POSEIDON WATER

Agenda Items
Th9a & 10a

May 10, 2022

VIA E-MAIL

Chair Brownsey and Honorable Commissioners
California Coastal Commission
455 Market Street, Suite 300
San Francisco, CA 94105

Re: Huntington Beach Desalination Project: Response to Staff Report for Appeal No. A-5-HNB-10-225 (Agenda Item Th9a) and Application No. 09-21-0488 (Agenda Item Th10a)

Dear Chair Brownsey and Honorable Commissioners:

We are writing regarding the Commission's consideration of Poseidon Water's ("Poseidon") proposed Huntington Beach Desalination Project (the "Project") at its May 12, 2022, meeting. While we appreciate Commission staff's efforts in reviewing the Project and preparing the April 25, 2022, Staff Report, we fundamentally disagree with the Staff Report's overarching conclusions that the Project is inconsistent with the City of Huntington Beach Local Coastal Program and Coastal Act. To ensure that the Commission has an accurate record upon which to assess the Project, we have provided fulsome responses to the Staff Report, which are provided in **Attachment A** to this letter. The response also includes technical reports from Poseidon's consultants to provide evidentiary and scientific support of Poseidon's positions.[1]

The Commission's consideration of this important Project is coming at a critical time for California. Extreme drought is testing the State's water supplies and resiliency like never before. Three consecutive years of record-breaking drought conditions underscore the need for local, drought proof water supplies, such as the Project. For example, the Department of Water Resources already has reduced the State Water Project allocation for 2022 to only **five percent of contract amounts**, while water levels at the Colorado River's two main storage reservoirs – Lake Mead and Lake Powell – are at dangerously low levels that are continuing to decline. The Metropolitan Water District already has declared a water shortage emergency and adopted water conservation requirements for part of its territory to dramatically reduce its customers' water usage.

Recognizing these conditions, Governor Newsom has urged the Commission to approve the Project because "**[w]e need more tools in the damn took kit . . . What more evidence do**

[1] Under separate cover, Poseidon is also providing an Applicant-Proposed Staff Report, which includes proposed Special Conditions, Findings, and Motions to support approval of the Project.

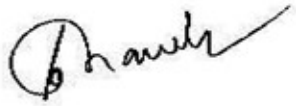
you need that you need to have more tools in the tool kit than what we've experienced? Seven out of the last 10 years have been severe drought."[2]

Southern California desperately needs this Project now. The Metropolitan Water District has identified the need for over **400,000 acre feet** of new water supplies annually to serve the region – and the 56,000 acre feet this Project will provide will help achieve that directive and help the region be more resilient to climate change and increasing periods of drought. By providing a local, drought-proof water supply, the Project will reduce Orange County's need for imported water, helping to free up those limited resources for use in inland communities that do not have alternative water supplies.

For all of the reasons set forth in **Attachment A**, we believe the Project can be appropriately conditioned to resolve Commission staff's concerns and ensure the Project is consistent with the Coastal Act and the Huntington Beach Local Coastal Program. We therefore respectfully request that the Commission objectively consider Poseidon's CDP application and Appeal No. A-5-HNB-10-225 and approve the Project. The future of California's water resiliency depends on drought-proof sources like this one.

Thank you for your consideration, and we look forward to presenting the Project to you at the May 12 meeting.

Sincerely,



Sachin Chawla
Senior Vice President, Poseidon Water

Attachments

cc: Tom Luster, California Coastal Commission
DJ Moore, Latham & Watkins LLP

[2] Mercury News, Desalination project should be approved by California Coastal Commission, Gov. Gavin Newsom says (Apr. 29, 2022), available at https://www.mercurynews.com/2022/04/29/desalination-project-should-be-approved-by-california-coastal-commission-gov-gavin-newsom-says/.

ATTACHMENT A

RESPONSE TO APRIL 25, 2022 STAFF REPORT FOR APPLICATION 9-21-0488 AND APPEAL A-5-HNB-10-225

A. Tribal Consultation (Staff Report, pp. 38-39)

Staff Report Assertion:

- The Staff Report summarizes conversations that Commission staff undertook with representatives of the Gabrielino-Tongva Tribe of the San Gabriel Band of Mission Indians. (See Staff Report, pp. 38-39.) According to staff, Tribal representatives were frustrated with outreach and consultation efforts regarding the Project. (*Ibid*.)

  Poseidon's Response:

  - While Tribal representatives expressed frustrations, there has been significant outreach to Tribes during the Project's permitting history. For instance, although the City of Huntington Beach's review of the Project pre-dated AB 52 (2014), the City nonetheless conducted a cultural resources assessment to determine potential impacts to tribal cultural resources. (See 2010 Draft SEIR, Appx. J.) The City reviewed the Native American Heritage Commission's ("NAHC") Sacred Lands File for Native American cultural resources in the immediate 2010 Project area. (2017 Final SEIR, p. 4-110.) "Each individual on [NAHC's] list was sent an informational letter with a description of the project and the known cultural resources on the property." (2010 Draft SEIR, Appx. J, p. 14.) This included the Chair of the Gabrielino-Tongva Tribe of the San Gabriel Band of Mission Indians. (*Ibid*.) "Each was asked to contact [the historic resources consultant] should they have additional knowledge or concerns relative to the cultural resources on the property." (*Ibid*.) Although the City did not receive responses by the time it released the Draft 2010 SEIR, following the release of the Draft 2010 SEIR, the City received a request from the Chair that monitoring should occur at the Project site to ensure there are no impacts to cultural resources. (2010 Final SEIR, p. 11-99.) The City explained that although "[n]o cultural or paleontological resources have been identified on the project site," "if such resources are discovered during construction, a qualified Archaeologist or Paleontologist must be retained to evaluate the discovery prior to resuming [Project] grading." (City of Huntington Beach Findings (Aug. 2010), p. 58.)[1]

  - Further, as part of its review of the Project in 2017 – following AB 52's adoption – the State Lands Commission sent outreach letters to thirteen tribal members identified by the NAHC, including the Gabrielino-Tongva Tribe of the San Gabriel Band of Mission Indians. (See 2017 Final SEIR,

[1] Similarly, the State Lands Commission adopted Mitigation Measure CUL/TCR-2b requiring the suspension of construction in the event of a discovery of previously unidentified cultural or tribal cultural resources. (See State Lands Commission, Mitigation Monitoring Program (Oct. 2017), pp. C1-23 to C1-25.)

p. 4-105.)[2] "The letters included a description of the [] Project and known cultural resources on the HBGS/proposed HB Desalination Plant property . . . . ***No responses were received***." (See 2017 Final SEIR, p. 4-1110 emphasis added].) Thus, State Lands Commission "staff contacted the Tribal Chairpersons identified by the NAHC to ensure the Tribes had an opportunity to provide meaningful input on the potential for Tribal cultural resources to be found in the area, and what steps should be taken to ensure adverse impacts to Tribal cultural resources are avoided." (*Ibid*.)

- Similarly, Regional Board staff "sen[t] out letters in 2019 to the tribes, inviting them to comment and participate in the process. At that time we did not receive any responses." (Regional Board April 23, 2021, Hearing Transcript, p. 49.) When Regional Board staff did receive correspondence from tribes in December 2020 and early 2021, staff conducted further outreach to the tribal representatives. (*Ibid*.)

