

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200
FAX (415) 904-5400



W11a

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STAFF REPORT: PERMIT AMENDMENT

Application No.: E-09-011-A2

Applicant: Rincon Island Limited Partnership

Agent: Penfield and Smith

Location: Rincon Island, Ventura County.

Amendment Description: Complete repairs to the Rincon Island Causeway by installing steel piling jackets, via pile driving, on up to 51 existing steel piles and by installing up to nine new steel piles.

Staff Recommendation: Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Rincon Island Limited Partnership (RILP) proposes to amend its Coastal Development Permit E-09-011 to allow additional pile driving repair work to be carried out during the ongoing repair of the Rincon Island Causeway. This work would involve the installation of 28-inch diameter steel piles over the top of up to 51 existing 24-inch piles (a process known as “jacketing”) as well as the installation of up to nine new 28-inch diameter piles along the existing causeway.

The Rincon Island Causeway is a 2,732-foot long wood and steel bridge that connects the man-made Rincon Island to the mainland coast at Punta Gorda in northern Ventura County. Rincon Island contains a variety of oil and natural gas production infrastructure and the causeway provides vehicle, equipment, and personnel access to the island and supports attached oil, natural gas, and utility transport pipelines. Maintenance and materials degradation issues on the causeway resulted in its closure and the suspension of oil and gas production operations on Rincon Island in 2007. Oil and natural gas production is anticipated to resume once causeway repairs are complete. On August 12, 2010 the Commission authorized repairs to the causeway in Coastal Development Permit No. E-09-011 and on June 17, 2012, the Commission authorized an immaterial amendment to that permit to allow for modifications to the repair plans. RILP proposes to again modify its repair plan to allow for an expanded use of pile driving.

Major Coastal Act issues associated with this project include potential adverse impacts to marine resources. The proposed installation of new steel piles and pile jackets would involve up to 60 separate pile driving events in nearshore coastal waters (one to two events of approximately 30 minutes each per month), resulting in elevated levels of underwater sound in marine habitat known to support a variety of fish and marine mammal species. Marine mammals observed at and around the causeway over the past several years include the California gray whale, Pacific harbor seal, California sea lion, common bottlenose dolphin, and long-beaked common dolphin. Exposure of marine wildlife to elevated levels of underwater sound has the potential to result in direct and indirect injury, disturbance, or mortality.

Commission staff believes that continued adherence to [Special Condition 1](#) and [Special Conditions 3-7](#) required in Coastal Development Permit No. E-09-011, in combination with the implementation of the additional protective measures described in the modified [Special Condition 2](#) and new [Special Condition 8](#) described below, would reduce impacts to marine resources such that the amended project can be found consistent with the marine resources policies of the Coastal Act. Specifically, the modified [Special Condition 2](#) would protect marine mammals by requiring that an expanded monitoring zone be established around all pile driving activities and that pile driving cease if any marine mammals are sighted within this zone. In addition, the modified [Special Condition 2](#) also requires that the pile driving device be operated on its lowest power setting to reduce the underwater sound levels generated during pile driving. Further, the modified [Special Condition 2](#) requires that sound dampening devices (such as cushion blocks or pile caps) and techniques be used during pile driving events, if feasible. To address potential impacts to marine fish and invertebrate species associated with the elevated levels of underwater sound generated during pile driving, [Special Condition 8](#) would require that a “real-time” underwater acoustic monitoring device be installed in the water column at the closest practicable distance to the piles and pile jackets during installation to ensure that sound levels do not exceed established injury thresholds.

Commission staff therefore recommends that the Commission **APPROVE** coastal development permit amendment application E-09-011-A2, as conditioned.

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EXHIBITS

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I. MOTION AND RESOLUTION

Motion:

I move that the Commission approve Coastal Development Permit Amendment E-09-011-A2 subject to conditions set forth in the staff recommendation specified below.

