COASTAL ZONE CONSISTENCY ANALYSIS AND FINDINGS

BETA UNIT GEOPHYSICAL SURVEY OFFSHORE HUNTINGTON BEACH, CALIFORNIA

Project No. 1602-1681

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SEPTEMBER 2017

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TABLE OF CONTENTS

FIGURES

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BETA UNIT GEOPHYSICAL SURVEY – COASTAL ZONE CONSISTENCY ANALYSIS AND FINDINGS

1.0 PROJECT OVERVIEW

The proposed geophysical survey of the Beta Unit will be conducted within Federal marine waters approximately eight miles offshore Huntington Beach, California (Figure 1-1). The proposed Project is intended to provide Beta with enhanced data regarding the geologic substructure of the Beta Unit to better define remaining potential reserves within the field and enable more efficient recovery efforts. An ocean bottom survey utilizing autonomous nodal acquisition is being proposed to reach an estimated depth of approximately 4,450 feet (1,356 meters) below ground surface. The size of the survey area is approximately 18.885 square miles (48.91 square kilometers) in a NNW to SSE direction (Figure 1-2). Water depths in the survey area range from 148 to 1,083 feet (45 to 330 meters).

The proposed activities, including mobilization and demobilization, are expected to take approximately 42 operational days (six weeks) to complete. Deployment and recovery of the nodes is expected to take approximately 14 days (one week for deployment and one week for recovery); and geophysical data acquisition would take approximately 28 days. This estimate includes time for instrument deployment, profiling, instrument recovery, and demobilization. The survey is being targeted to start the 3rd quarter of 2018, following completion of all required permits and mobilization of vessels and equipment to the west coast. The Project timeframe is proposed for the 3rd quarter of 2018 to avoid periods of active cetacean migration within the area. The current Project scope has been designed to minimize environmental impacts to the greatest extent feasible. Beta will work with environmental agencies to appropriately address any concerns regarding public health and safety and environmental resources.

The proposed scope of work offshore will require operating a node installation/recovery vessel, geophysical survey vessel, and support/monitoring vessels; as well as transit of the vessels between the survey area and nearby harbors including the Port of Los Angeles / Port of Long Beach (POLA/POLB). The geophysical survey vessel will tow one source array along the pre-determined transects shown in Figure 1-2 to acquire geophysical reflection data across and along major geologic structures and fault zones within the survey area.

The proposed node installation/recovery vessel is the M/V *Clean Ocean* (or equivalent). The M/V *Clean Ocean* is based out of the POLA/POLB and is an offshore supply vessel that will be configured to support node storage, deployment, and recovery. The proposed geophysical survey vessel has not been selected at this time; however, either a locally available work vessel utilizing containerized equipment (e.g. M/V *Silver Arrow)* or specialized geophysical survey vessel (e.g. R/V *Marcus G. Langseth)* will be used to conduct the survey. For the purposes of this analysis, the equipment aboard the M/V *Silver Arrow* is referenced, but an alternative vessel would have similar equipment and equivalent (or better) effects. The M/V *Silver Arrow* would be mobilized from Seattle, Washington to the POLA/POLB and Beta Unit offshore Project area.

