

**CALIFORNIA COASTAL COMMISSION**

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# F15b

Date Filed: September 17, 2020  
180<sup>th</sup> Day: March 16, 2021  
Staff: T. Luster-SF  
Staff Report: October 16, 2020  
Hearing Date: November 6, 2020

## STAFF REPORT: REGULAR CALENDAR

**Application No.:** 9-20-0379  
**Applicant:** Poseidon Resources (Channelside) LP  
**Agents:** See Appendix B  
**Location:** Within, and on the shoreline of, Agua Hedionda Lagoon, City of Carlsbad, County of San Diego, CA (APNs #210-010-45, 210-010-47, 210-010-48)  
**Project Description:** Installing and operating a temporary test facility to compare the performance of two seawater intake screen designs.  
**Staff Recommendation:** Approval with Conditions

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## SUMMARY OF STAFF RECOMMENDATION

Poseidon Resources (Channelside) LP (“Poseidon”) proposes to install and operate a temporary test facility in Agua Hedionda Lagoon to determine whether either of two different intake screens would be suitable to install as full-scale screens at Poseidon’s adjacent Carlsbad desalination facility. Earlier this year, the San Diego Regional Water Quality Control Board issued a permit requiring Poseidon to install any of several wedgewire screen systems on Poseidon’s intake structure to reduce the entrainment of marine organisms, as required by the state’s Ocean Plan.

This temporary test facility would provide a side-by-side evaluation of two screens – an active system, which is rotating and self-cleaning, and a passive system, which is cleaned using an airburst method. It would be placed on the Agua Hedionda Lagoon floor, about 750 feet from the intake for Poseidon’s desalination facility. This location will allow the test screens to experience similar water quality and hydrodynamics as the screen eventually selected for use on the desalination facility’s intake.

The project would involve work in coastal waters and on the shoreline that could adversely affect coastal water quality and associated marine species. To ensure conformity with relevant Chapter 3 provisions, Commission staff is recommending several Special Conditions that would require Poseidon to conduct project activities using best management practices, to prepare for prevention and response to any spills or releases of hazardous materials, and to assume the risks associated with locating structures in and near coastal waters. To mitigate for the loss of marine life caused by the operation of these screens, **Special Condition 6** requires Poseidon to fund two projects being conducted by the Agua Hedionda Lagoon Foundation, which is intended to both improve water quality and provide public access enhancements.

However, even with these Special Conditions, the project is not fully consistent with applicable Chapter 3 policies, specifically Section 30233(c), which allows fill to be placed in Agua Hedionda for just three purposes – very minor incidental public facilities, restorative measures, and nature study. However, because the project is considered a “coastal-dependent industrial facility,” the Commission may “override” this inconsistency pursuant to Section 30260, which allows for such facilities if they meet a three-part test: 1) alternative locations are infeasible or more environmentally damaging; 2) the public welfare would not be served by denial of the project; and 3) the project’s impacts are mitigated to the extent feasible. In applying this test, staff believe the proposed project, as conditioned, meets these three tests.

**Recommendation:** Commission staff believes the project, as conditioned, conforms with applicable Coastal Act policies, and therefore recommends **approval** of coastal development permit application 9-20-0379.

## TABLE OF CONTENTS

<b>I. MOTION &amp; RESOLUTION .....</b>	<b>4</b>
<b>II. STANDARD CONDITIONS .....</b>	<b>4</b>
<b>III. SPECIAL CONDITIONS .....</b>	<b>5</b>
<b>IV. FINDINGS &amp; DECLARATIONS .....</b>	<b>8</b>
A. PROJECT DESCRIPTION AND BACKGROUND .....	8
B. COASTAL COMMISSION JURISDICTION AND STANDARD OF REVIEW .....	9
C. OTHER AGENCY APPROVALS & CONSULTATIONS.....	10
D. FILL IN COASTAL WATERS .....	10
E. PROTECTION OF COASTAL WATERS AND SPECIES .....	11
F. ALTERNATIVES ANALYSIS.....	15
G. COASTAL-DEPENDENT INDUSTRIAL FACILITY “OVERRIDE” .....	16
<b>V. CALIFORNIA ENVIRONMENTAL QUALITY ACT.....</b>	<b>18</b>