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

Resolution:

The Commission hereby approves the Coastal Development Permit Amendment for the proposed project and adopts the findings set forth below on grounds that the development as amended and conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. 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 development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. SPECIAL CONDITIONS

All terms and conditions of Coastal Development Permit No. E-09-011 (included in [Appendix B](#)) shall remain in full force and effect and the following modified Special Condition 2 and new Special Condition 8 shall be added:

2. Marine Mammal Precautions.

- (a) A marine mammal monitor approved by the Executive Director shall be present at all times during pile driving. The monitor shall ensure that RILP and its contractors fully comply with the conditions of this permit related to biological protection.
- (b) Pile driving work shall be suspended if any marine mammal is observed between the mainland coast and Rincon Island or within a one mile radius to the north and south of the causeway. Pile driving may resume once the mammal is observed outside of this hazard zone or more than 30 minutes have elapsed since the last sighting of the marine mammal within the hazard zone. The north and south extent of the hazard zone may be reduced by the Executive Director upon submittal of documentation that the area of exposure to sound pressure levels of 160 dB dB re: 1 μ Pa (root mean square, unweighted) or greater is significantly smaller. The marine mammal monitor will be responsible for monitoring this zone during pile driving activities. In the event that the monitor determines a marine mammal has entered this zone, the monitor shall have the authority

to suspend pile-driving activities until the marine mammal has passed outside of this zone.

- (c) An initial ramp-up period shall occur when starting pile-driving activities to avoid potential impacts to marine mammals that may be undetected within the safety zone.
- (d) RILP shall operate the pile driver at its lowest practicable power setting and shall employ the use of sound dampening techniques and/or devices (such as pile cushions or caps) if such techniques and/or devices can be safely used without interfering with effective operations.
- (e) Any project lighting shall be directed in such a way to reduce potential impacts to marine mammals and other wildlife while maintaining safe work conditions. To the extent feasible, lighting shall not be directed skyward or over the water. In addition, to minimize effects on neighboring properties, lighting shall not be directed shoreward.

8. Acoustic Monitoring.

- (a) An underwater acoustic monitoring device capable of recording both peak and accumulated sound pressure levels shall be placed as close as practicable to the site of active pile driving.
- (b) The data collected by this device shall be monitored throughout the course of pile driving operations.
- (c) As specified in the interagency Fisheries Hydroacoustic Working Group June 12, 2008, memorandum, pile driving activity shall immediately cease if at any time: (a) the recorded peak sound pressure level exceeds 206 dB re: 1 $\mu\text{Pa}_{\text{peak}}$; or (b) the calculated accumulated sound exposure level (SEL) exceeds 187 dB re: 1 $\mu\text{Pa}^2 \cdot \text{sec}$.
- (d) If the accumulated sound exposure level threshold is exceeded, pile driving shall cease for as long as possible without risking sediment consolidation and not less than 30 minutes.
- (e) If the peak sound pressure level threshold is exceeded and/or if the marine mammal monitor observes dead or injured fish in the vicinity of active pile driving operations, RILP shall implement additional feasible power reduction and/or sound dampening measures necessary to reduce the peak sound pressure level below the threshold.
- (f) Peak sound pressure and accumulated SEL data from the first five of the 51 replacement piles shall be compiled and submitted to the Executive Director within 14 days of the completion of pile driving activities on the fifth pile. If this data demonstrates that neither the peak sound pressure nor accumulated SEL thresholds specified above were exceeded, the remaining replacement piles may be installed without underwater acoustic monitoring.

III. FINDINGS AND DECLARATIONS

A. BACKGROUND AND PROJECT DESCRIPTION

Rincon Island Limited Partnership (RILP) holds State Lands Commission Oil and Gas Lease No. 1466.1 offshore of northern Ventura County. Structures at the lease site include an existing man-made island in nearshore waters (known as Rincon Island) and a 2,732 foot long timber and steel causeway that extends out to the island from the coast at Punta Gorda. The causeway connecting Rincon Island to shore consists of a timber roadway supported by steel pilings and lateral cross

bracing. The causeway connects to the mainland at a concrete abutment above an area reinforced with a revetment comprised of large rock rip-rap boulders, as shown in [Exhibit 1](#). The causeway also supports several utility lines and two six-inch pipelines that are used to transport oil and natural gas from the Rincon Island production wells to shore. The artificial island, causeway, abutment, and revetment at Punta Gorda were constructed in the late 1950s to facilitate the installation and operation of oil and natural gas production wells.