- Therefore, there has been extensive outreach to and opportunity for the Gabrielino-Tongva Tribe, and others, to participate in the Project's administrative processes before various local and state agencies.

Staff Report Assertion:

- The Staff Report notes that the Gabrielino-Tongva Tribe does not support the Project because the Tribe believes the Project will harm the ocean. (Staff Report, p. 38.)

Poseidon's Response:

- As explained in great detail in Section F below, the Project will not significantly affect ocean water quality or marine life. The City of Huntington Beach, the State Lands Commission, and most recently the Regional Board have each independently assessed the proposed Project and its potential impact on marine resources, including through brine disposal, and have determined that its impacts on marine life will be less than significant and are consistent with the Ocean Plan. (See 2010 Draft SEIR, pp. 4.10-67 to 4.10-68; 2017 Final SEIR, pp. 11-148, 4-57 to 4-69; 2021 Regional Board Order, pp. G-60 to G-71, G-80 to G-84, G-88.) Further, as conditionally approved in the Regional Board's Order, Poseidon proposes to fully mitigate for the mortality to marine life by completing one or more mitigation projects, including various wetland restoration, enhancement, and preservation projects at the Bolsa Chica Wetlands as well as the creation of an artificial reef near the Palos Verdes Peninsula. (2021 Regional Board Oder, pp. G-80 to G-84.) The proposed mitigation projects provide sufficient acreage to mitigate potential marine

[2] The State Lands Commission also sent a letter to the Gabrielino Band of Mission Indians – Kizh Nation. (See 2017 SEIR, p. 4-105.)

life impacts, as confirmed by the Regional Board. (*Id*., pp. F-49 to F-50.) Nevertheless and in response to Commission staff's requests, Poseidon has committed to implement additional marine life mitigation above and beyond the mitigation that the Regional Board found would fully mitigate the Project's marine life impacts. Therefore, as conditioned, the Project would not adversely affect the ocean.

Staff Report Assertion:

- The Staff Report also notes that the Gabrielino Band of Mission Indians – Kizh Nation expressed concern about the Project because it will be located between two areas of significance for the Tribe – the Bolsa Mesa and the mouth of the Santa Ana River. (Staff Report, p. 39.) According to staff, the Tribe requested that the Commission consider alternatives to avoid or minimize disturbing those areas. (*Ibid*.) Further, the Staff Report represents that the Tribe expressed concern that Project construction activities would excavate deeper into the ground than occurred on the site previously, increasing the chances of an unidentified discovery. (*Ibid*.)

  Poseidon's Response:

  - The Project will be located on the existing AES Huntington Beach Generating Station site—a site already developed with industrial uses. Further, cultural resources assessments performed for the Project found no such resources on the Project site. (See 2010 Draft SEIR, Appx. J.) The City of Huntington Beach and the State Lands Commission also imposed mitigation measures designed to ensure that, should cultural resources be discovered during Project construction, construction would be suspended and the appropriate steps taken to preserve any such resources. (See City Findings, p. 58; State Lands Commission, Mitigation Monitoring Program, pp. C1-23 to C1-25.) As such, Project construction will be conducted in a manner that avoids or minimizes potential disturbance of cultural resources.

B. Review of a Facility Providing "Critical" Services (Staff Report, pp. 42-48)

Staff Report Assertion:

- The Staff Report contends that the Project would provide an emergency water supply, and therefore constitutes a "critical" or "essential" facility that should be designed to special construction and design standards—namely, Risk Category IV standards, as described in the California Building Standards Code. (Staff Report, p. 42.)

  Poseidon's Response:

- While the definition of what a "critical facility" is varies by context and application, Poseidon does not agree with Staff's contention that the project needs to be designed to Risk Category IV standards. Indeed, as described below, Poseidon's Carlsbad desalination plant is constructed to Risk Category III design standards, as is the AES Huntington Beach Energy Project located adjacent to the Project site. (California Energy Commission, Huntington Beach Energy Project Final Staff Assessment (June 2, 2014), p. 5.2-20.)

- Nevertheless, even though Poseidon does not believe it is legally required, Poseidon has proposed to revise its proposal and construct the Project in accordance with Risk Category IV design standards pursuant to Special Condition 21 in response to the concerns raised in the Staff Report. Special Condition 21 requires Poseidon to construct the Project to Risk Category IV design standards in order to resist maximum considered hazards, such as earthquakes, tsunamis, and other coastal hazards. The proposed changes to the Project are described in the Analysis of Site Hazards Risk Category IV Potential Project Modifications technical memorandum submitted to Commission Staff on April 12, 2022 ("Risk Category IV Memo"). Additional analysis of these design modifications, and an analysis of their potential incremental environmental effects, is provided in Dudek, Huntington Beach Desalination Plant Site Plan Revision Memoranda (May 10, 2022), attached hereto as **Exhibit 1**("Dudek Memo").

Staff Report Assertion:

- The Staff Report contends that the Project qualifies as critical infrastructure due to its role in providing emergency water supplies and must be built to comply with Risk Category IV standards.[3] (Staff Report, p. 44.)

Poseidon's Response:

- The California Building Standards Code (California Code of Regulations, Title 24) requires that every building and structure be assigned a risk category in accordance with Table 1604.5, based on the nature of its occupancy. Table 1604.5 requires that buildings and other structures designated as "essential facilities" be constructed to Risk Category IV Critical Infrastructure standards. (Table 1.5-1.) "Essential facilities" are defined as "[b]uildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow, or earthquakes." (California Building Code, § 202.)

[3] The Staff Report also contends that the Project should be designed as "critical infrastructure" under the Commission's 2018 Sea Level Rise Guidance. (Staff Report, p. 43.) This contention is addressed in Section E, below.

- Table 1604.5 provides examples of the types of buildings and structures that typically fall into each risk category. Risk Category III includes, among other things, "[p]ower-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV." On the other hand, Risk Category IV includes only one type of water infrastructure: "Water storage facilities and pump structures required to maintain water pressure for fire suppression." (California Building Standards Code Table 1604.5).

- Poseidon has not designed the Project to provide water for fire suppression. Therefore, the Project is most appropriately categorized as Risk Category III, like other "water treatment facilities for potable water." Although Poseidon believes that the Project would more appropriately be categorized as a Risk Category III facility, Poseidon has agreed to construct the Project to meet Risk Category IV standards.

Staff Report Assertion:

- The Staff Report points to passages from the City's 2010 SEIR and 2010 project approvals to assert that the Project is expected to operate during and after emergencies. (Staff Report, p. 44.)

Poseidon's Response:

- Although the 2010 SEIR contemplates the potential use of the Project's water during an emergency, it also recognizes that "[t]he issues of reliability of the supply and emergency service provisions would be dictated by the terms of the institutional agreements negotiated with the regional water purveyors . . . and by the terms of the water supply agreements negotiated with potential customers that would purchase the product water." (2010 Draft SEIR, p. 4.11-16.) The regional water purveyors and Poseidon's customers have the ability to determine how much water, if any, is needed during an emergency.

