these adverse impacts; (2) prohibitions on the discharge or release of waste or debris from project construction vessels or sites and implementation of appropriate measures to prevent such releases; and (3) use of a qualified marine mammal observer to help reduce the potential for entanglement or injury to marine mammals during project activities.

While the requirements and measures established through **Special Conditions 2, 3, 4, and 7** would help limit project related adverse impacts to marine benthic habitats and wildlife within the project area, some adverse impacts to these resources would be unavoidable. This is because it would not be feasible for the project to proceed without the use of vessels and associated placement of moorings in areas of benthic habitat or the use of bottom-contact construction equipment (such as the construction platform) at each of the work sites. To compensate for these unavoidable adverse impacts to marine biological resources, MBA has offered to develop and implement a Marine Debris and Wildlife Mitigation Plan (Mitigation Plan). This Mitigation Plan would include four years of underwater clean-up events within both the Monterey Harbor (a primary source of marine debris within the local area) and Lover's Point State Marine Reserve. Debris and material collected during these events would include derelict fishing gear, plastic waste (beverage containers, lids, straws, etc.) and other material such as ropes, lines, and food containers that are likely to pose a risk to marine wildlife and habitats. MBA would also gather data on the type, quantity, and location of marine debris collected through these efforts and use this information to develop and implement debris prevention efforts. These efforts would be aimed at limiting or eliminating the most common sources of debris within the Monterey Harbor and Lover's Point State Marine Reserve.

In addition, MBA has also committed to include in the Mitigation Plan four years of annual funding (a total of \$8,000) for the Monterey Bay Fisheries Trust's Lost Fishing Gear Recovery Program. This innovative program aids in the discovery and removal of lost fishing gear such as crab traps (and associated lines and buoys) from throughout the Monterey Bay area at the end of the fishing season and the return of this gear to its owners. Because this fishing gear is known to pose a risk to benthic habitat and species as well as large marine mammals (due to the entanglement risk posed by its buoy lines), MBA's contribution to its timely collection and removal is expected to provide wide-ranging benefits to marine biological productivity.

Special Condition 6 would memorialize MBA's commitment to develop and carry out this Mitigation Plan.

Permanent Habitat Impacts

In addition to the roughly 3,500 square feet of temporary adverse impacts to benthic habitat that would occur as a result of the proposed short-term installation of anchors/moorings and construction equipment, the project would also result in the permanent loss of rocky habitat. Specifically, the project would include drilling approximately 272 holes in areas of rocky substrate along the pipeline route for the installation of metal anchoring rods and support posts. This activity would result in the loss of a total of roughly 35 square feet of rocky habitat along the pipeline route.

However, for a variety of reasons, this permanent loss of habitat would be largely insignificant and would not adversely affect the marine biological productivity of the project area. Foremost, the proposed 272 holes would all be small diameter – between four and ten inches – and would be spread throughout the approximately 950 foot long pipeline route. This dispersal of the drill holes and their small sizes would limit the effects on any one area of habitat or reef and increase the likelihood that marine organisms in this area would recover from the habitat loss. Secondly, the proposed drill holes are primarily proposed to be drilled below existing concrete pipeline support blocks, in areas of bare rock that are not currently available as marine habitat. Roughly 246 of the proposed drill holes would be installed in such locations and their placement would not result in the destruction or loss of areas of marine habitat that currently support marine life. Many of the remaining holes would be drilled in areas of bedrock that are currently buried beneath cobblestones or sand and would be similarly barren. Finally, the installation of the drill holes and resulting habitat loss would be balanced against the proposed removal of 23 existing concrete blocks with a footprint of 18 square feet each. In other words, the proposed removal of roughly 35 square feet of rock for the anchoring rods and posts would be compensated by the proposed exposure of over 400 square feet of natural rocky and sandy habitat. This area is not currently available for marine life and would be expected to provide productive habitat over time as it becomes naturally colonized by marine species.

Marine Debris

The proposed project is designed in part to address an ongoing issue associated with MBA's previous effort to reinforce the existing concrete pipeline support structures. This effort involved the placement of several hundred concrete sacks beneath areas of the support blocks that were becoming undercut due to sediment scour and erosion. Despite the commitment MBA made during the Commission's review of the project to use biodegradable wrapping for these sacks, they were installed with a plastic mesh wrapping instead. As this material weathered and frayed over time, it released plastic pieces and fibers into the marine reserve and larger marine environment. While MBA proposed last year to begin removing these sacks (authorized by the Commission in CDP Waiver No. 9-17-0468-W) and has collected over 100 since that time, plastic debris was nevertheless released from these sacks for several years before removal activities began.