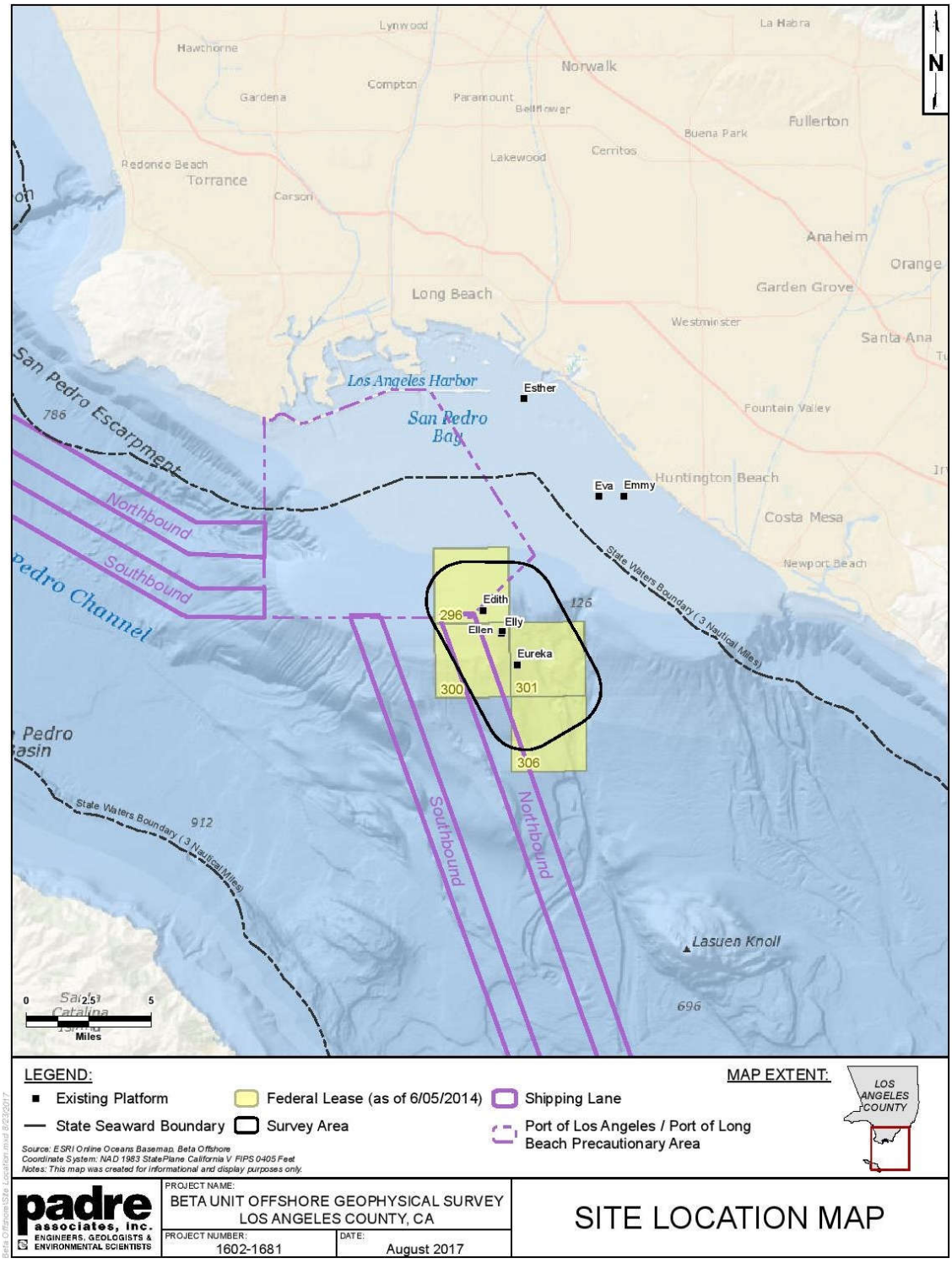

Figure 1-1. Site Location Map

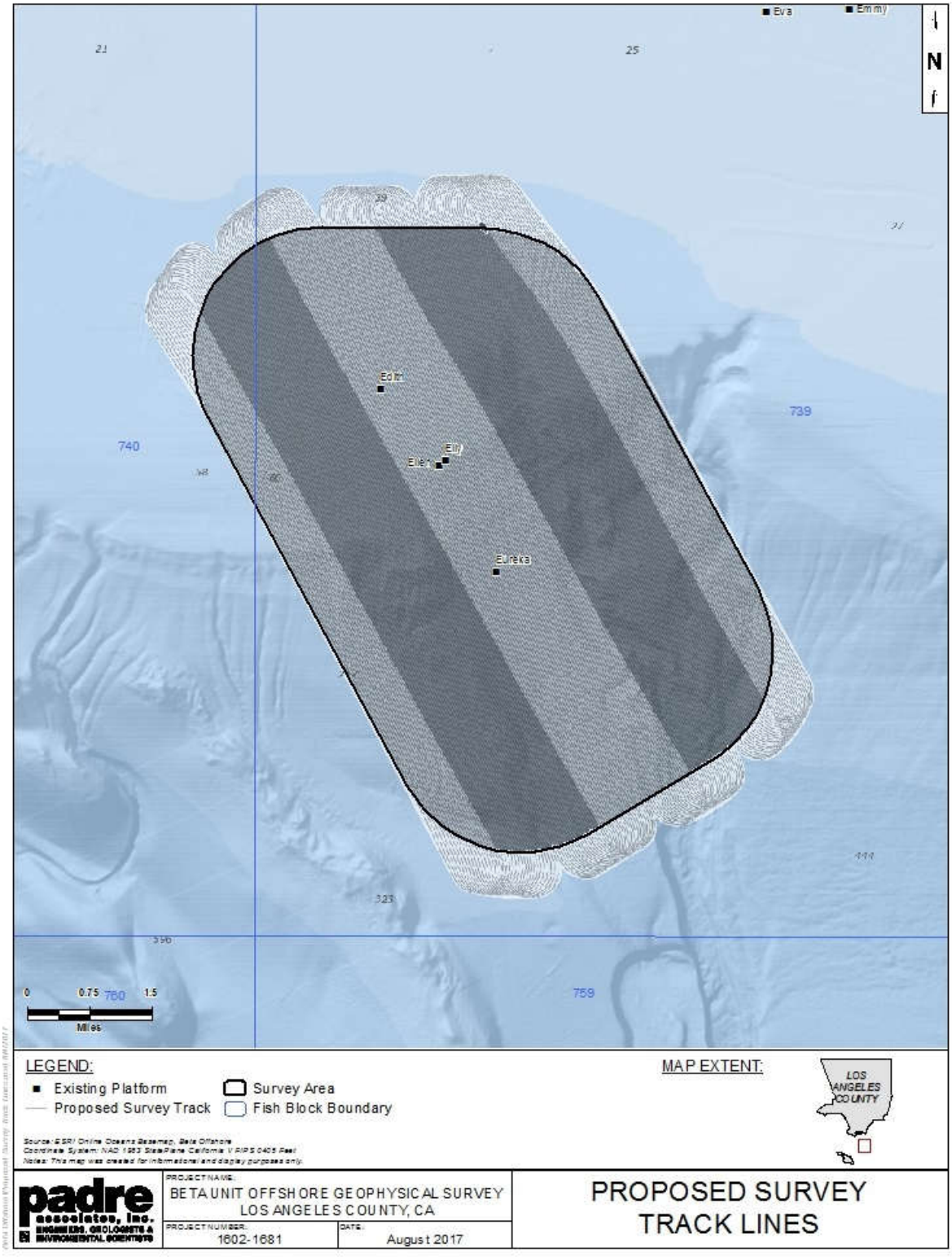

Figure 1-2. Source Vessel Track Map of Beta Unit Proposed Geophysical Survey Area

The proposed geophysical survey will be conducted using a source array comprised of three linear sub-arrays ("strings") containing 11 sound sources each with a combined volume of 3,480 cubic inches (57 liters). The sub-arrays would be towed approximately 328-492 feet (100-150 meters) behind the vessel and separated from each other by approximately 23 feet (seven meters). Depth ropes from source floats would be used to keep the source array at a depth of 23 feet (seven meters). The vessel speed during data collection would range from 7.4 to 9.3 kilometers per hour (four to five knots). The expected timing of the shots is once approximately every seven seconds, and/or approximately every 82.02 feet (25 meters) based on an assumed boat speed of 8.3 kilometers per hour (4.5 knots). The discharge pressure of the array is approximately 2,000 pounds per square inch (psi). To reduce potential noise, the sound source will be operated in "distributed or popcorn mode". During discharge, a brief (~0.1 seconds) pulse of sound is emitted. The source array would be silent during the intervening periods. As only one active source would be firing at any given time, the effective (perceived) source level for sound propagating would be substantially lower than the nominal source level because of the distributed nature of the sound from the source array.