Over the years, wave action, salt-laden air and water, and natural erosive processes caused rock rip-rap material at the Punta Gorda revetment to become displaced and degraded the structural integrity of materials on the causeway. When severe winter storms in December of 2007 washed away several rip-rap boulders and smaller rocks from the revetment, a portion of the paved causeway entrance pad located above this area began to collapse. The pavement collapse and revetment degradation also exposed a portion of the six-inch oil transport pipeline, near the area where it comes ashore and enters the ground at Punta Gorda. Upon inspecting the causeway, abutment and pipelines in the winter of 2007, the California State Lands Commission (SLC) determined that these structures were in an unsafe condition and ordered the oil and gas pipelines to be shut down and flushed, resulting in discontinued oil and gas production at Rincon Island. Vehicular use of the causeway and vehicle access to Rincon Island was also suspended due to concerns regarding the structural integrity of the causeway.

On January 2, 2008, the SLC directed RILP to submit a work plan to carry out necessary repairs on the causeway and abutment. The work plan that was developed called for RILP to repair these structures in two phases. The initial phase consisted of emergency repairs, including the placement of rock rip-rap material at the revetment surrounding the landside causeway abutment in order to address the threat of erosion around the exposed abutment. The second phase consisted of detailed engineering surveys of the causeway, abutment and pipeline and the development of a plan to make long-term repairs to the causeway. In a letter dated February 14, 2008, the SLC approved the initial phase emergency repairs, with conditions. On April 1, 2008, the Coastal Commission also approved these emergency repairs and issued Emergency Permit E-08-007-G.

This emergency work was completed in May of 2008 and, per Condition 5 of the emergency permit, RILP submitted a follow-up coastal development permit application (E-08-007) on June 30, 2008, to permanently authorize these repairs.

In the late summer and early fall of 2008, RILP began the second phase of the causeway repair project by conducting an American Society of Civil Engineers certified topside and underwater inspection of the Rincon Island causeway, in compliance with SLC requirements. On April 13, 2009, several months after completing the engineering survey and inspection, RILP initiated causeway repair work without consultation with Commission staff and without benefit of a coastal development permit. On May 7, 2009, RILP was directed by Commission and SLC staff to halt work and seek the appropriate authorization for the completed and remaining repair activities.

At the time these unpermitted activities were carried out, Commission staff was in the process of reviewing coastal development permit application number E-08-007 for the permanent

authorization of the emergency work carried out in 2008. For the sake of efficiency, RILP withdrew this permit application and submitted a new “bundled” coastal development permit application (E-09-011) that included: (1) a request for permanent authorization of the work carried out under Emergency Permit E-08-007-G; (2) a request for after-the-fact authorization of causeway and revetment repairs carried out without benefit of a coastal development permit; and (3) the completion of the remaining second phase causeway repair activities, including the installation of one 16-inch steel pile by pile driving. The Commission approved these requests August 12, 2010, and issued Coastal Development Permit No. E-09-011, subject to seven special conditions (included in Appendix B).

During the course of carrying out the authorized repair work, RILP determined that structural degradation of the causeway had exceeded expectations and that modifications to the repair plan were necessary to allow for additional limited pile driving activities to be carried out if necessary. RILP requested an immaterial permit amendment to allow these modifications and the Commission approved this amendment (E-09-011-A1) on June 17, 2012. Causeway repair work has continued since that time and approximately half of the causeway has been successfully repaired. RILP’s continued evaluation of structural conditions on the remaining un-repaired causeway suggests that further modifications to its repair plan are needed and more extensive use of pile driving is necessary. These modifications are the subject of a second permit amendment application and this staff report.

Specifically, in this permit amendment application RILP has requested that Coastal Development Permit No. E-09-011 be amended to allow for up to sixty 28-inch diameter steel piles to be installed on the causeway by pile driving. Nine of these piles would be new and would be installed in order to augment the structural integrity of the causeway. The remaining 51 piles would be installed over the top of existing piles that have been identified as corroded, broken, and at risk of failure. These existing piles are 24-inches in diameter and would remain in place inside the larger 28-inch diameter hollow steel piles once installation is complete.

Installation procedures would involve the use of a crane mounted pile hammer and would be largely the same as those authorized by the Commission previously. Several changes to previously approved methods are requested, however. These changes include the use of a larger, more powerful pile hammer to carry out the pile driving and the use of larger 28-inch diameter steel piles. As discussed in the marine resources section below, these changes would increase the underwater sound levels generated by the pile driving activity.

Apart from the additional proposed pile driving work, all other repairs would be carried out as previously authorized by the Commission. The Commission’s findings and Special Conditions regarding shoreline processes and hazards, public access, visual resources, hazardous materials spills and marine debris, would remain relevant and in effect during the modified project and would require no addition or alteration based on the proposed amendments to the project’s coastal development permit. As such, this staff report is focused solely on the proposed additional use of pile driving and potential adverse impacts to coastal resources associated with this activity.