### APPENDICES

**Appendix A** – Substantive File Documents

**Appendix B** – Applicant’s Agents

### EXHIBITS

**Exhibit 1** – Location Map

**Exhibit 2** – Project Layout

**Exhibit 3** – Screen Structure

**Exhibit 4** – Location of Hubbs Trail Mitigation

**Exhibit 5** – Location of Cove Trail Mitigation

## I. MOTION & RESOLUTION

### Motion:

I move that the Commission **approve** Coastal Development Permit No. 9-20-0379 pursuant to the staff recommendation.

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit 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 and adopts the findings set forth below on the grounds that the development, as conditioned, will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit 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 significant adverse effects of the development on the environment.

## II. 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.

### III. SPECIAL CONDITIONS

1. **Other Approvals.** PRIOR TO STARTING CONSTRUCTION ACTIVITIES, the Permittee shall provide to the Executive Director a copy of the project's coverage under the Regional Water Quality Control Board's Nationwide Permit program (R9-2020-0172, September 2020). The Permittee shall inform the Executive Director of any changes to the project required by this permit. Such changes shall not be incorporated into the project or undertaken until the Permittee obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.
2. **Best Management Practices.** The Permittee shall conduct all project activities subject to the following:
  - a. During facility installation, operation, and removal, all trash and debris shall be properly contained, removed from the worksite, and disposed of on a regular basis. No construction materials, debris, or waste shall be placed or stored where it may be subject to wave action or tidal erosion and dispersion. Any debris inadvertently discharged into coastal waters shall be recovered immediately and disposed of consistent with the requirements of this permit.
  - b. All fueling and maintenance of project equipment shall occur within designated staging areas. Mechanized heavy equipment and vehicles shall not be fueled within 100 feet of coastal waters unless within an area where any potential spills can be fully contained.
3. **Hazardous Material Spill Prevention and Response.**
  - a. PRIOR TO STARTING CONSTRUCTION ACTIVITIES, the Permittee shall submit, for Executive Director review and approval, a project-specific Hazardous Materials Spill Prevention and Response Plan for all vehicles to be used for project activities. The Plan shall include:
    - a list of all fuels and hazardous materials that will be used or might be used during the proposed project, together with Material Safety Data Sheets for each of these materials;
    - specific protocols for monitoring and minimizing the use of fuel and hazardous materials during project operations, including Best Management Practices that will be implemented to ensure minimal impacts to the environment;
    - an estimate of a reasonable worst case release of fuel or other hazardous materials on the project site or into coastal waters resulting from project repair or maintenance activities;
    - all identified locations within the project footprint of known or suspected buried hazardous materials, including current or former pipelines, underground storage tanks, and the like;
    - a list of all spill prevention and response equipment that will be maintained on-site;
    - the designation of the onsite person who will have responsibility for implementing the plan;

- a detailed response and clean-up plan in the event of a spill or accidental discharge or release of fuel or hazardous materials; and,
- a telephone contact list of all regulatory and public trustee agencies, including Coastal Commission staff, having authority over the development and/or the project site and its resources to be notified in the event of a spill or material release.

The Permittee shall ensure that all onsite project personnel participate in a training program that describes the approved Plan, identifies the Plan's requirements for implementing Best Management Practices to prevent spills or releases, specifies the location of all clean-up materials and equipment available on site, and specifies the measures that are to be taken should a spill or release occur.

- b. In the event that a spill or accidental discharge of fuel or hazardous materials occurs during project construction or operations, all non-essential project construction and/or operation shall cease and the Permittee shall implement spill response measures of the approved Plan, including notification of Commission staff. Project construction and/or operation shall not start again until authorized by Commission staff.
- c. If project construction or operations result in a spill or accidental discharge that causes adverse effects to coastal water quality or other coastal resources, the Permittee shall submit an application to amend this permit, unless the Executive Director determines no amendment is required. The application shall identify proposed measures to prevent future spills or releases and shall include a proposed restoration plan for any coastal resources adversely affected by the spill or release.