To facilitate data collection, temporary autonomous nodes would be deployed along 20 receiver lines containing approximately 730 nodes total as shown in Figure 1-3. The system is autonomous and would not require electrical cable connection for operation, though nodes are physically tethered together by cable/rope. The nodes are circular and approximately 65 pounds (29.5 kilograms) in air, and are 17.0-inches in diameter by 6-inches high (43.2 centimeters by 15.2 centimeters). Installation of the nodes would be completed when sea state and weather conditions are conducive to safe operations and would be via "live boat" (no anchoring is proposed). After the nodes have been placed on the seafloor, recording will be conducted for the duration of the Project. At the end of the survey, the M/V *Clean Ocean* would recover each line of temporary nodes. The following have been incorporated into the Project to reduce potential impacts:

- **Project Plans/Assessment**
  - Biological Assessment (Federal) (BA)
  - Essential Fish Habitat Assessment (EFHA)
  - Marine Wildlife Contingency Plan (MWCP)
  - Fisheries Management Plan (FMP)
  - Beta Unit Complex (Platforms Elly, Ellen & Eureka, Beta Pipeline and Beta Pump Station) Oil Spill Prevention and Response Plan (OSPRP) (Beta, 2016)
  - Marine Operations Health and Safety (H&S) Plan
- **Measures to Reduce Potential Impacts from Marine Wildlife Exposure to Offshore Noise**
  - Acoustic Modeling Results/Project Exclusion and Buffer Zone
  - Implementation of a Marine Wildlife Contingency Plan (MWCP)
  - Project Timing to Avoid Peak Grey Whale Migration
- **Measures to Reduce Seafloor Impacts from Node Placement**
  - Pre-Project Seafloor Clearance
  - Post-Project Seafloor Clearance