- The City's approvals do not require the desalination facility to be operational immediately following a natural disaster. The City's 2010 SEIR acknowledges that the desalination facility's drought-proof supplies would be "essential for aiding the general public for disaster recovery to provide a local potable water source." (2010 Final SEIR, p. 12-617.) Accordingly, Project Design Feature ("PDF") PW-4 requires Poseidon's operations staff to develop an earthquake preparedness plan that would be coordinated with the City's preparedness activities. The plan would include "coordination procedures with appropriate agencies and facility operations procedures to ensure water delivery under earthquake emergency conditions are maintained." (*Id.*, p. 1-11.) This measure would be important if, for example, an earthquake damaged water pipelines that deliver water to Huntington Beach from other supply

sources outside of the City. Importantly, the measure applies to Poseidon's operations—it does not impose any specific construction-related requirements. The measure also does not require Poseidon to deliver a specified amount of water in earthquake emergency conditions, and could be satisfied by a plan for Poseidon to deliver water from its product water tank via bottles or trucks if water production from the desalination facility is off-line.

- In addition, the City approvals also recognize that, depending on the extent of any natural disaster, the desalination facility may be completely off-line. For example, the 2010 SEIR explains that "[d]uring the times of potential outages caused by scheduled or unscheduled maintenance or emergency events such as earthquakes [desalination facilities] operate at reduced capacity or are down for a certain period of time." (2010 Draft SEIR, p. 4.11-16.) In addition, in response to comments arguing that the facility should have back-up power in its design, the Final SEIR acknowledges that the desalination facility would not include a backup generator sufficient to continue production of desalinated water and would rely on electrical grid power and/or the HBGS's auxiliary reserve bank. (*Id*., p. 4.6-14; 2010 Final SEIR, p. 12-617.) Further, the City expressly declines to mandate specific reliability or emergency service requirements. (2010 Draft SEIR, p. 4.11-16.) Thus, the City approvals should not be read as ***requiring*** the facility to operate continuously or immediately following a natural disaster or be designed or constructed to meet Risk Category IV standards.

- Although Poseidon believes that the Project is not required to be operational immediately following a natural disaster or other emergency, it has agreed to construct the Project to meet Risk Category IV standards pursuant to Special Condition 21.

Staff Report Assertion:

- The Staff Report argues that City's General Plan Provision HAZ-P.14 (which is referenced in LCP Policy I-C 20) requires that important public safety facilities such as the Project be sited, designed, and constructed so as to maximize continuation of key functions during and after seismic events. (Staff Report, p. 44.)

Poseidon's Response:

- Staff's contention is not supported by the LCP's plain text. Implementation Program I-C 20 states that the City should "[e]nforce and implement the policies and programs of the Environmental Hazards Element of the General Plan to the extent that these programs and policies are not inconsistent with the City's [LCP]," but makes no reference to City General Plan Provision HAZ-P.14. (See LCP Implementation Program I-C

20.) Nothing in the General Plan's Environmental Hazard Element, including Provision HAZ-P.14, mandates that desalination plants or water supply projects operate continuously during and after geologic or seismic events.

- Regardless, the Project will be entirely consistent with the goals of City General Plan Provision HAZ-P.14, which require it to "minimize damage and maximize continuation of key functions during and after a geologic and seismic hazard event." (City General Plan, p. 8-48.). Poseidon has committed to designing and constructing the Project to meet Risk Category IV standards pursuant to Special Condition 21.

Staff Report Assertion:

- The Staff Report asserts that the Project will provide the City with a 10-million-gallon storage tank that would provide an emergency water supply to areas of the City along the coast if an earthquake or the Newport-Inglewood Fault Zone disrupts water supplied to this coastal area from areas further inland. The Staff Report claims that the Project would serve a purpose similar to the City reservoirs, which are fully integrated into the City's water supply system) and are considered "critical" in the City's hazard planning. (Staff Report, pp. 44-45.)

Poseidon's Response:

- The City's local CDP for the Project includes a number of conditions, including an option for the City to purchase water from Poseidon's desalination facility on an ongoing basis and an option to obtain water during a declared water supply emergency.[4] To date, the City has not exercised either of these options. Furthermore, the City does not currently have existing potable water facilities necessary to directly connect to the desalination facility site and no funds have been identified in the City Public Work's capital improvement plan to build such facilities in the future.

- In June 2021, the City adopted its 2020 Urban Water Management Plan ("UWMP") to satisfy the UWMP Act of 1983 and subsequent California Water Code requirements. The UWMP provides an assessment of the present and future water supply sources and demands within the City's service area over the next twenty years to ensure a reliable water supply. The Project is not identified as a City-led initiative in the UWMP, but rather as a regional water supply capable of enhancing water supply

[4] The CDP defines a declared water emergency as "a 50% or greater loss in overall City water supply (not including droughts) or connected facilities such as distribution system, booster stations, reservoirs, wells and imported connections causing a reduction of at least 50% of the City's water supply." (See CDP No. 10-1014.)

reliability throughout Orange County by offsetting the need to import water. (UWMP, pp. 6-28 to 6-29.)

- Further, in June 2021 the City adopted a Water Shortage Contingency Plan ("WSCP"). The City's WSCP evaluates a range of water supply emergency scenarios, including loss of between 0-100% of the City's water supplies. The City's WSCP further identifies demand reduction and supply augmentation actions that will be taken during an event resulting in a loss of 50% or more of the City's water supply. The City's supply augmentation plan includes additional purchases of groundwater from OCWD and/or imported water from MWDOC capable of replacing up to 100% of the water lost during a water supply emergency. (WSCP, Table 8-3.) The WSCP does not identify or rely on the Project for water during a water supply emergency. Accordingly, while the City maintains an option to acquire water from the desalination facility during a water supply emergency, the City has no formal plans to rely on that supply in the future.

- Although Poseidon believes the Project was properly classified as a Risk Category III facility, Poseidon has agreed to construct the Project to meet Risk Category IV design and construction standards pursuant to Special Condition 21.

Staff Report Assertion:

- The Staff Report contends that the Project would store what the City considers to be "high quantities" of hazardous materials under its Local Hazards Mitigation Plan. (Staff Report, p. 45.)

Poseidon's Response:

- Impacts relating to the storage of hazardous materials on-site were analyzed by the City and will be less than significant. (2010 Draft SEIR, p. 4.8-15.) The materials stored on the site are food-grade purity compounds typically used in most conventional water treatment facilities. (2013 Poseidon Response to Staff Report, p. 83.) These chemicals would be stored, handled, and used in accordance with all applicable federal, state, and local standards. All hazardous materials will be stored in structures with a 110% spill containment capability. (2010 Draft SEIR, p. 4.8-14.) If deemed necessary, the inner housing of the containment structures will be coated for resistance to chemicals, and each structure will be separated or divided from other chemicals to prevent mixing in the case of accidental spillage. (*Ibid.*)

- In the case of an accidental chemical spill, the chemical would be contained within the concrete containment structure and evacuated through an individual drainage system. (*Ibid.*) The spilled chemical

would then be pumped into hazardous waste containment trucks and transported off-site for disposal at an appropriate facility. (*Ibid.*) This entire operation would be completed by a specialized contractor licensed in hazardous waste handling and disposal. (*Ibid.*)

- Additionally, as described in Section D, no flooding is expected to occur near either of the chemical storage areas even under a scenario where there is 3.3 feet of sea level rise coupled with a 2,475-year average return period tsunami. (Moffatt & Nichol, Addendum to Huntington Beach Desalination Project Tsunami Flood Assessment Report (May 5, 2022) ("M&N Tsunami Addendum"), pp. 5-7, attached hereto as **Exhibit 2**; see also M&N Tsunami Analysis, p. 33.) "The maximum flooding [extent] . . . ***is below the elevation of any sensitive equipment that would potentially be damaged by flooding***." (*Ibid*. [emphasis added].) In addition, as explained below, flood waters would recede quickly. (*Ibid*.)