The Permittee shall implement the Plan as approved by the Executive Director. No changes to the approved Plan shall occur without a Commission approved amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

4. **Assumption of Risk, Waiver of Liability and Indemnity by the Permittee.**

By acceptance of this permit, the Permittee acknowledges and agrees: (i) that the site may be subject to hazards, including but not limited to waves, storms, flooding, erosion, and earth movement, all of which will worsen with future sea level rise; (ii) to assume the risks to the Permittee 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

5. **Liability for Costs and Attorneys' Fees.** By acceptance of this permit, the Applicant/Permittee agrees to reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys fees – including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay – that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Applicant/Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.
  
6. **Mitigation for Marine Biological Effects.** PRIOR TO CONSTRUCTION, the Permittee shall provide an in-lieu mitigation fee of \$7,820.00 to the Agua Hedionda Lagoon Foundation. The Foundation will use these funds to implement two mitigation projects described herein expected to improve water quality by reducing erosion into Agua Hedionda: 1) the Hubbs Trail Improvement Project and 2) the Cove Trail Improvement Project. Within 60 days of the Foundation's expenditure of these funds, the Permittee shall notify the Executive Director of the mitigation project's completion and provide a description and as-built drawings of the completed work.

## IV. FINDINGS & DECLARATIONS

### A. PROJECT DESCRIPTION AND BACKGROUND

Poseidon Resources (Channelside) LP (“Poseidon”) is proposing to install and operate a temporary, small-scale pilot project that would test two types of wedgewire screens to determine which screen design would be more suitable to use as a full-scale screen on the nearby seawater intake at Poseidon’s Carlsbad Desalination Facility.<sup>1</sup> The test facility would be located within and on the shoreline of Agua Hedionda Lagoon in the City of Carlsbad, San Diego County (see **Exhibit 1 – Location Map**).

In May 2019, the San Diego Regional Water Quality Control Board (“Regional Board”) issued to Poseidon Order R9-2019-0003, which requires Poseidon to install a wedgewire screen system on its desalination intake by December 31, 2023. Wedgewire screens are cylindrical structures designed to allow water to be drawn in through slots between a series of wires on the surface of the structure (see **Exhibit 2 – Project Layout**). The screens can be designed with varying slot sizes. For purposes of compliance with the state’s Ocean Plan, wedgewire screens used on seawater desalination facilities can have a maximum slot size of one millimeter, which is the size selected for the two test screens. During the first few years of Poseidon’s desalination facility operations, it relied on seawater used by the co-located power plant for cooling its generators; however, with the power plant ending its use of the cooling system in December 2018, the Regional Board is requiring Poseidon to install the screens as part of Poseidon’s “stand-alone” operations.

Because there are few data available about how these wedgewire screens perform in an estuarine environment like Agua Hedionda, Poseidon proposes to conduct this test so it can compare the performance of the two screens – one that uses a rotating, active cleaning system and another that uses passive cleaning via airbursts – to determine which would be better suited for the full-scale installation. The project will also include water quality testing, monitoring of biological fouling rates, and other data collection activities.

The site selected for this pilot test facility is located about 750 feet from Poseidon’s existing intake, which will allow the test screens to be subjected to water quality and hydrodynamic characteristics similar to the eventually installed full-scale screens.

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<sup>1</sup> Wedgewire screens are one of several methods or systems the California Ocean Plan requires for eliminating impingement and reducing entrainment on seawater intakes at desalination facilities. Impingement occurs when fish and other marine life are drawn against a screened intake and are killed or injured by being trapped against the screen. The rate of impingement is largely related to the velocity of the water being pulled into the intake. California’s Ocean Plan considers impingement to be de minimis when through-screen velocities are less than 0.5 feet per second.

Entrainment occurs when small organisms, such as plankton, fish eggs, larvae, etc., are pulled through a screened intake and killed when exposed to stressors such as high pressure, turbulence, being exposed to chemicals or temperature changes, etc. Organisms subject to entrainment are presumed to experience 100% mortality. The amount or rate of entrainment that occurs at a particular intake is related primarily to the density of organisms within the intake’s source water area and the volume of water being pulled into the intake.