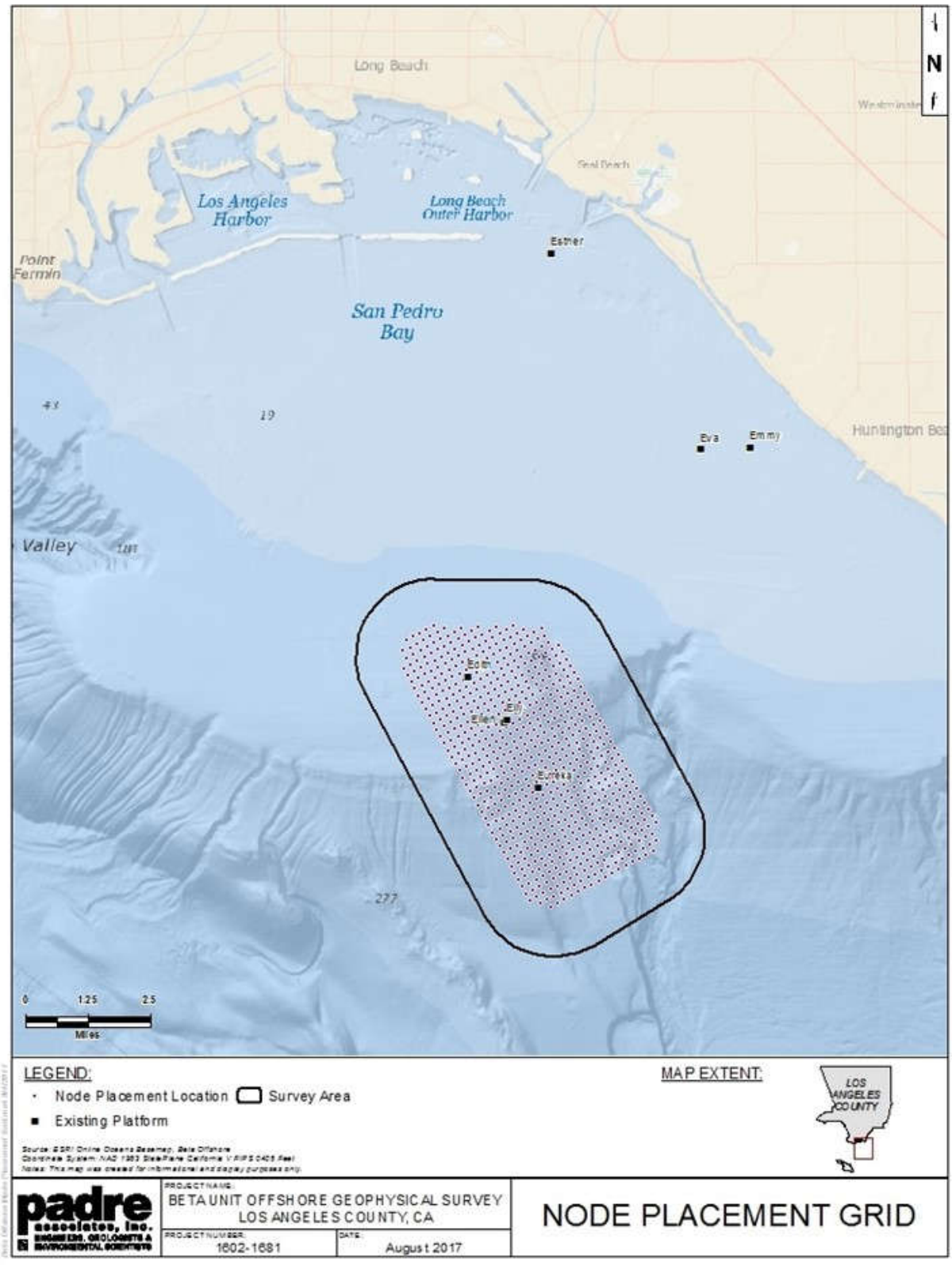

Figure 1-3. Anticipated Node Placement Grid

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2.0 COASTAL MANAGEMENT PROGRAM REVIEW

The proposed Project activities, which are discussed in detail in the above Project Description (Section 2.0), are consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (CCMP). The proposed Project activities would be conducted in a manner which would ensure conformity with that program and will not adversely affect coastal uses and resources.

Each of the applicable California Coastal Zone Management Plan (CZMP) Policies, as specified in the California Coastal Act (CCA), are presented below and evaluated relative to the proposed Project activities.

Based upon the evaluation included in this document, along with the information presented in the Project Description and accompanying appendices, the proposed Project activities comply with the State of California's approved Coastal Management Program and would be conducted in such a manner that is consistent with the program.

Policies under the CCA (Chapter 3) that are not applicable to the proposed Project (and are therefore not discussed further) include the following:

- ARTICLE 2 - PUBLIC ACCESS – Sections 30212, 30212.5, 30213, and 30214.
- ARTICLE 3 - RECREATION – Sections 30221, 30222, 30222.5, 30223, and 30224.
- ARTICLE 4 - MARINE ENVIRONMENT – Sections 30233, 30235, and 30236.
- ARTICLE 5 - LAND RESOURCES – Sections 30241, 30241.5, 30242, and 30243.
- ARTICLE 6 - DEVELOPMENT – Sections 30250, 30251, 30252, 30254, 30254.5, and 30255.
- ARTICLE 7 –Sections 30260, 30261, 30262, 30263, 30264, 30265, and 30265.5.