B. OTHER AGENCY APPROVALS

California Department of Fish and Wildlife

Commission staff worked with staff of the California Department of Fish and Wildlife's Marine Region regarding potential project impacts to marine fish species resulting from pile driving, sound threshold levels, and possible mitigation measures.

California State Lands Commission

The California State Lands Commission has been closely involved in the ongoing and proposed repairs to the Rincon Island Causeway. The State Lands Commission approved the original repair plans in 2008 and has authorized several modifications to these plans (in 2009 and 2011) in response to additional inspections and evolving repair procedures. Coastal Commission staff worked closely with the State Lands Commission during the course of its review process to help ensure that repair operations remain effective and on schedule while minimizing potential adverse impacts to coastal resources.

C. PERMIT AUTHORITY, REPAIR AND MAINTENANCE

Coastal Act Section 30610(d) generally exempts from Coastal Act permitting requirements the repair or maintenance of structures that does not result in an addition to, or enlargement or expansion of the structure being repaired or maintained. However, because the proposed project would result in the addition to and enlargement of the Rincon Island causeway (through the addition of new and expanded pilings), the exemption in Coastal Act Section 30610(d) is not applicable to this project.

D. FILL OF OPEN COASTAL WATERS

Section 30233(a) of the Coastal Act states:

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.*

Coastal Act Section 30108.2 defines “fill” as “earth or any other substance or material ... placed in a submerged area.” As part of its amended project, RILP proposes to install sixty 28-inch diameter steel piles into the nearshore waters and underlying bedrock between approximately 1,000 and 2,732 feet from shore. Installation of these steel piles into the submerged nearshore zone constitutes “fill” of open coastal waters, as that term is defined in the Coastal Act.

The Commission may authorize a project that includes filling of open coastal waters if the project meets the three tests of Coastal Act Section 30233. The first test requires that the proposed activity fit within one of seven use categories described in Coastal Act Section 30233(a)(1)-(7). The second test requires that no feasible less environmentally damaging alternative exists. The third and final test mandates that feasible mitigation measures are provided to minimize any of the project’s adverse environmental effects.

Allowable use

The overall purpose of the amended project is to repair and secure a damaged causeway structure to ensure its structural integrity, to prevent potential damage to the oil and natural gas pipelines that it supports, and to allow the causeway to provide access to Rincon Island for emergency vehicles and oil and gas production and extraction equipment. Due to the energy oriented use of the causeway, the expansion of the existing project footprint (a total of approximately 100 square feet from the 60 piling installation sites) and the deposit of additional fill in the coastal zone, the repair project constitutes an “expanded energy” facility, described as an allowed use in Coastal Act Section 30233(a)(1). Therefore, the Commission finds that the amended project meets the allowable use test for fill of open coastal waters under Coastal Act Section 30233(a).

Alternatives

The Commission must further find that there is no feasible less environmentally damaging alternative to placing fill in open coastal waters. Coastal Act Section 30108 defines “feasible” as “...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.”

In addition to the proposed pile replacement activities, RILP also considered repairing the 51 existing steel piles in place. However, because of the advanced state of degradation of these piles and presence of cracks, breaks and fractures slightly below the sand surface on several of them, repairing these piles in place would have required RILP to carry out more extensive in-water activities than those associated with the proposed pile replacement. To repair many of the broken piles, RILP would have needed to dredge the sand surrounding the piles (to expose the damaged areas), install sheet pile cofferdams below the causeway to provide a dry work

environment, and to carry out extensive welding activities to secure metal repair sleeves around the broken piles. These activities would have required the placement of additional materials and equipment within nearshore waters and would have required the displacement and removal of a substantially greater amount of coastal waters and sandy substrate habitat. Moreover, daily tidal swings and changing wave conditions would have restricted the time during which these activities could take place, thus substantially extending project timing. The Commission agrees with the applicant that on balance, this alternative would be more environmentally damaging when compared to the proposed pile replacement activities.

The Commission staff also considered a "no project" alternative. However, this would have resulted in continued closure of the causeway to vehicle traffic, a reduction in the causeway's structural integrity, an increased risk of causeway collapse and the potential for adverse impacts to coastal resources and additional damage to existing oil and gas transport infrastructure on the causeway and at Punta Gorda. The Commission agrees that this alternative would also be more environmentally damaging.