    - Poseidon also proposes to increase concrete, structural steel, and other architectural supports for the chemical storage tanks in building the Project to comply with Risk Category IV design standards. (See Poseidon, Analysis of Site Hazards Risk Category IV Potential Project Modifications (Apr. 12, 2022), p. 6, submitted to Commission staff April 14, 2022.) These reinforcements, especially to pipe and chemical pump supports and anchorages, would make Project structures less likely to leak, break, or otherwise become damaged in the unlikely event of an extreme hazard.

- The Project will implement the following measures to minimize the impacts of hazardous waste storage on-site:

    - Provide an automatic sprinkler system for indoor hazardous material storage areas;

    - Provide safety showers near all chemical storage areas;

    - Separate incompatible materials by isolating them from each other with a noncombustible partition;

    - Locate incompatible materials as far away from each other as practical and safe;

    - Provide spill control in all storage, handling, and dispensing areas;

    - Separate secondary containment for each liquid chemical storage system;

- Use chlorine in liquid form instead of chlorine gas to mitigate concerns associated with accidental toxic gas plume releases and potential odor emissions from the chlorine storage facility;

- Use aqua ammonia of a concentration below the regulatory threshold limit of 20% and an amount below the regulatory threshold of 20,000 gallons to mitigate concerns associated with accidental release of toxic ammonia gas plumes or measurable size; and

- Equip all liquid chemical storage tanks with pressure relief valves, vapor equalization, carbon filter vents, and vacuum breakers. Any potential vapor fume releases from the tanks will be absorbed by the carbon filter vent, thereby providing an additional odor control for volatile chemicals such as ammonia and chlorine. (2010 Draft SEIR, p. 4.8-16.)

- The Project also would comply with EPA Risk Management Planning Rule 40 CFR 68, which requires the facility operator to register the facility with the EPA prior to on-site storage of hazardous chemicals. (*Id.*, p. 4.8-15.) All chemicals will be managed in accordance with the California Hazardous waste Control Law and the Hazardous Waste Control Regulations. (*Ibid.*)

- Additionally, the City has prepared a Local Hazard Mitigation Plan ("LHMP"), which includes a hazard mitigation strategy to minimize the risk of potential releases. Poseidon intends to cooperate with the City in the implementation of the LHMP. The relevant City actions under the hazard mitigation strategy include:

    - The development of protocols to ensure that City staff and other first responders are immediately notified if an emergency situation resulted in a hazardous material release or if there is a substantial risk of such a release occurring;

    - Implementation of the Certified United Program Agency program to identify, inspect, and monitor businesses that use and store hazardous materials and waste; and

    - Conducting hazardous materials testing for any site known or suspected to contain such materials in advance of any new development and to ensure that all appropriate mitigation actions are taken to minimize exposure to hazardous materials in advance of construction. (City of Huntington Beach LHMP, Table 43 (Mar. 2017).)

- Based on the implementation of all of the measures described above, the City has determined that the Project's impacts relating to the storage of hazardous materials on-site will be less than significant. (2010 Draft SEIR, p. 4.8-15.)

Staff Report Assertion:

- The Staff Report asserts that the Project is considered "critical infrastructure" pursuant to principles described in the Commission's 2018 Sea Level Rise Guidance and its 2021 Critical Infrastructure Guidance because the Project would be expected to serve as an integral part of the regional public water supply system. (Staff Report, p. 45.)

Poseidon's Response:

- The 2018 SLR Guidance describes critical infrastructure as "wastewater treatment plants, transportation infrastructure, and some power plants and energy transmission infrastructure." (SLR Guidance, p. 82.) Additionally, it states that a determination of criticality should be "based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions, as well as the social, environmental, and economic risks associated with loss of or damage to such assets." (*Ibid.*) Nowhere does it state that public water supply systems are considered critical infrastructure. Further, the 2021 Critical Infrastructure Guidance specifically ***excludes*** desalination facilities from its recently adopted Sea Level Rise Planning Guidance for Critical Infrastructure ("CCC SLR Guidance").

- Regardless, Poseidon has agreed to construct the Project to meet Risk Category IV standards, which ensures that the Project will comply with the 2018 SLR Guidance and the 2021 Critical Infrastructure Guidance.

Staff Report Assertion:

- The Staff Report contends that multiple LHMPs and other documents identify facilities like the Project as being "critical." (Staff Report, pp. 46-47.)

Poseidon's Response:

- Staff cites to the City's LHMP for its argument that the Project qualifies as "critical infrastructure," stating that it "acknowledges that there are facilities not owned by the City that also constitute critical infrastructure." (Staff Report, p. 46.) This is incorrect. The LHMP specifically states that critical facilities are "City-owned properties" and that non-public facilities cannot be "identified as critical facilities because they are not City-

owned."[5] (City LHMP, pp. 79-80.) Additionally, staff claims that the Southern California Edison and Southern California Gas facilities are examples of "critical facilities" in the LHMP (Staff Report, p. 46, footnote 30), however, nowhere in the LHMP does the City state that these are "critical facilities." Instead, it refers to these privately owned facilities as energy infrastructure. (See City LHMP, pp. 17-18.)

- Staff also cites the federal government's "Tsunami Ready" Program definition of "critical facilities," which includes drinking water facilities. (Staff Report, p. 47.) This is again a red herring. The Tsunami Ready Program does not expect that critical facilities be built to different design or construction standards, merely that they have Public Alert-certified NOAA Weather Radio receivers.[6] (Tsunami Ready Guidelines, RESP-6.) This has no bearing on whether the Project would be considered "critical infrastructure" under the California Building Standards Code, nor does it demonstrate any Project inconsistencies with the Coastal Act or applicable LCP policies.

- Based on the foregoing, Poseidon continues to believe that the Project should be categorized as a Risk Category III facility. However, Poseidon has agreed to design the Project to meet Risk Category IV standards pursuant to Special Condition 21. Compliance with those standards ensures that the Project will be able to operate immediately following a natural disaster or other emergency to guarantee the County has access to a potable water supply.

Staff Report Assertion:

- The Staff Report asserts that the Project is a private project providing water to public water districts, similar to Poseidon's Carlsbad desalination facility, which the Staff Report claims is considered "critical" by the San Diego County Water Authority, the County of San Diego, and is described as such by Poseidon. (Staff Report, p. 47.)

Poseidon's Response:

- The San Diego County Water Authority has called the Carlsbad desalination facility a "critical local water resource." (San Diego County Water Authority, 2019-2023 Business Plan.) This is not equivalent to "critical infrastructure."

[5] City of Huntington Beach, Local Hazard Mitigation Plan Public Review Draft (Mar. 2017), available at https://www.huntingtonbeachca.gov/announcements/attachments/Huntington_Beach_public_review_draft_LHMP.pdf.

[6] NOAA National Weather Service, Tsunami Ready Guidelines, available at https://www.weather.gov/tsunamiready/guidelines.

- Although the County of San Diego's Hazard Mitigation Plan does include public and private potable water facilities within its definition of a "critical facility," the Carlsbad desalination facility is not built to Risk Category IV standards and Poseidon is not aware of any other desalination facility in the United States – or anywhere in the world for that matter – that is designed to those standards. Notably, the Staff Report points to none.