2.1 EVALUATION OF APPLICABLE COASTAL ZONE MANAGEMENT PLAN POLICIES

2.1.1 ARTICLE 2 - PUBLIC ACCESS

Section 30210, Access; recreational opportunities; posting. *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30211, Development not to interfere with access. *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Assessment

The proposed Project would not require the construction of any permanent onshore or offshore structures that would interfere with the public's right of access to the sea. The Project is located entirely offshore and would not interfere with the public's right of access to the sea from onshore coastal areas. During placement of seafloor nodes and offshore survey activities, approximately 18.885 square miles (48.91 square kilometers) in water depths of 148 to 1,083 feet (45 to 330 meters) would be precluded for a period of approximately 42 days (six weeks). Note that only a small portion of the total survey area would be precluded at any given time as the survey vessel passes along each track line. Within that total area, a 500-meter safety zone around each Platform (Elly-Ellen and Edith) is already precluded in accordance with U.S. Coast Guard safety regulations. Due to the Project's proximity to the POLA/POLB and coastwise shipping lanes, a nodal survey has been proposed to avoid the larger operational preclusion area that is typically required during surveys utilizing streamer acquisition technologies. However, temporary preclusion of offshore areas and placement of the seafloor nodes has the potential to interfere with recreational fishing activities, especially those that use drag lines or nets. Recreational vessels would have unlimited access to other offshore areas that are not within the active survey area.

Since the Project is offshore within Federal waters, has been designed to minimize the potential area of affect at any given time, is short-term in nature and will be conducted during the fall months when offshore recreational activities are less active than the summer months; in addition to advanced noticing with the U.S. Coast Guard (USCG), Ports, and onshore recreational areas, the Project would provide adequate notification and access for recreational opportunities.

Finding

The proposed Project is located offshore and would not provide new public access to the sea, nor would it interfere with public access to the sea. The proposed Project would make the required warning and hazard notifications to local mariners and harbors. The proposed Project is therefore consistent with these sections of the CCA.

2.1.2 ARTICLE 3 - RECREATION

Section 30220, Protection of certain water-oriented activities. *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

Assessment

The Project would be short-term (approximately 42 days) and would be conducted starting the 3rd quarter of 2018 when offshore recreational activities are less than the more active summer months. The Project would not result in the closure of any local ports, and none of the operations would be close enough to shore to impact nearshore vessel movements or vessels moving into and out of the harbors. The closest the active operational survey vessel would come to shore is approximately 5 miles. Although a portion of the proposed survey area is located within the northbound coastwise shipping lane, survey operations would only preclude a transitory area that would be accommodated by other vessels based on appropriate USCG noticing and signals/flagging.

The proposed Project would involve towing equipment behind the vessel, however the Project methodology (nodal acquisition) has been proposed to avoid the larger operational preclusion area that is typically required during surveys utilizing streamer acquisition technologies. The source array would be towed approximately 328-492 feet (100-150 meters) behind the vessel. The length of this array is not anticipated to affect offshore recreational activities (i.e. boating, sailing, fishing) in the immediate area of the survey operations and Vessel Safety Exclusion Zone during the Project timeframe. The proposed Project would also place temporary nodes along pre-determined transects on the seafloor. This has the potential to interfere with recreational fishing activities while they are being deployed and recovered. Once deployed, these seafloor devises would not preclude or interfere with recreational boating activities.

Recreational vessels would have unlimited access to water areas that are not within the active survey area. Beta would, as part of the ongoing survey operations will provide daily updates of the survey vessel's location and survey area to the recreational users and identify the area closed for recreational vessel transit in coordination with the USCG. When radio calls from non-project vessels are received, the calling vessel would be provided information on the immediate survey zone. In addition to providing an Exclusion Zone for the ship/equipment, these distances would also reduce the amount of extraneous non-project vessel noise in the data collected during the survey. Information on coastal and sea access and warnings of any hazards would be provided through the issuance of a Local Notice to Mariners (NTM) to the USCG at least 15 days in advance of the initiation of offshore activities.

Finding

The proposed Project is short-term and is not expected to result in negative impacts to water-oriented activities. The proposed Project is therefore consistent with this section of the CCA.

2.1.3 ARTICLE 4 - MARINE ENVIRONMENT

Section 30230, Marine resources; maintenance. *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Use 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, recreation, scientific, and educational purposes.*

Assessment

The Project area encompasses approximately 18.9 square miles (48.9 square kilometers) offshore of Huntington Beach and surrounds existing Platforms Eureka, Edith, and Ellen/Elly. Water depths in the Project area range from 148 to 1,083 feet (45 to 330 meters). The northwest corner of the Project survey area is located approximately 5.9 miles (9.5 kilometers) from the closest Marine Protected Area (MPA) at Bolsa Bay (Bolsa Chica Basin). The Project Environmental Assessment (EA), Essential Fish Habitat Assessment (EFHA), and Marine Wildlife Contingency Plan (MWCP) describe in detail the seabirds, marine mammals, fish resources, and other flora and fauna in the area. The EA and MWCP outline the geophysical survey procedures and mitigation measures to reduce impacts to terrestrial and marine mammals.