Locating the facility at this location here will result in fewer impacts than other locations within Agua Hedionda, as the inwater portions of the project would be on an unvegetated area of benthic habitat and in a part of the Lagoon where public access to the water is restricted due to nearby aquaculture activities and the industrial nature of the power plant and desalination intake. The facility's onshore components would be at an already developed part of the adjoining industrial site where there would be little or no effect on biological resources or public access to the shoreline.

The screens and their associated pumps and similar equipment would be placed on an approximately 15-foot by six-foot skid mounting and lowered onto the Lagoon floor from a work barge (see **Exhibit 3 – Screen Structure**). The structure would be attached to the Lagoon floor using four helical anchors. The two screens would be installed side-by-side and operated simultaneously. Each would have a design intake flow of 600 gallons per minute, for a combined total of about 1.7 million gallons per day. To avoid impingement, the screens would be designed to have flow-through velocities of less than 0.5 feet per day, as required by the state's Ocean Plan.<sup>2</sup> The facility's electrical and data signal cables, air line, and sampling line would be bundled into an approximately six-inch diameter and 950-foot long "umbilical" line anchored to the Lagoon floor with concrete ballast placed every nine to 15 feet. This line would connect the facility to an onshore temporary control room located within Poseidon's desalination facility property. All structures and equipment will be removed at the end of the two-year study.

As part of this proposal, Poseidon would also conduct an investigation to determine the geotechnical characteristics of the nearby substrate to help determine the design and location for the full-scale screens. This investigation would consist of three geotechnical borings within the Outer Lagoon to collect samples of the underlying substrates. Borings would be done using a barge-mounted drill rig and then backfilled with bentonite pursuant to County of San Diego Department of Environmental Health standards.

## **B. COASTAL COMMISSION JURISDICTION AND STANDARD OF REVIEW**

The proposed development would be located in the coastal zone within the City of Carlsbad. Carlsbad has a certified Local Coastal Program (LCP), and the Agua Hedionda area is one of six segments of that LCP. Although most of the city's coastal zone is fully certified, the Agua Hedionda segment has only a certified Land Use Program (LUP), not a certified implementation program. Therefore, review and permitting authority within this segment remain with the Commission, with the standard of review being Chapter 3 of the Coastal Act. The Commission may also use provisions of the certified LUP as guidance.

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<sup>2</sup> To account for partial fouling of the screens during the test period, the active screen is designed to have velocities of 0.415 feet per second when there is no fouling and 0.488 feet per second when the screen is 15% fouled, while the passive screen would have velocities of 0.353 feet per second when there is no fouling and 0.416 feet per second when it is 15% fouled.

### **C. OTHER AGENCY APPROVALS & CONSULTATIONS**

The project is additionally subject to permits and approvals from the following:

- City of Carlsbad, Consistency Determination with Precise Development Plan 00-02.
- City of Carlsbad, Addendum to Supplemental Environmental Impact Report 03-05, March 2019.
- San Diego Regional Water Quality Control Board: Nationwide Permit, File #R9-2020-0172, September 2020.

[Special Condition 1](#) requires Poseidon to submit proof that it has obtained the above permits or documentation that the permit is not needed.

### **D. FILL IN COASTAL WATERS**

Coastal Act Section 30233 states, in relevant part:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities...

...

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

Coastal Act Section 30233 allows fill to be placed in coastal waters for several specific purposes and under certain conditions, including when there are no feasible less environmentally damaging alternatives and when it includes feasible mitigation measures to minimize adverse environmental effects. Poseidon's pilot test facility is considered a "coastal-dependent" industrial facility,<sup>3</sup> as it needs to be sited within these coastal waters in order to function at all, so it represents an allowable use under Coastal Act Section 30233(a)(1). However, Section 30233(c) imposes more stringent limits within Agua Hedionda, which is one of 19 specific coastal wetlands where fill is limited to "very minor incidental public facilities, restorative measures, nature study." Because the proposed project would not fall within any of these categories of allowable uses, it is not consistent with this Coastal Act provision.