- Staff cites to a press release in which Poseidon called the Carlsbad desalination facility a "critical regional facility." (Staff Report at p. 47, fn. 35.) Again, the Carlsbad facility is not built to Risk Category IV standards. A general description of a service as "critical" is not equivalent to designating a facility as "critical infrastructure," subject to more stringent Building Code requirements.

- Regardless, Poseidon has agreed to design the Project to meet Risk Category IV standards pursuant to Special Condition 21.

Staff Report Assertion:

- The Staff Report asserts that the April 12, 2022 memo describing the changes to the Project that would be required to meet Risk Category IV standards does not provide any expected cost differences and does not state that Poseidon would find it infeasible to meet Risk Category IV standards. (Staff Report, p. 47.)

Poseidon's Response:

- Poseidon does not believe that it is required to design the Project to meet Risk Category IV standards for all of the reasons stated above. However, Poseidon has proposed to redesign the Project to conform to these standards pursuant to Special Condition 21. Poseidon's April 12, 2022 Risk Category IV Memo outlines the changes necessary to achieve this heightened standard, including strengthening foundations, increasing anchorages, and elevating or reinforcing certain structures, among other things. As discussed further in Section K, although this Project redesign likely will result in some increased cost to customers, Project water may ultimately cost less than imported water supplies in the future.

C. Geologic Hazards – Seismic (Staff Report, pp. 49-70)

Staff Report Assertion:

- The Staff Report asserts that "[i]n the time since Poseidon first considered using this site for its facility about two decades ago, significant new information has been developed that demonstrates that [geologic] hazards" on the Project site, including surface fault rupture or displacement, ground shaking, liquefaction, and lateral spread, are "much more significant than previously realized." (Staff Report, p. 50.)

Poseidon's Response:

- None of the information cited by staff regarding seismic hazards at the Project site is new; as described below, analyses conducted by Poseidon's geotechnical experts already have demonstrated that, taking into account the same information presented in the Staff Report, the Project as designed will not pose a risk to life or property, and will maintain stability and structural integrity even after experiencing worst-case seismic events. (See Pub. Resources Code, § 30253; see also LCP Policy C 1.1.9.)

- In addition to the information already in the Commission's record, expert geologists at Geo-Logic Associates have thoroughly analyzed the Staff Report's assertions regarding seismic conditions and hazards at the Project site. Geo-Logic's report responding to the Staff Report (the "May 2022 Geo-Logic Associates Response to Staff Report") is attached hereto as **Exhibit 3**, and is incorporated herein by this reference. Further, Geo-Logic prepared a report responding to comments submitted to the Commission by various Project opponents regarding seismic hazards (the "May 2022 Geo-Logic Associates Response to Comments"), which is attached hereto as **Exhibit 4**, and is incorporated herein by this reference.

1. Background on Seismic Setting and Site Characterization

Staff Report Assertion:

- Staff claims that the entirety of the Newport-Inglewood Fault Zone ("NIFZ"), the main branch of which lies approximately 0.5 miles northeast of the Project site, is considered active. (Staff Report, p. 52 [citing Staff Report, Exhibit 5].) Staff states that the Project would be located directly above a mapped segment of the NIFZ's South Branch Fault. *(Id*., p. 54 [citing Staff Report, Exhibit 9].) Staff acknowledges that the South Branch has not been designated as "active" pursuant to Alquist-Priolo Earthquake Fault Zoning Act guidance, but argues that the South Branch Fault is part of the overall NIFZ "that is considered active." (*Ibid.*)

Poseidon's Response:

- As an initial matter, Exhibit 5 to the Staff Report, which is cited by staff for the proposition that the NIFZ "includes the proposed project site and parts of Poseidon's proposed pipelines routes," is simply a map of possible Project pipeline routes, and ***does not include maps of any faulting in the area***.

- The South Branch Fault is a postulated secondary fault—it is known that the South Branch Fault, if it exists, is not the main trace of the NIFZ. (See May 2022 Geo-Logic Associates Response to Staff Report, p. 9; see also May 2022 Geo-Logic Associates Response to Comments, p. 2.) As explained in further detail below, expert analysis and investigations

conducted at the Project site found no evidence to suggest that that the South Branch Fault is active under the criteria employed by the California Geological Survey ("CGS"). (See 2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, Geo-Logic Associates Preliminary Seismic Assessment Orange County Desalination Project; May 2022 Geo-Logic Associates Response, p. 5.) Further, staff's assertion that the South Branch Fault is located directly beneath the Project site is mere speculation, as the United States Geological Survey ("USGS") has not mapped the exact location of the South Branch. (2013 Poseidon Response to Staff Report, p. 89.)

- Nonetheless, expert geotechnical analyses confirmed that even under a hypothetical scenario in which the postulated South Branch Fault is located directly beneath the Project site, is active, and were to rupture during the Project's anticipated 50-year operating life, the Project would experience at most reparable aesthetic and temporary serviceability issues, but that significant structural damage is unlikely. (2013 Poseidon Response to Staff Report, pp. 90-91; see also Nov. 2013 Geosyntec Response to Staff Report, p. 6.)

Staff Report Assertion:

- The Staff Report acknowledges that while the CGS was able to designate the NIFZ North Branch as "active," the agency did not do so for the South Branch Fault "primarily because of the difficulty of identifying the necessary evidence of faulting due to the presence of existing extensive development." (Staff Report, pp. 54-55.) Staff claims that recent studies, including the City's 2011 Hazard Mitigation Plan, a 2007 study of another nearby proposed project, and a 2012 site assessment for the Huntington Beach Energy Project ("HBEP"), suggest that the South Branch may be active. (*Id.*, p. 55.)

Poseidon's Response:

- The documents relied upon by Commission staff to claim that the South Branch Fault is active are either non-authoritative sources on seismic characterization or do not otherwise constitute substantial evidence of fault status. Instead, expert analysis and investigations conducted at the Project site confirmed that there is no evidence to support the South Branch Fault being considered "active" under state-established criteria. (2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.)

    - First, the Staff Report's reliance upon the City's former 2011 Hazard Mitigation Plan and its characterization of the South Branch Fault as "active" is improper. City planning documents do not provide scientific analysis of fault activity, nor do they serve as a basis for facility design standards, particularly where, as here, the CGS has declined to classify the South Branch Fault as active.

(See Staff Report, p. 55.) Rather, the City's Hazard Mitigation Plan is intended to describe various hazards present in the City, as well as the mitigation actions that ***the City*** may take to address such hazards. (See City of Huntington Beach 2017 Local Hazard Mitigation Plan, pp. 3-4, 112-113 [listing mitigation measures that the City may take to address seismic hazards].)[7] Moreover, the Staff Report ignores that the former 2011 Hazard Mitigation Plan was superseded in 2017 when the City adopted a new Local Hazard Mitigation Plan and therefore is no longer in effect or relevant. The 2017 Local Hazard Mitigation Plan makes no mention of the South Branch Fault, and therefore does not consider it to be active. The 2017 Local Hazard Mitigation Plan also explicitly notes that "there is no evidence of surface rupture occurring on the [NIFZ] from any previous earthquakes," and that there is "no historical precedent" for such a surface rupture on the NIFZ. (See City of Huntington Beach 2017 Local Hazard Mitigation Plan, p. 71.) Notably, the Staff Report cites to the 2017 Local Hazard Mitigation Plan in other locations in the Staff Report, but ignores the fact that the Plan does not consider the South Branch Fault to be active. (See Staff Report, pp. 54, 56, 59, 60, etc.)