Specifically, there are 27 marine mammal species that have the possibility of occurring within marine waters of the Project site. The marine mammal species under the jurisdiction of the National Marine Fisheries Service (NMFS) that are most likely to occur in the survey area include: four mysticeti species (California gray whale, humpback whale, Minke whale, and blue whale); five odontoceti species (Dall's porpoise, Pacific white-sided dolphin, Risso's dolphin, common dolphin, and bottlenose dolphin); and four pinniped species (Guadalupe fur seal, California sea lion, harbor seal, and northern elephant seal). Six cetacean species (fin whale, humpback whale, blue whale, northern right whale, sei whale, and sperm whale) are listed as *Endangered* under the Federal Endangered Species Act (ESA) and one pinniped species Guadalupe fur seal is listed as *Threatened* under ESA. Fin, sei, north Pacific right, and sperm whale sightings are uncommon in the area, and those species have a low likelihood of occurrence during the survey activities.

National Marine Fisheries Service (NMFS) Guidance (2016) identifies received acoustic threshold levels at which each marine mammal hearing group is predicted to experience damage or permanent changes to their hearing. Exposure to loud sounds could affect marine mammals in a number of ways. These include temporary threshold shift, which is a short-term hearing impairment and permanent threshold shift, which is a permanent hearing loss. Non-auditory physical effects may also occur in marine mammals exposed to loud underwater pulsed sound. Possible types of non-auditory physiological effects or injuries that might (in theory) occur in mammals close to such a sound source include stress, neurological effects, bubble formation, and other types of organ or tissue damage. It is possible that some marine mammal species (i.e., beaked whales) may be especially susceptible to injury and/or stranding when exposed to loud transient sounds.

Beta is working with the Bureau of Ocean Energy Management (BOEM), NMFS, and U.S. Fish and Wildlife Service (USFWS) to reduce these impacts through the implementation of a monitoring program during Project operations. To minimize potential impacts, Beta would implement a MWCP that includes measures designed to reduce the potential impacts of the proposed actions to marine wildlife, particularly marine mammals. This program includes measures that have been developed in consultation with NMFS, have been successfully implemented in similar marine surveys, and would be based on anticipated Exclusion and Buffer Zones derived from modeling of the selected energy source levels. These Exclusion and Buffer Zones would be reviewed in context with the Incidental Harassment Authorization (IHA) to be conducted by NMFS as part of the Project review under the ESA and Marine Mammal Protection Act (MMPA).

The Project would also involve the temporary placement of approximately 730 autonomous nodes onto the seafloor along twenty receiver lines within the survey area. The placement of the nodal devices will be temporary and will avoid environmentally sensitive habitats where feasible. The proposed Project will conduct pre-activity surveys prior to placement. Biological monitors will be present during all activities in environmentally-sensitive habitats. The nodes would be placed onto the seafloor in a manner that would not significantly disturb the environment.

Finding

During marine survey operations, key concerns would be the potential impacts to marine wildlife due to: 1) their potential exposure to potentially adverse high sound levels associated with the use of the source array, 2) direct collisions with the survey vessels, or 3) placement of temporary nodes directly onto sensitive (hardbottom) habitat. As these activities have the potential to impact marine resources, these activities would not be consistent with this Section of the CCA. However; to minimize potential impacts, Beta would implement a MWCP that includes measures designed to reduce the potential impacts of the proposed actions to marine wildlife, particularly marine mammals. This program includes measures that have been developed in consultation with NMFS, have been successfully implemented in similar marine surveys and would be based on anticipated Exclusion and Buffer Zones derived from modeling of the selected energy source levels and implemented to enforce no level A Take of sensitive marine wildlife. These Exclusion and Buffer Zones would be reviewed in context with the Incidental Harassment Authorization (IHA) to be conducted by NMFS as part of the Project review under the ESA and MMPA.

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

Assessment

The offshore component of the proposed Project would not generate any waste water. All waste would be disposed of in accordance with Federal Marine Sanitation Device Regulations. There are no onshore activities that could result in potential impacts or alteration to surface waterflows or streams. No groundwater supplies would be affected by the proposed actions. Offshore water quality impacts would be limited to minor sediment displacement and turbidity caused by placement of the autonomous nodes and unanticipated leaks or spills associated with Project vessels or equipment. However, sediment displacement is expected to be minimal and turbidity is expected to dissipate within the water column quickly. These localized, short-term water quality effects would not affect the biological productivity of the offshore marine environment.

Finding

The proposed Project will not produce any waste water discharge and will not impact surface waters or streams. The proposed Project will be carried out in a manner that is consistent with this section of the CCA.

Section 30232, Oil and hazardous substance spills. *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Assessment

The offshore survey area is commonly utilized by recreational, industrial, and commercial vessels. The western portion of the proposed survey area is located within the northbound coastwise shipping lane. As such, a slight potential for release due to equipment failure or vessel contact would exist. Additionally, a limited volume of hazardous materials such as fuels, hydraulic fluids, and oils may also be used during construction activities. However, the proposed Project has been designed to minimize potential risk to the greatest extent feasible. Equipment will be fueled prior to site mobilization. Appropriate notices will be posted through the USCG and harbor master's office to provide advanced notice to vessels regarding Project timing and the Exclusion Zone for avoidance of Project activities. No anchoring is proposed during any Project activity, as node placement/recovery will be conducted via "live-boating" and no anchoring is required during the geophysical survey. Additionally, seafloor node locations have been selected based upon a multitude of seafloor surveys and would avoid hard-bottom areas to the extent feasible and existing seafloor features such as pipelines and/or power cables within the survey area. Further, during construction, construction best management practices (BMPs), as well as the Beta Unit Complex (Platforms Elly, Ellen & Eureka, Beta Pipeline and Beta Pump Station) Oil Spill Prevention and Response Plan (OSPRP) (Beta, 2016), will be followed to prevent or immediately respond to any unauthorized release of hazardous materials to the marine environment.