MBA's commitment to develop and carry out the Marine Debris and Wildlife Mitigation Plan (Mitigation Plan) described above is proposed as a way to help compensate for this marine debris. The Mitigation Plan would include carrying out three primary components for four years – underwater debris collection events; development and implementation of marine debris prevention efforts; and funding for a lost fishing gear recovery project in the local Monterey Bay area. Additionally, MBA is also proposing to collect and remove all of the remaining concrete sacks as part of the proposed project - thereby helping to eliminate them as a source of future plastic debris within the marine protected area. In order to help ensure that all of the sacks are removed – including those that may currently be buried and become exposed over time – **Special Condition 5** would require MBA to opportunistically remove any concrete sacks observed in the future during quarterly pipeline maintenance surveys or reported to the Commission's Executive Director.

In combination, these efforts would be expected to collect and remove from the marine environment and MPA a significantly greater amount of marine debris than was released from the concrete sacks over the past several years. Material collected as part of the lost fishing gear recovery project would be comprised mainly of derelict crab traps and associated buoys and lines and material collected as part of the underwater clean-up events would be made up of garbage and debris common to areas of high human traffic – beverage and food containers, fishing line, scrap metal, tires, etc. Although it is difficult to predict the exact amount of material that would be collected, the clean-up events would be guided by preliminary dives used to “scout out” areas with high volumes of material in order to maximize their effectiveness.

Project Construction Activities

Because the proposed project involves a variety of on-water and underwater construction activities – including the use of several vessels for equipment storage and staging as well as underwater equipment installation and removal – it also has the potential to result in the discharge or release of marine debris. Such debris could be released intentionally during project activities – such as by discarding waste material into the ocean – or accidentally as a result of wind, current or wave action or improper storage techniques.

To help avoid and minimize these potential sources of marine debris, **Special Condition 7** would prohibit MBA and its contractors from discharging or releasing waste, debris or garbage into the marine environment (not including natural materials such as broken rock created by drilling activities). **Special Condition 7** would also prohibit MBA from storing loose tools and equipment at underwater construction sites outside of active work hours and require all materials stored or staged on project vessels to be securely stowed so as to prevent loss into the marine environment during inclement conditions.

Marine Wildlife

The proposed location of the project in the coastal waters offshore of Monterey is within an area known to be used on a year-round basis by a variety of small marine mammals (primarily sea otters, sea lions, and seals) and seasonally by large whales (primarily California gray whales during northward migrations when they travel with young calves and typically remain closest to shore). Other large whale species such as humpbacks, fin whales, and blue whales may also occasionally be present near the project area, but the location of the facility in shallower waters closer to shore and away from known feeding grounds means these species are likely to be found at the project site more rarely. Two species of sea turtle, the green sea turtle and leatherback sea turtle, also have the potential to be found within the project site, but their low abundance also makes these species unlikely visitors. Several species of seabirds, in particular coastal species such as pelicans, cormorants, gulls and terns are also known to pass through and forage at the project site. The larger Monterey Bay supports many more seabird species, including several that have protected status.

The proposed project has the potential to adversely affect these marine mammals, sea turtles, and seabirds in the project area in several ways, including through entanglement with the facility, collision with project vessels, and disturbance from operational activities. To minimize this risk, the Commission is requiring in **Special Condition 7** that MBA submit a Marine Wildlife and Habitat Protection Plan (Protection Plan) for Executive Director review and approval. This

Protection Plan would include the use of at least one marine wildlife observer on the primary project vessel to monitor for marine mammals and other large wildlife in the project area and implement a stop or delay in project activities that could result in harm to this wildlife.

Specifically, the Protection Plan would specify that the marine wildlife observer would establish a precautionary, 500 meter radius avoidance zone around the construction site for large marine mammals (large whales) and a 500 foot (152 meter) radius avoidance zone for small marine mammals such as sea otters, dolphins, and sea lions. The Protection Plan would also establish protective measures to be followed if whales are observed in nearby areas during vessel transits.

Conclusion

With the implementation of **Special Conditions 2-8** described above, the Commission finds that the proposed project is consistent with Coastal Act Sections 30230 and 30231.

E. OIL SPILLS

Section 30232 of the Coastal Act states:

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.