- Second, each of the studies cited in the Staff Report merely conclude either that the South Branch Fault is "*potentially* active" or that the potential for rupture of the fault is "unknown." (Staff Report, p. 55.) No definitive conclusions are provided. Thus, staff's reliance on these studies to assert that the South Branch Fault is "active" is speculative and, as explained below, is not supported by the key findings of applicable scientific guidance from the USGS and CGS. (See 2013 Poseidon Response to Staff Report, p. 89; see also 2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.) Accordingly, the Staff Report does not present substantial evidence demonstrating that the South Branch Fault is indeed active.

- Third, the Staff Report claims that a 2012 site assessment submitted to the California Energy Commission ("CEC") as a component of the 2012 Application for Certification for the HBEP identified the location of the South Branch Fault directly below the proposed Project footprint, and that AES stated it would locate its generating units to provide a buffer between the HBEP and the South Branch Fault. (Staff Report, p. 55.) However, Commission staff ignores that the CEC, in reaching a final decision on AES'

[7]The City's 2017 Local Hazard Mitigation Plan is available at: https://www.huntingtonbeachca.gov/announcements/attachments/Huntington_Beach_public_review_draft_LHMP.pdf.

2012 Application for Certification, expressly found that geotechnical studies conducted for the site, described in further detail below, "concluded that there is little specific evidence of the existence of the South Branch fault beneath the proposed Poseidon property and, by extension, the HBEP site."[8] (See CEC Final Decision on the HBEP, pp. 5.4-11.) The CEC further found that compliance with the CBC's seismic requirements would effectively mitigate the danger to power plant structures from seismic ground shaking. (See *id.*, pp. 4.5-10, 5.4-23.)

- Finally, as the Staff Report acknowledges, a review by Lettis Consultants International Inc. of the available literature for the South Branch Fault concluded there is no specific evidence of Holocene activity on the South Branch Fault, such that the South Branch Fault is not considered active under CGS criteria. (Staff Report, p. 55; see also 2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7; May 2022 Geo-Logic Associates Response to Comments, p. 2.)

- Authoritative technical literature on seismic hazards in Southern California does not assign a magnitude or style of faulting to the hypothetical South Branch Fault. (See Sept. 2021 Poseidon Response to Notice of Incomplete Application ("Poseidon NOI Response"), p. 9; May 2022 Geo-Logic Associates Response to Staff Report, p. 5.) As staff acknowledges, the South Branch Fault has not met the state-designated criteria to be included in the Alquist-Priolo Fault Zone and thus is not considered active by CGS.[9] (Staff Report, p. 54.) Again, the USGS has not mapped the exact location of the South Branch Fault, and there is no mapped trace of the South Branch Fault beneath the Project site. (See Nov. 2013 Poseidon Response to Staff Report, p. 89.)

- Further, in 2002, Geo-Logic Associates performed a subsurface stratigraphic correlation/fault investigation, employing exploratory borings and radiocarbon dating of organic sediments and shells, to assess the potential for surface fault rupture within the soil deposits below the Project site. (2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D.) The data collected by Geo-Logic Associates found no evidence of faulting within Holocene sediments beneath the Project site. (2010 Draft

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[8] The CEC's final decision on the HBEP is available at: https://efiling.energy.ca.gov/GetDocument.aspx?tn=203309&DocumentContentId=5464.

[9] The Alquist-Priolo Earthquake Fault Zoning Act generally prohibits the location of structures for human occupancy across the trace of active faults. (See Pub. Resources Code, § 2621.5, subd. (a).) CGS criteria designates a fault as "active" for purposes of the Alquist-Priolo Act if it can be demonstrated that the fault has produced surface displacement within Holocene time—i.e., within the last 11,000 years. (See also Cal. Code Regs., tit. 14, § 3601, subd. (a) [Alquist-Priolo Act implementing definitions].) No such evidence exists to support that the South Branch Fault should be considered "active." (2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.)

SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.) As such, Geo-Logic Associates concluded that the risk of future surface faulting is minimal, and that the South Branch Fault is not considered "active" under CGS Alquist-Priolo Act criteria. (2010 Draft SEIR, p. 4.2-7.)

- The lack of definitive evidence proving a negative (in this case, that the postulated South Branch fault is inactive), does not automatically support the logical conclusion that it is "potentially active." Rather, all the available evidence supports the conclusion that the South Branch either does not exist below the Project site or is inactive. (See, e.g., Poseidon NOI Response, p. 9; May 2022 Geo-Logic Associates Response to Staff Report, p. 5; Nov. 2013 Poseidon Response to Staff Report, p. 89.) In this case, however, proving that the South Branch fault is inactive is likely impossible given the depth of sediments overlaying the bedrock. (See, e.g., May 2022 Geo-Logic Associates Response to Staff Report, p. 8.) This is why Project opponents continue to press that the postulated South Branch fault is potentially active; because they cannot be definitively disproven, not because there is any rational concern that it is potentially active.

Staff Report Assertion:

- Staff also argues that, based on the 2015 Third Uniform California Earthquake Rupture Forecast ("UCERF3"), among the nine regional faults in the general vicinity of the City of Huntington Beach,[10] the collective probability that any one of those faults could produce an earthquake greater than Mw 7.0 within the next 30 years is about 30%. (Staff Report, p. 56.)

Poseidon's Response:

- As explained by Geo-Logic Associates, the calculation of the collective probability of a seismic event in the City of Huntington Beach does not change the conclusion that the Project, as designed, can withstand worst-case seismic hazards. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 5-7.) Rather, site-specific investigations demonstrate that the overall risk of surface rupture at the Project site is minimal over the life of the desalination plant. (2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.) Further, multiple site-specific geotechnical analyses have confirmed that even under a hypothetical scenario assuming the presence of a fault directly beneath the Project site,

[10] As evidence of the effects of seismic activity in the Project vicinity, staff cites to a "Southern California Shakeout" simulation, arguing that the simulation demonstrates that the Project site would experience "severe" shaking from a Mw 7.8 earthquake on the San Andreas Fault. (Staff Report, p. 56, fn. 54.) The simulation cited by the staff was developed by USGS as part of a public awareness campaign to promote earthquake preparedness through a series of annual drills—it was not developed to serve as the basis for engineering design. (See May 2022 Geo-Logic Associates Response to Comments, p. 4.)

the Project would experience at most reparable aesthetic and temporary serviceability issues, but that significant structural damage is unlikely. (2013 Poseidon Response to Staff Report, pp. 90-91; see also Nov. 2013 Geosyntec Response to Staff Report, p. 6.)