Finding

Project design considerations as well as appropriate noticing, and adherence to the Beta Unit OSPRP would be implemented to avoid a potential spill. In the event of an accidental petroleum release, the containment and cleanup measures specified in the OSPRP would reduce effects to the greatest extent possible. Therefore, the Project's activities would be carried out in a manner that is consistent with this section of the CCA.

Section 30234, Commercial fishing and recreational boating facilities. *Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.*

Section 30234.5, Economic, commercial, and recreational importance of fishing. The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Assessment

Commercial and recreational fishing operations are expected to be limited within the Project site as proposed activities will occur within an area that currently supports existing pipelines and platforms. Existing safety zones extend for 500 meters (1,500 feet) from the outer edges of Platforms Elly, Ellen, and Eureka and USCG regulations for those areas preclude vessels from entering or remaining within those safety zones.

The proposed Project would involve towing equipment behind the vessel, however the Project methodology (nodal acquisition) has been proposed to avoid the larger operational preclusion area that is typically required during surveys utilizing streamer acquisition

technologies. The source array would be towed approximately 328-492 feet (100-150 meters) behind the vessel. Although preclusion of some commercial and recreational fishing may be necessary during survey operations, impacts are expected to be minimal due to the lack of expected commercial fishing in the area (survey area will preclude a transitory area located within 3-35 percent of the designated commercial Fish Blocks) during the relatively brief period of construction (approximately 42 days). Commercial and/or recreational vessels would have unlimited access to other offshore areas that are not within the active survey area.

The proposed Project would also place approximately 730 temporary autonomous nodes along 20 receiver lines on the seafloor. This has the potential to interfere with recreational fishing activities that utilize hook and line, trawling, pots, or nets. However, based on information provided in the Fisheries Management Plan, trawling appears to be very limited within the Project region. Additionally, Project information would be provided through the issuance of a Local NTM to the USCG at least 15 days in advance of the initiation of offshore activities. Additionally, the Local Notice to Mariners would be posted in the local Harbormaster's office.

The geophysical survey may have short-term effects on fish catches, mainly from changes in fish behavior, but any extended effects on catch in an area would likely be limited, at most, to a period of a few days after exposure. Trawling and long-line experiments examining the duration of catch per unit effort (CPUE) reductions in species such as hake, haddock, and Atlantic cod have shown either no effects or effects lasting from one to five days depending on the frequency and intensity of the sound sources. The results of those studies suggest that natural variation in CPUE over time can mask any real effects caused by exposure to sound sources, and the greater the period of time between sound exposure and fishing effort the less confidence there is that changes in CPUE can be attributed to the sound exposure alone.

The timing of the survey has been selected to start in the 3rd quarter of 2018 would occur when seasonal abundances of larval and pelagic juvenile rockfishes, a group that may be most at risk to such activities, are very low (less than 0.3 percent of peak period). Data from plankton studies along the California coast have shown that spring through early summer months provide the most productive waters for larval production and growth. By fall, larval abundances have decreased and young-of-the-year of many species of rockfishes have grown to a size where they migrate inshore or settle to the bottom in locations that would reduce their direct exposure to the sound source. In addition, reports on the effects of source array noise on fish larvae suggest that no long-term effects on larval abundance larvae and or adult fish were detected. Therefore, no long-term effects on commercial fishing from the geophysical survey are anticipated.

Finding

The proposed Project would not have a long-term impact on facilities that support recreational boating and commercial fishing activities. The proposed Project activities would be temporary and would not reduce the importance or the economic value of recreational and commercial fishing. The Project would not require resulting in the closure of any local ports or in the restricting of vessel traffic in or out of those ports. No additional berthing would be required to support the proposed vessel activity. The Project specific Fisheries Management Plan will be implemented throughout the survey to ensure minimal impacts to commercial fishing operations.

Recreational boaters and commercial fishing vessels would have unlimited access to water areas that are not within the active survey area. Beta will provide updates of the survey

vessel's location and survey area to the recreational and commercial users and identify the area closed for vessel transit. Information on coastal and sea access and warnings of any hazards would be provided through the issuance of a Local Notice to Mariners to the U.S. Coast Guard at least 15 days in advance of the initiation of offshore activities.

As proposed, Project activities would be conducted in a manner that is consistent with these sections of the CCA.

2.1.4 ARTICLE 5 - LAND RESOURCES

Section 30240, Environmentally sensitive habitat areas; adjacent developments.