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<sup>3</sup> Coastal Act Section 30101 states: "Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all."

Nonetheless, because the proposed project is a coastal-dependent industrial facility, the Commission may consider approving it, despite this Coastal Act inconsistency, pursuant to Coastal Act Section 30260. Section 30260 imposes similar requirements to the provisions of Section 30233(a) in that they both require there be no feasible alternatives to the proposed fill and require feasible mitigation to minimize adverse effects. The alternatives analysis and mitigation measures for this proposed project are described elsewhere in these findings, including Section IV.E – Protection of Coastal Waters and Species, Section IV.F – Alternatives Analysis, and Section IV.G – Coastal-dependent Industrial Facility “Override.”

## **E. PROTECTION OF COASTAL WATERS AND SPECIES**

Coastal Act Section 30230 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.

Coastal Act Section 30231 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 waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Coastal Act Section 30232 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.

These Coastal Act policies require generally that development be conducted in a manner that protects coastal waters and their associated coastal resources, that it not cause adverse effects to these waters and resources, and that it protect against spills of hazardous substances into coastal waters. This proposed project would affect coastal waters, habitats, and species in several ways. Installing and removing the facility, and drilling the geotechnical borings, would involve heavy equipment operating on and near

the waters of Agua Hedionda, which would create noise and disturbance that could affect nearby wildlife and could result in spills of fuel or other substances. The facility's operation would cause entrainment and would cover about 90 square feet of benthic habitat in Agua Hedionda for about two years.

Agua Hedionda is a highly productive estuarine system that provides important habitat for numerous species and also provides recreation and access opportunities. It consists of three somewhat separate but connected areas – an outer, middle, and inner lagoon, with the inlandmost area including brackish marsh habitat. It is managed by several entities, including Poseidon, the City of Carlsbad, California Department of Fish and Wildlife (“CDFW”), and the Agua Hedionda Lagoon Foundation. The state's water quality standards identify Agua Hedionda Lagoon's beneficial uses as including industrial use, recreational uses, aquaculture, and habitat. The Lagoon supports dozens of species of fish, amphibians, reptiles, and mammals, along with nearly 200 bird species. As noted in Section IV.E above, CDFW identifies it as one of 19 “high-priority” coastal wetlands in recognition of its habitat values. It is also the home to several environmental education and research efforts, including the Hubbs-Sea World fish hatchery.

The proposed project would be located within the approximately 66-acre outer lagoon, which is largely owned by Poseidon and which is used primarily for aquaculture, shore fishing, and providing water for Poseidon's desalination facility. There is no public access on the water in this outer lagoon area; however, the middle and inner lagoons support active recreation such as boating, sailing, fishing, and a YMCA aquatic park.

In past years, the Lagoon experienced an outbreak of the highly invasive *Caulerpa taxifolia*, but in 2006 local and state efforts to eradicate *Caulerpa* from the Lagoon were deemed successful. Nonetheless, monitoring for *Caulerpa* continues, and Poseidon's survey from earlier this summer found no *Caulerpa* near the project site.

To reduce potential impacts, Poseidon selected a site within a more industrial and disturbed part of the lagoon. It also plans to install and remove the facility during the late fall/winter, which is outside of breeding and nesting seasons. The selected site is also devoid of eelgrass, which further reduces impacts compared to other sites within the Lagoon. To further reduce expected or potential impacts, [Special Condition 2](#) requires Poseidon to implement the project using a number of Best Management Practices intended to reduce the potential for trash, spills, or equipment malfunction from adversely affecting water quality. To ensure all project activities adjacent to coastal waters provide adequate protection against spills and allow for the necessary response should spills occur, [Special Condition 3](#) requires Poseidon to submit a Hazardous Material Spill Prevention and Response Plan for all vessels and equipment the City proposes to use during project activities. That Plan is to identify maximum spill potential during project activities, identify specific protocols to monitor and minimize the use of fuel and hazardous materials during those activities, identify all spill response equipment that will be immediately available to respond to any spills, a notification list of responsible agencies to be contacted in the event of any spills or releases, and other similar measures meant to avoid and minimize potential spills. In recognition of the hazards and risks associated with structures placed in and near coastal waters, [Special](#)

**Condition 4** requires Poseidon to submit its acknowledgement of these risks and to indemnify the Commission should its project be adversely affected by these hazards.