For the reasons described above, the Commission finds that the amended proposed project is the least environmentally damaging feasible alternative and therefore the second test of Coastal Act Section 30233(a) is satisfied.

Mitigation Measures

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 impacts. As described in greater detail in the Commission's findings for coastal development permit no. E-09-011 and the coastal and marine resources section of this report, the mitigation measures associated with this project consist of: construction best management practices; an oil spill prevention and response plan; a waste management plan; additional spill prevention measures to prevent spillage and/or run-off of construction related materials, sediment, or contaminants; a requirement to immediately recover and remove fugitive project materials that enter the ocean or beach area; limits on when and how pile driving can occur, in order to minimize its disturbance to marine life; and a requirement to limit the size and location of staging activities in order to minimize potential disruptions to public access and recreation. These feasible mitigation measures will minimize the project's adverse environmental impacts. Thus, with the imposition of the conditions of this permit, the Commission finds that the third and final test of Coastal Act Section 30233(a) has been met.

Conclusion

Because the three tests have been met, the Commission finds the proposed project consistent with Section 30233 of the Coastal Act.

E. 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.

As shown in [Exhibit 1](#), the project site is located adjacent to and above nearshore coastal waters. The extensive sandy beach habitat of Mussel Shoals Beach extends upcoast from the project site and several hundred feet of rocky intertidal and subtidal habitat extends downcoast. The tidepools that exist in the rocky intertidal zone slightly downcoast of Punta Gorda are noted in the Ventura County Area Plan as environmentally sensitive habitat. Small seasonal kelp beds can also be found downcoast and offshore of the project site.

The project as amended includes installation via pile driving of sixty 28-inch steel piles from roughly the mid-point on the 2,732 foot long causeway to its terminus at Rincon Island. Because these activities would be carried out both above and within marine waters, the amended project has the potential to result in adverse impacts to both marine organisms and the marine environment. Specifically, the proposed pile driving would result in the generation of elevated levels of underwater sound in nearshore waters known to support several species of marine mammals, including harbor seals, California sea lions, several species of common dolphin, and migrating gray whales. Marine mammals, in particular cetaceans such as whales and dolphins, are known to be susceptible to disturbance and injury from high levels of human-generated underwater sound. In addition, a variety of fish and invertebrate species are also known to suffer disturbance and injury as a result of elevated underwater sound levels.

During the course of causeway repair activities previously authorized by the Commission in Coastal Development Permit No. E-09-011 and E-09-011-A1, a variety of marine mammal species were been observed near the causeway area. As noted in a report submitted to the Commission by the marine mammal monitor employed during this work, these species include the common bottlenose dolphin (*Tursiops truncatus*), the long-beaked common dolphin (*Delphinus capensis*), the Pacific harbor seal (*Phoca vitulina richardsi*) and the California sea lion (*Zalophus californianus*). In addition, several gray whales (*Eschrichtius robustus*) were also observed migrating past the Rincon Oil Island or under the causeway during the winter and spring of the past two years (2011-2012 and 2012-2013).

The proposed amendment to allow the use of pile driving equipment during the installation of the new and replacement piles has the potential to adversely affect marine mammals due to the elevated underwater sound levels that would occur during this activity. Marine mammals rely on

sound to navigate, and find food, mates, and companions. Elevated levels of human generated underwater sound have been shown to interfere with these activities and in some cases to cause internal injury, stranding, and mortality. To prevent and minimize these damaging effects of sound to marine mammals, the modified [Special Condition 2](#) would require RILP to establish a stop-work zone monitored by a marine mammal monitor and to perform an initial ramp-up period during pile-driving activities. In addition, pile-driving activities would be conducted using the lowest available power setting on the pile hammer equipment, thus reducing the force of its impact on the steel piles and the resulting sound energy transmitted into the marine environment. Further, the modified [Special Condition 2](#) would also require RILP to make use of feasible sound dampening devices and techniques, such as cushion blocks or caps placed between the pile hammer and steel pile to reduce the energy transmitted from the hammer into the steel pile.