The proposed project includes the operation of four ocean vessels that could potentially increase the chance of a vessel collision and a release of fuel oil into marine waters during project construction/installation and operational activities. In addition, proposed construction and operational activities also require the use of equipment such as hydraulically powered winches and drilling machines that could fail and discharge oils and hydraulic fluids into marine waters.

The first test of Coastal Act Section 30232 requires an applicant to “protect against the spillage of crude oil, gas, petroleum products, or hazardous substances...” In this case, MBA has incorporated into its project a number of measures that reduce the risk and consequences of an oil spill. To avoid the potential for a vessel collision, MBA would establish anchors/moorings within the project area and use them to securely maintain vessels in position during use. In addition, MBA has proposed to mark the boundaries of its work area with both visual and radar reflective navigational aids and would make use of vegetable-based hydraulic fluid in its onboard equipment. This would reduce the potential for adverse impacts to marine wildlife and habitats in the event of a hydraulic fluid spill.

Notwithstanding implementation of the above-described prevention measures, accidental spills can and do occur. The second test of Section 30232 requires that effective containment and cleanup facilities and procedures be provided for accidental spills that do occur. To meet this test the Commission typically requires an applicant to submit an oil spill contingency plan that demonstrates that the applicant has sufficient oil spill response equipment and trained personnel to contain and recover a reasonable worst case oil spill, and to restore the coastal and marine resources at risk from a potential oil spill.

Because neither of these requirements have been met, **Special Condition 10** would provide that MBA submit, for Executive Director review and approval, a Spill Prevention and Response Plan that includes identification of potential spill sources and quantity estimates of a project specific reasonable worst case spill; identification of prevention and response equipment and measures/procedures that will be taken to prevent potential spills and to protect marine and shoreline resources in the event of a spill; the provision of spill prevention and response equipment onboard project vessels at all times; and emergency response and notification procedures, including a list of contacts to call in the event of a spill. This Spill Prevention and Response Plan would take the form of a more typical stand-alone Spill Prevention and Response Plan that would be made available on each vessel deck for reference in the event of an incident. Such a plan would include the requisite spill notification number (the State Warning Center number 1-800-852-7550) in an easy to find location on the front page along with the appropriate list of specific local contact names and numbers that will be called. Additionally, the plan required in **Special Condition 10** would also specify the total, worst-case volume of hazardous materials on the vessels and detail the type and quantity of response equipment that would be kept available on the vessel to address such a worst-case spill.

With implementation of the measures described above and in **Special Condition 10**, the Commission finds that MBA would be undertaking appropriate measures to prevent a spill from occurring and effectively contain and respond to accidental spills that may occur. Therefore, the project is consistent with the second test of Coastal Act Section 30232.

F. ALLEGED VIOLATION

As noted above in the Summary, violations of the Coastal Act exist on the subject property, including, but not limited to, underwater placement of plastic wrapped concrete sacks. In response to notification by Commission permitting and enforcement staff about these Coastal Act violations, as well as its desire to carry out additional proposed development, MBA submitted this CDP amendment application. Approval of this amendment application pursuant to the staff recommendation, issuance of the permit amendment, and the applicant's subsequent compliance with all terms and conditions of the amended permit will result in resolution of the above-described violations going forward.

Although development has taken place prior to the submission of this Coastal Development Permit amendment application, consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Commission review and action on this permit amendment does not constitute a waiver of any legal action with regard to the alleged violations, nor does it constitute an implied statement of the Commission's position regarding the legality of development, other than the development addressed herein, undertaken on the subject site without a coastal permit or permit amendment. In fact, approval of this permit amendment is possible only because of the conditions included herein and failure to comply with these conditions would also constitute a violation of this permit amendment and of the Coastal Act. Accordingly, the applicant remains subject to enforcement action just as it was prior to this permit amendment approval for engaging in unpermitted development, unless and until the conditions of approval included in this permit amendment are satisfied.

Failure to comply with the terms and conditions of this permit amendment may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act. Only as conditioned is the proposed development consistent with the Coastal Act.

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of the Natural Resources Agency as being the functional equivalent of environmental review under CEQA. The preceding CDP amendment determination findings discuss the relevant coastal resource issues with the proposal, and the CDP conditions identify appropriate modifications to avoid and/or lessen any potential for adverse impacts to said resources.

The Commission finds that as conditioned by this CDP amendment, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the project, as conditioned, would have on the environment within the meaning of CEQA. As such, the project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).