**Special Condition 5** additionally requires Poseidon to assume any Commission or attorney costs associated with legal actions associated with this permit

The facility's most significant expected impact is the entrainment of marine life that will result during operations. Based on two years of operations at 1200 gallons per minute, Poseidon's facility would use 1,261 million gallons of seawater (1200 gallons x 60 minutes x 24 hours x 730 days = 1,261,440,000). While this volume is substantially less than that occurring nearby at Poseidon's desalination facility, it represents an incremental increase in the loss of productivity at Agua Hedionda. To mitigate for the entrainment impacts expected from facility operations, **Special Condition 6** requires Poseidon to provide \$7,820.00 to the Agua Hedionda Lagoon Foundation, which will be used to fund two projects expected to improve water quality, and thereby productivity, in the Lagoon, as described below.

This amount of funding is based on the program used by the State Water Resources Control Board to mitigate for the entrainment impacts caused by short-term, interim use of seawater intakes for power plant once-through cooling systems.<sup>4</sup> The Board's program is part of its 2010 adoption of a policy requiring coastal power plants to retire their existing once-through cooling systems. The policy required these facilities to either switch to a system that did not rely on seawater for cooling or to modify their operations to substantially reduce the volume and effects of their seawater use. The policy also established a compliance schedule for facilities to implement either option, including, for those facilities that after October 2015 had not yet met this requirement, imposition of a temporary, annual in-lieu mitigation fee that was based on the volume of seawater the facilities would use in the several years remaining before they achieved compliance. Prior to 2010, the mitigation required for this type of impact from these facilities generally took the form of a long-term and extensive restoration effort; however, this in-lieu fee approach recognizes that the mitigation will be needed for relatively short-term impacts, such as those expected from this two-year test facility.

The Board's in-lieu fee includes three components that are calculated separately – one addresses entrainment impacts, one addresses impingement, and one provides for management and monitoring costs associated with implementing the mitigation – with each year's fee being adjusted to reflect inflation. The fee's entrainment component is calculated based on the Board's prior experience with mitigation costs as expressed in the cost per million gallons of intake water. That component is currently \$5.17 per million gallons of water used. The impingement component is based on the pounds of fish impinged at a facility multiplied by an average indirect economic value of the fisheries, as expressed per pound of fish. However, because Poseidon's project would have through-screen velocities expected to result in little, if any, impingement, this component is not included as part of this mitigation funding. The management and monitoring component is equal to twenty percent of the total of the other two

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<sup>4</sup> See the Board's program more fully explained at: [https://www.waterboards.ca.gov/water\\_issues/programs/ocean/cwa316/interim\\_mitigation.html](https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/interim_mitigation.html)

components, which in this case is \$1.03 per million gallons. The fee is therefore \$6.20 per million gallons. As noted above, Poseidon's facility would use 1,261 million gallons of seawater. At \$6.20 per million gallons, the total fee is \$7,820.

This amount is substantially lower than that needed for most restoration-type mitigation efforts; however, Poseidon identified two nearby projects that would be fully funded by this fee, would mitigate for project impacts by providing immediate improvements to water quality within Agua Hedionda, and would enhance public access to the Lagoon. The projects, sponsored by the Lagoon Foundation, are:

- **Improvements to Hubbs Trail:** The Hubbs Trail is an approximately 0.5 mile-long trail along part of the Outer Lagoon (see **Exhibit 4 – Location of Hubbs Trail Mitigation**). The Trail starts at an elevation of about 300 feet and drops first to a bluff and then down to the shoreline. Despite the presence of signs asking that people stay on the trail, trail users often take shortcuts that have resulted in erosion along the trail and bluff slopes. The Foundation has installed rope barriers and small succulents, such as prickly pear, to prevent the shortcuts and reduce erosion; however, the ropes have been cut and the succulents removed. The Foundation plans to install steel cables in place of the rope, repair existing ruts and gullies, place straw wattles to reduce existing erosion, and plant larger vegetation to discourage shortcuts. These actions are expected to improve water quality in this part of the lagoon while maintaining and enhancing public access to the shoreline.
- **Improvements to Cove Trail:** The Cove Trail is an approximately 0.25 mile-long trail located along the northern shoreline of the Middle Lagoon (see **Exhibit 5 – Location of Cove Trail Mitigation**). Parts of the trail are protected by a short rock revetment built a couple of decades ago that is now overtopped during King Tides and other high water events, leading to trail erosion and the formation of sinkholes within the trail. The Foundation plans to slightly increase the width of the trail and build up parts of the trail subsurface with rock and wood. Similar to the Hubbs Trail project, this work would reduce ongoing erosion into the Lagoon and would enhance public access to this shoreline area.

Poseidon's funding would be used to purchase the needed equipment, supplies, and plantings, as the Foundation plans to leverage these funds by using donated time from a construction firm and other volunteer labor for much of the work. The Foundation notes that the projects are authorized as trail maintenance and that this funding would allow work to start immediately, rather than wait for other funding sources. The Foundation plans to conduct both projects later this fall and winter, so they would be complete at or near the start of Poseidon's test facility operations. **Special Condition 6** requires, that Poseidon notify the Executive Director of the projects' completion and provide a description and as-built drawings of the completed work.

## **Conclusion**

Based on the above, the Commission finds that the project, as conditioned, conforms to the relevant marine life and coastal water protection policies of the Coastal Act.

## **F. ALTERNATIVES ANALYSIS**

Coastal Act Section 30233(a) states, in relevant 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...

Coastal Act Section 30260 states, in relevant part:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging...

As noted elsewhere in these Findings, the proposed Project is subject to the above two Coastal Act provisions that require the Commission to determine whether there are feasible and less environmentally damaging alternatives to the proposal. Section 30233(a) relates to the placement of fill in coastal waters and Section 30260 may be applied to coastal-dependent industrial facilities that are not fully consistent with all relevant Coastal Act requirements.

As described above, Poseidon is proposing this pilot test facility to determine which of two screens would be better suited to serve as an intake screen within the estuarine waters of Agua Hedionda. There are few data available about the performance of these screens in estuaries, as most are installed in freshwater or ocean water, which have different water characteristics than estuaries. Estuaries generally have more variation in salinity levels, in water chemistry, and in the types and amounts of biological productivity that occurs, so a screen that works well in a freshwater or ocean setting may not function as well in an estuarine system. Additionally, because estuaries in different settings may have very different characteristics than the particular characteristics present in Agua Hedionda, Poseidon's test of these screens is best conducted within the same waterbody in which the full-scale screens will be installed.

This test facility could be located elsewhere within Agua Hedionda, but its impacts would likely be equally or more adverse at other locations. Other Lagoon locations would involve the presence of aquatic vegetation, undeveloped shorelines, or incompatible uses such as public access and recreation. The selected site does not have benthic vegetation, unlike some other areas of the Lagoon. This part of Agua Hedionda is also subject to dredging every few years, which results in regular disturbances to the benthic habitat, so there are no long-term effects expected from the two-year presence of the test facility. Poseidon has also selected a site where this project's relatively minor impacts would be "masked" due to the presence of other development that causes much greater ongoing effects than this facility. The site is

near the existing intake of Poseidon's desalination facility and at least some of the organisms that will be entrained during the test would otherwise be subject to entrainment at the existing intake. Further, the project's onshore components would be within a developed industrial area where any additional impacts would be minimal.

### **Conclusion**

Based on the above, the Commission finds that there are no feasible and less environmentally damaging alternatives that would meet the proposed project's objectives.

## **G. COASTAL-DEPENDENT INDUSTRIAL FACILITY "OVERRIDE"**

Coastal Act Section 30101 states:

Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.