The stop-work or hazard zone established around the pile driving site by [Special Condition 2](#) would include the area between Rincon Island and the mainland coast and extend to one mile on either side of the causeway. The size of this area was determined by Commission staff in consultation with National Marine Fisheries Service scientists and encompasses the expanded monitoring zone implemented by RILP during past pile driving activity at the recommendation of its onsite marine mammal monitor. Conservative estimates made using recorded measurements of underwater sound levels at various locations along the causeway during previous pile driving events (made with the pile hammer at its maximum power setting) suggest that the sound levels received at the limit of this one mile hazard zone would be below the standard 160 decibel level (re: 1 μ Pa root mean square, unweighted) used by NMFS as a threshold for likely disturbance to marine mammals such as whales and dolphins.

While the Commission has in some cases found that a lower, more conservative threshold is more appropriate for minimizing potential impacts to marine mammals, these cases typically include areas known to support particularly sensitive marine mammal species (such as harbor porpoise or beaked whales), life stages (pregnant females and/or young), and/or habitats (i.e. deepwater canyons, essential feeding areas, calving grounds, etc.). Because these factors are not expected to be present at the project site and because of the limited duration and frequency of proposed pile driving activities (one to two events of approximately 30 minutes per month), use of the more standard NMFS disturbance threshold is appropriate in this case.

In recognition of the conservative nature of the sound propagation estimates made in support of the one mile radius hazard zone and the lack of sound recordings made during use of the pile hammer on the lowest practicable power setting, [Special Condition 2](#) includes a provision that would allow the hazard zone to be reduced in size by the Executive Director upon the request of RILP if it is able to provide adequate documentation that the area exposed to the 160 decibel sound level is substantially smaller.

The Executive Director-approved marine mammal monitor on site would have the authority to suspend pile driving if a marine mammal passes within the hazard zone. Therefore, although underwater noise from the project could disturb or injure marine mammals known to be occasionally present in the area, the project is conditioned to minimize these potential effects.

The elevated underwater sound levels resulting from pile driving may also result in adverse impacts to fish and invertebrate species. While the current level of scientific understanding of these impacts remains incomplete, several studies carried out in recent years suggest that physical injury to fish may result from both instantaneous exposure to a maximum sound pressure level as well as from accumulated exposure to a lower sound level over a longer period of time. As a result of these studies, in 2008, an interagency working group comprised of representatives of state and federal resource management agencies from California, Oregon, and Washington developed recommendations of peak and accumulated sound levels to be used as thresholds for injury to fish. These thresholds were specifically developed for sounds associated with pile driving activities in fresh and estuarine waters that may support threatened or endangered fish species.

While such listed species are not expected to be present at the project site, observations of dead and injured fish have been made following pile driving carried out by RILP at the causeway. Although limited in number and restricted to common marine fish species such as surf perch (and associated with use of the pile hammer on its maximum power setting), these impacts suggest that implementation of protective measures for fish during the proposed pile driving events would be prudent. As such, the Commission is requiring in [Special Condition 8](#) that RILP maintain an underwater acoustic monitoring device at the site of each pile driving event and that this device be monitored to ensure that the peak and accumulated sound levels established by the interagency Fisheries Hydroacoustic Working Group in its June 2008, memorandum are not exceeded. If the accumulated sound exposure level of 187 dB re: 1 μPa^2 is exceeded, [Special Condition 8](#) requires RILP to cease pile driving operations for the day to allow any fish exposed to this injurious accumulated sound level to recover. If the peak sound level of 206 dB re: 1 $\mu\text{Pa}_{\text{peak}}$ is exceeded, RILP shall implement additional power reduction and/or sound dampening measures necessary to reduce the peak sound pressure level below the threshold necessary to protect marine fish. [Special Condition 8](#) also requires RILP to submit the compiled peak sound pressure level and accumulated sound exposure level data from the first five of the 51 replacement piles to the Executive Director and allows RILP to discontinue the underwater acoustic monitoring for the remaining replacement piles if neither peak sound pressure level nor accumulated sound exposure level is exceeded during these pile driving operations.

The Commission finds that the amended project, as conditioned, will be carried out in a manner that maintains marine resources and the biological productivity of coastal waters and is therefore consistent with Coastal Act Sections 30230 and 30231.

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act ("CEQA"). Section 21080.5(d)(2)(A) of CEQA prohibits approval of a proposed development if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant impacts that the activity may have on the environment. The amended project as conditioned herein incorporates measures necessary to avoid any significant environmental effects under the Coastal Act, and there are no

less environmentally damaging feasible alternatives or mitigation measures. Therefore, the proposed amended project is consistent with CEQA.