2. Effects on Proposed Project

Staff Report Assertion:

- Staff asserts that the Project site, as well as all potential distribution pipeline routes, are subject to several types of hazards from the above-described faults, including surface fault rupture or displacement, ground shaking, liquefaction, and lateral spread. (Staff Report, pp. 56-57.) Staff therefore claims that, under the Uniform Building Code ("UBC"), the Project would need to be classified under Structural Risk Category IV because the City expects Poseidon to be capable of operating after an earthquake, to provide water to the City in response to emergencies, and because Poseidon would store several tens of thousands of gallons of corrosive or hazardous materials on the Project site. (*Id.*, p. 58.) Staff notes that Poseidon had previously proposed to design the Project to Risk Category III standards, but asserts that Poseidon has not provided details on specific facility modifications needed to meet such standards or the impact that such modifications would have on coastal resources. (*Ibid.*)

  Poseidon's Response:

  - As described in Section B, *supra*, Poseidon has proposed Special Conditions requiring the proposed development on the Project site be designed to Risk Category IV standards. (See also Poseidon, Analysis of Site Hazards Risk Category IV Potential Project Modifications (Apr. 12, 2022) ("Risk Category IV Memo").) As such, Poseidon will design the desalination plant to meet an Immediate Occupancy Structural Performance objective, such that the facility will be capable of operating following a Maximum Considered Earthquake ("MCE") event. (*Id.*, pp. 2, 3.) To meet these standards, Poseidon will implement the following design modifications with respect to seismic hazards:

    - In the subgrade, additional concrete and an increase in the number of piles or other structural supports will be used to make the desalination plant's foundations thicker, deeper, and stronger to resist the increase in seismic forces due to increasing the Seismic Importance Factor from 1.25 to 1.50 for Risk Category IV. Above-grade structures will have increased structural steel, architectural, mechanical, electrical, and piping support structures and anchorages. (*Id.*, p. 4.)

    - Potential foundation designs and ground improvement methods that may be used for the Project, as selected by the Project

Engineer of Record and structural team in the ordinary course following Project approval, include sheet pile walls, soil/cement mixed shear panels, rigid grout inclusions with a load transfer platform, over excavation and soil compaction, auger cast-in-place pile deep foundation elements, and/or stone columns depending on the final loading of the individual Project structures. (*Ibid.*)

- All Project process equipment and vendor-supplied equipment will be defined as Designated Nonstructural Systems, and will be certified as operable after a Maximum Considered Earthquake Event, requiring the use of enhanced equipment supports and anchor bolts. (*Id.*, p. 5.)

- Further, the Dudek Memo confirms the Project design changes required to meet Risk Category IV standards will not result in any new significant impacts, including in the areas of aesthetics and lighting, air quality, noise, and offsite traffic. (See Dudek Memo, pp. 3-8.) With respect to dewatering activities associated with the design changes, based upon recent construction of the HBEP, dewatering impacts are expected to remain onsite and will not affect any adjacent coastal resources. (Risk Category IV Memo, p. 4.) Nevertheless, Poseidon has proposed Special Condition 12, which requires that Poseidon submit for Executive Director review and approval a Geotechnical Investigation Plan approved by the City—this plan must include measures to ensure that dewatering does not impact coastal resources. The Geotechnical Investigation Plan must identify the expected volumes of dewatering that will be needed during construction, and the extent of drawdown expected from that dewatering, and must also identify measures needed to ensure the dewatering does not affect environmentally sensitive habitat areas and wetlands adjacent to the Project site, such as sheetpiles or temporal measures. Special Condition 12 would also require Poseidon to install monitoring wells or piezometers to monitor drawdown during dewatering, and to cease dewatering activities if drawdown exceeds depths and durations established as the limits of natural variability; Poseidon would then be required to either reduce its groundwater pumping rate or utilize another dewatering method identified in the approved Geotechnical Investigation Plan that ensures the limits of natural variability are not exceeded.

- As described in further detail below, the Project, as designed, can accommodate potential hazards from surface fault rupture or displacement, ground shaking, liquefaction, and lateral spread.

Staff Report Assertion:

- Staff notes that because sediments underlying the Project site include several liquefiable layers, the soils under the site are considered Site Class F for purposes

of seismic ground shaking analysis, requiring more stringent structural designs than for a Class A through D site. (Staff Report, p. 58.)

Poseidon's Response:

- Poseidon agrees that the Project site is considered Site Class F under the California Building Code ("CBC"), given the potential for liquefaction at the site. (See Nov. 2013 Poseidon Response to Staff Report, p. 92.) The March 2013 Geosyntec report included a site-specific seismic response analysis, in which Geosyntec calculated an average seismic acceleration response spectrum for the site, and compared that average against a CBC-based minimum. (*Ibid*.) Geosyntec determined that the average acceleration response spectrum derived from the site-specific analysis was less than the CBC minimum, and concluded that the code-based minimum spectrum for the site corresponds to 80% of the probabilistically-established acceleration response spectrum for a Site Class E site. (*Ibid.*) Based on recommendations from Geosyntec, and pursuant to proposed Poseidon Special Condition 21, the Project will be designed to meet the corresponding International Building Code ("IBC") and American Society of Civil Engineers ("ASCE") 7 structural design requirements. (*Ibid.*)

a. Surface Fault Rupture and Displacement

Staff Report Assertion:

- Staff claims that "at present, the scientific evidence is not sufficient to rule out the potential for [seismic] activity along the South Branch Fault," and that "[s]urface fault rupture or displacement on the South Branch Fault would represent a substantial hazard to the proposed project." (Staff Report, p. 59.) Staff acknowledges that the 2010 SEIR required Poseidon to conduct a subsurface fault investigation at the Project site using methods approved pursuant to the CGS Guidelines for Evaluating the Hazard of Surface Fault Rupture, but claims that "some of these techniques are less accurate for sites like Poseidon's which is underlain by hundreds of feet of unconsolidated sediments." (*Id.*, pp. 59-60.) The Staff Report notes that this type of sediment can reduce surface displacement that would otherwise occur in areas with solid or more consolidated substrate, but can also mask the actual amount of displacement expected at the site. (*Id.*, p. 60.)

Poseidon's Response:

- The Staff Report ignores that, regardless of whether the South Branch Fault is considered active, it is precisely the "unconsolidated sediments" cited by staff that ensures that the Project site is not likely to experience surface fault rupture even under the most conservative displacement estimates.

- As described above, Geo-Logic Associates previously assessed the potential for fault rupture to occur underneath the desalination facility. The resulting report concluded that while there was a possibility of fault rupture in small areas of the Poseidon site, the overall risk of surface fault rupture was minimal over the life of the Project. (2010 Draft SEIR, p. 4.2-7; see also 2010 Draft SEIR, Appx. D, p. 7.) However, as a conservative measure, the 2010 SEIR requires Poseidon to perform a subsurface fault investigation in accordance with CGS Note 49 to assess the nature and extent of a possible surface-fault rupture across the southern portion of the Project site.[11] (2010 Draft SEIR, p. 4.2-14.) Pursuant to applicant-proposed Special Condition 12, Poseidon will complete this investigation following demolition of the onsite fuel storage tanks and before beginning construction of the desalination plant.

- As discussed below in this section, in March 2013, Geosyntec prepared a site-specific geologic hazards assessment to analyze the potential impacts if a hypothetical secondary fault were to cause a rupture in the bedrock below the Project site. Geosyntec estimated that this hypothetical secondary fault could produce up to 25% of the displacement of the main trace of the NIFZ, based upon an assessment of displacement produced by similar secondary faults. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 8-10.) Geosyntec concluded that the site-specific rupture hazard was approximately one foot of vertical offset in the bedrock. (See, e.g., *id.*, pp. 8-9; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, Table 1.) However, Geosyntec further determined that the 200-plus-foot thick deposit of alluvial sediments below the Project site would mitigate the effects of the bedrock rupture that would be felt on the surface. (See Nov. 2013 Poseidon Response to Staff Report, p. 90; see also Nov. 2013 Geosyntec Response to Staff Report, p. 6.) The mitigating effects of the alluvial deposit would ensure that if a fault rupture were to occur beneath the Project site, the Project's proposed structures would experience only reparable aesthetic and temporary serviceability issues, but significant structural damage would be unlikely. (2013 Poseidon Response to Staff Report, pp. 90-91.) As such, no changes to the Project design were determined necessary to accommodate potential surface rupture hazards. *(Ibid*.)