Coastal Act Section 30260 states:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

Coastal Act Section 30260 provides for special consideration of coastal-dependent industrial facilities, such as this proposed project, that may otherwise be found inconsistent with the Coastal Act's Chapter 3 policies. Such coastal-dependent facilities must first be evaluated for consistency with all other applicable policies and standards contained in Chapter 3. If a proposed project is found to be inconsistent with any Chapter 3 policy, Section 30260 provides that the Commission may approve it, notwithstanding its inconsistencies with those other policies, but only if it meets a three-part test – (1) that alternative locations are infeasible or more environmentally damaging; (2) that to do otherwise (i.e., to deny the project) would adversely affect the public welfare; and (3) that adverse environmental effects are mitigated to the maximum extent feasible.

As noted previously, the proposed project would not conform to Coastal Act Section 30233(c), as the project is not considered one of the three categories of allowable uses for placing fill in Agua Hedionda Lagoon – i.e., "very minor incidental public facilities, restorative measures, nature study." The Commission is therefore applying the tests of Section 30260 to determine if the project can nonetheless be approved.



**Test 1 – Alternative locations are infeasible or more environmentally damaging**

Under Section 30260, the project can be approved if the Commission finds there are no alternative locations that would lessen the project's environmental impacts. As detailed in Section IV.F of these Findings, this proposed project was sited specifically to minimize impacts to marine resources in Agua Hedionda. The project's key objective – to test these screens under the particular characteristics of Agua Hedionda – makes it infeasible to site the facility in other coastal waters elsewhere. The Commission therefore finds that there are no feasible and less environmentally damaging alternative locations available and that the proposed project meets the first test of Section 30260.

**Test 2 – To not permit the development would adversely affect public welfare**

Section 30260's second test provides that coastal-dependent industrial development may be permitted if to do otherwise would adversely affect the public welfare. This test requires more than a finding that, on balance, a project as proposed is in the interest of the public. It requires that the Commission find that there would be a detriment to the public welfare if the Commission were to deny the project. The Commission recognizes that it is clearly in the interest of the San Diego region to maintain its local water sources, including Poseidon's existing desalination facility. The Commission also recognizes that this proposed test facility is meant to result in improved environmental performance at Poseidon's existing full-scale desalination facility by reducing that facility's entrainment effects. Not permitting this test facility could result in Poseidon not selecting an appropriate screen system required for the full-scale facility, which could adversely affect its operations or cause Poseidon to be out of compliance with its NPDES permit, either of which could cause temporary reductions in water supply this facility provides. The Commission therefore finds that the project meets this second test of Section 30260.

**Test 3 – Adverse environmental effects are minimized to the maximum extent feasible**

Section 30260's final test requires that a proposed project include maximum feasible mitigation measures to address project impacts. As described previously in these Findings, project impacts are expected to be relatively minimal and temporary. The primary impact would be the loss of marine life resulting from entrainment during project operations, and Poseidon will be mitigating for these losses by funding two water quality improvement projects, as described above in Section IV.D. Other potential adverse effects are addressed through a number of special conditions requiring Poseidon to implement its project using Best Management Practices, to prepare and implement a spill prevention plan, and other similar protective measures. As mitigated and with these conditions, the Commission finds that the project will mitigate its adverse impacts to the extent feasible and that it therefore meets the third test of Section 30260.

## **V. CALIFORNIA ENVIRONMENTAL QUALITY ACT**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as conditioned 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 a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. Here, the City of Carlsbad conducted environmental review of the proposed project and in March 2019 certified an Addendum to Supplemental Environmental Impact Report 03-05.

The proposed project has the potential to result in significant adverse environmental impacts to a number of coastal resources. The Commission has identified and adopted ten special conditions necessary to avoid, minimize, or mitigate these impacts. With the inclusion of these special conditions, the Commission finds that, within the meaning of the California Environmental Quality Act of 1970, there are no further feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse effect that the proposed project may have on the environment, and there are no remaining significant impacts. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA.

## **APPENDICES**

### **Appendix A – Substantive File Documents**

City of Carlsbad, Addendum to Supplemental Environmental Impact Report 03-05.

Poseidon Resources (Channelside) LP, Coastal Development Permit Application 9-20-0379 and accompanying documents.

San Diego Regional Water Quality Control Board, Order R9-2019-0003, May 2019.