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Assessment

An Environmentally Sensitive Habitat Area (ESHA) is defined as "any area in which plant or animal life or their habitats are either rare or especially valuable…." In accordance with this definition, ESHAs in the Project area would include all MPAs, which were created for protection of marine life and habitat; currently occupied habitat for Threatened or Endangered species; rookery sites for birds along the coast; and streams, wetlands, and sensitive natural communities. The northwest corner of the Project survey area site is located approximately 5.9 miles (9.5 kilometers) from the closest MPA at Bolsa Bay (Bolsa Chica Basin). Although outside of the three-mile limit and State protected MPAs; as threatened and endangered species occur throughout the offshore Project area, this policy would apply to the entire offshore area, and Project activities would temporarily disrupt the habitat value of the ESHA. Implementation of the measures outlined in the MWCP and those associated with the anticipated approval of the IHA have been found to mitigate the potential impacts to marine resources to the maximum extent feasible.

Additionally, the Project would involve the temporary placement of approximately 730 autonomous nodes onto the seafloor along twenty receiver lines within the survey area. The placement of the nodal devices will be temporary and will avoid environmentally sensitive habitats where feasible. The proposed Project will conduct pre-activity surveys prior to placement. Biological monitors will be present during all activities in environmentally-sensitive habitats. The nodes would be placed onto the seafloor in a manner that would not significantly disturb the environment.

Findings

The proposed Project activities would include temporary disturbance within the environmentally sensitive habitat offshore. As such, these activities may not be consistent with this Section of the CCA. However; to minimize potential impacts, Beta will implement a MWCP that includes measures designed to reduce the potential impacts of the proposed actions to marine wildlife, particularly marine mammals. This program includes measures that have been developed in consultation with NMFS, have been successfully implemented in similar marine

surveys and would be based on anticipated Exclusion and Safety Zones derived from modeling of the selected energy source levels and implemented to enforce no level A Take of sensitive marine wildlife. These Exclusion and Safety Zones would be reviewed in context with IHA to be conducted by NMFS as part of the Project review under the ESA and MMPA. Implementation of the measures outlined in the MWCP and those associated with the anticipated approval of the IHA have been found to mitigate the potential impacts to marine resources to the maximum extent feasible.

Placement of the autonomous nodes would be temporary and would not significantly disturb environmentally sensitive habitats on the seafloor. Additionally, with Project-incorporated mitigation and avoidance measures, potential effects would be minimized.

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

Assessment

Potential impacts to cultural resources associated with the proposed Project would be limited to underwater archaeological resources. However, due to the size of the survey area, as well as its location within heavily trafficked transportation corridors, Project activities will occur in a region where previously unknown shipwrecks may be encountered. In order to minimize the potential for disrupting previously unknown shipwrecks or debris, a pre-Project seafloor clearance will be conducted. The pre-Project seafloor clearance will identify any areas of avoidance prior to the placement of Project nodes. The placement of the autonomous nodes would be temporary, and nodes would be placed at locations that would avoid any known archaeological or paleontological resources. Final field deployment monitoring would ensure avoidance of any previously unidentified sensitive resources. Survey operations will not require anchoring. In the unlikely event that Project surveys uncover a previously unidentified archaeological site (shipwreck), Beta will require the contractor to immediately stop all work activities in the immediate area of the resource. The South Central Coastal Information Center or State Historical Information Preservation Office would be notified within 48 hours if no other overriding issues are identified to warrant earlier notifications. As such, impacts to archaeological or paleontological resources are not anticipated.

Finding

The proposed Project is located offshore in an area that does not contain known cultural or archaeological resources. The placement of the autonomous nodes would be temporary, and nodes would be placed at locations that would avoid any known archaeological or paleontological resources. The Project does not include dredging or seafloor disturbances that would uncover unknown subsurface archaeological or paleontological resources. In the unlikely event that Project surveys uncover a previously unidentified archaeological site (shipwreck), Beta will require the contractor to immediately stop all work activities to notify the appropriate agencies. Therefore, the Project would be conducted in a manner that is consistent with this section of the CCA.

2.1.5 ARTICLE 6 - DEVELOPMENT

Section 30253, Minimization of adverse impacts. *New development shall do all of the following:*

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

Assessment

The overarching goal of the proposed geophysical survey is to provide subsurface imaging of the energy productive formations which lie 3,000 to 5,000 feet below the seafloor within the Beta Unit field. By characterizing the geometry of the faults and their interaction at depth, the Project team would test between the various models for margin formation, which have important implications for potential ground motion in the region. This information would be made available to the public and to research facilities to better characterize offshore faulting in this area. These studies are important to understanding and minimizing the risks to life and safety.

Project activities would not exceed long term air quality emissions thresholds set by the California Air Resources Board or Los Angeles Air Pollution Control District. The offshore geophysical survey requires 24/7 operation, which would minimize energy consumption and total boat miles travelled.

The Project would not require any permanent structures and would not impact any special communities or neighborhoods.

Findings

The proposed Project activities would minimize adverse impacts and would be conducted in a manner that is consistent with this section of the CCA.