Appendix A: Substantive File Documents

Coastal Development Permit Application No. E-09-011-A2 and associated file
Final Adopted Findings, Coastal Development Permit No. E-09-011
Coastal Development Permit Amendment No. E-09-011-A1

Buehler, D., R. Oestman, and J. Reyff, 2007. Application of Revised Interim Pile Driving Impact Criteria. Memorandum dated December 21, 2007.

Fisheries Hydroacoustic Working Group, 2008. Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities. Memorandum dated June 12, 2008.

ICF Jones & Stokes and Illingworth and Rodkin, Inc., Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish. February 2009.

Popper, A. N., T. J. Carlson, A. D. Hawkins, B. L. Southall, and R. L. Gentry. 2006. Interim Criteria for Injury of Fish Exposed to Pile Driving Operations: A white paper.

Appendix B: Standard and Special Conditions of CDP No. E-09-011

I. STANDARD CONDITIONS

This permit is subject to the following 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 the permittee 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 the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

II. SPECIAL CONDITIONS

This permit is subject to the following special conditions:

- 1. Daily Log.** RILP shall maintain a daily log of project activities that includes the observations of the approved marine mammal monitor during pile driving activities. The monitor shall record in that log both written and photographic descriptions of any observed or potential effects of the project on marine mammal species during pile driving activities. The log shall also include descriptions of any spills, releases, or debris that affects coastal waters or beach areas, along with a description of the measures taken to address these events. Within thirty days of project completion, RILP shall submit to the Executive Director a written report incorporating the above information.

If there is a spill or hazardous material release (including oil, fuel, other petroleum products, or any hazardous chemicals), or any disturbance or “take” or marine mammals, RILP shall immediately contact Coastal Commission staff (Cassidy Teufel, at 415-904-5502) and the other contacts required in the project’s Oil Spill Prevention and Response Plan, and shall provide via facsimile (415-904-5400) the daily log that fully describes the incident.

2. **[Modified as noted above]**

3. **Spill Prevention.**

- (a) The project Waste Management Plan, Oil Spill Prevention and Response Plan, and Best Management Practices (BMPs) included in Exhibit 4 shall be implemented and followed during all project activities to minimize discharge of contaminants or project materials into coastal waters or habitat areas.
- (b) Equipment shall not be refueled on the causeway or in areas where adequate spill prevention and response measures are not in place.
- (c) RILP shall install protective barriers under all heavy equipment to ensure that fuel or fluid leaks do not contaminate soil, coastal waters, or groundwater.
- (d) Equipment shall be inspected daily for fuel or fluid leaks. Leaking equipment shall be repaired or replaced immediately.
- (e) Sandblasting, painting and the application of corrosion resistant coatings shall only occur once proper containment tenting has been installed and full containment of these materials can be achieved. No excess paint, used or unused sandblasting material or anti-corrosion coating shall be discharged into coastal waters or stored on the causeway when not in use.

4. **Debris Removal.** RILP shall immediately remove all rock or debris that may fall from the project site onto the beaches or into the ocean outside of the existing revetment footprint at Punta Gorda. Any rocks that move seaward of the reconstructed revetment shall be immediately retrieved and either: (1) restacked within the approved rock slope profile; or (2) removed off the beach to a suitable disposal location. Any rock or debris to be retrieved in this manner shall be recovered by crane or similar removal equipment positioned on the causeway or causeway entrance pad landward of the waterline.

5. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, RILP acknowledges and agrees (i) that the site may be subject to hazards from episodic and long-term coastal erosion, tsunami, earthquake, wave and storm events, and geologic instability, and the interaction of same; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

6. **Deed Restriction.** Within 45 days of the Commission's approval of this coastal development permit, RILP shall submit to the Executive Director for review and approval documentation demonstrating that RILP has executed and recorded against the parcel governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: 1) indicating that, pursuant to this coastal development permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and 2)

imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property. The deed restriction shall include a legal description of the entire parcel governed by this coastal development permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this coastal development permit shall continue to restrict the use and enjoyment of the subject property so long as either this coastal development permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

7. **Project Staging/Storage Area.** To the maximum extent feasible, no project preparation, staging or onsite storage of project materials, equipment, machinery or vehicles shall occur inland of the paved and fenced causeway entrance pad. If temporary storage or staging outside of this area is required, it shall be located a maximum distance from all coastal and beach access trails and shall not block or impede access to these trails.

Exhibit 1 – Project Location