- Since 2013, multiple expert analyses have confirmed that the alluvial deposits below the Project site mitigate any potential for surface rupture from the South Branch Fault. (See, e.g., June 2020 Geo-Logic Associates Supplemental Seismic Assessment, p. 4, provided as Attachment 6 to the 2021 CDP Application.) While no data supports a precise location of the

[11] CGS Note 49 provides guidelines developed by CGS to assist geologists investigating the potential for a given fault to cause surface fault rupture. CGS Note 49 is available at: https://www.conservation.ca.gov/cgs/Documents/Publications/CGS-Notes/CGS-Note-49.pdf.

South Branch Fault – including whether it exists at all – Geo-Logic Associates conservatively assumed that the South Branch Fault trace is located directly below the site in modeling the possibility of a potential surface fault rupture. (May 2022 Geo-Logic Associates Response to Staff Report, p. 4.) The modeling further confirmed that the at least 200 feet of alluvial deposits below the Project would mitigate any fault rupture impact. (See *id.*, p. 3; see also June 2020 Geo-Logic Associates Supplemental Seismic assessment, p. 4; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, pp. 4-5.)

- Notably, while the March 2013 Geosyntec report and subsequent analyses conservatively determined that the risk of surface rupture at the site can be mitigated by only 200 feet of alluvial deposits, the Geosyntec investigation determined that alluvial sediments at the site may be up to 500 feet thick, further mitigating any potential for surface fault rupture. (See Nov. 2013 Geosyntec Response to Staff Report, p. 6; May 2022 Geo-Logic Associates Response to Staff Report, pp. 2, 3.)

- Thus, multiple site-specific analyses submitted to the Commission confirm that the risk of damaging surface fault rupture at the Project site is minimal.

Staff Report Assertion:

- The Staff Report states that a number of City planning documents, including the City's 2017 Local Hazard Mitigation Plan and its 2011 Earthquake Fault map, identify the NIFZ as "active" and include 200- to 500-foot buffer zones around identified fault zones. (Staff Report, pp. 59, 60.)

Poseidon's Response:

- The CGS, not the City, is the expert agency tasked with assessing geotechnical risk. (See, e.g., Pub. Resources Code, § 2201, subd. (a) [charging the CGS with carrying out hazard assessment programs, "including identification and mapping of geologic hazards and estimates of their potential consequences to life, property, and the environment, and the likelihood of occurrence"].) The CGS has not designated the Project area as within the Alquist-Priolo Zone, and therefore the CGS does not consider any potential faults underlying the site as "active." (See 2010 Draft SEIR, p. 4.2-3.)

- Further, the City's 2017 Local Hazard Mitigation Plan, cited by staff, only imposes a 500-foot buffer around those portions of the NIFZ identified as active for purposes of the Alquist-Priolo Act. (Staff Report, p. 59.) As acknowledged in the Staff Report, the South Branch Fault is ***not*** designated as active pursuant to Alquist-Priolo guidance, so the buffer zone discussed in the 2017 Plan does not apply and is wholly irrelevant to

the Project site. (*Id.*, p. 54.) As to the 200-foot buffer identified in the "2011 Earthquake Fault map," the Staff Report does not explain what this document is, or how it demonstrates that the South Branch Fault is active. (*Id.*, p. 59.) If Commission staff are referring to a map included in the City's 2011 Hazard Mitigation Plan, as explained above, that plan was superseded in 2017 when the City adopted a new Local Hazard Mitigation Plan and therefore is no longer in effect or relevant here.

Staff Report Assertion:

- The Staff Report argues that the March 2013 Geosyntec report assessing how surface displacement associated with movement on the South Branch Fault could affect overlying Project structures is based on "several non-conservative key assumptions," and claims that applying more conservative assumptions described in the 2013 Staff Report resulted in findings showing vertical displacement four times greater than the 11 inches of offset indicated in Geosyntec's report. (Staff Report, pp. 60-61.)

Poseidon's Response:

- In 2013, Commission staff argued that the Geosyntec report relied upon several assumptions that resulted in "underestimation of potential structural damage" from a modeled earthquake at the site. (2013 Staff Report, pp. 95-96.) Specifically, staff argued that Geosyntec: (1) failed to account for more current references describing the NIFZ as partially active and identifying the potential for greater surface rupture on the NIFZ; (2) improperly designated the NIFZ North Branch as the controlling fault for causing surface rupture; (3) underestimated vertical displacement on the North Branch Fault; and (4) improperly assumed that displacement on the South Branch Fault would be 25% of the North Branch Fault displacement. (*Ibid.*)

- In contrast to those arguments, Geosyntec's 2013 analysis, and subsequent confirmatory assessments by Geo-Logic Associates, are based upon highly conservative assumptions. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 3-4, 8-9.) While there is no evidence to demonstrate that the South Branch Fault forms the main trace of a major fault, Geosyntec modeled a scenario in which a hypothetical fault capable of generating 25% of the displacement potential of the main trace of the NIFZ is placed directly below the Project site. (Nov. 2013 Poseidon Response to Staff Report, p. 90.) Based on that extremely conservative assumption, Geosyntec concluded that such a seismic event would have an extremely limited potential to cause surface rupture impacts. (See *ibid*.)

- Further, even if Commission Staff is correct that the South Branch Fault is capable of four feet of displacement, such displacement would occur in bedrock at depth, and any potential for surface rupture would be mitigated

by alluvial sediments overlying the bedrock. As described above, the presence of the at least 200-foot thick alluvial deposit below the Project site significantly mitigates the potential for surface fault rupture. (2013 Poseidon Response to Staff Report, pp. 90-91; June 2020 Geo-Logic Associates Supplemental Seismic assessment, p. 4; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, pp. 4-5.) Accordingly, even in the unlikely and speculative event that a fault rupture were to occur beneath the Project site, the Project at most would experience reparable aesthetic and temporary serviceability issues. (2013 Response to Poseidon Staff Report, pp. 90-91.)

- Even if the displacement were four times greater as the Staff Report suggests, it is important to clarify that this displacement would be in the bedrock and would still be mitigated by the estimated 500 feet of alluvial sediments that underlay the Project site. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 3-4.) Such a rupture would still have a limited potential to cause surface rupture impacts on the Project site. (*Ibid.*)

Staff Report Assertion:

- Staff asserts that Poseidon's existing surface rupture and displacement analysis is inadequate because: (1) 2013 Geosyntec analysis was based on a Mw 7.1 earthquake, but newer evidence suggests that earthquakes up to or exceeding Mw 7.5 could occur along the NIFZ; (2) the prior analysis only considered vertical ground displacement, not horizontal displacement; and (3) the location of the South Branch Fault is highly uncertain, such that the hazard could extend over a larger portion of the site than as modeled by Poseidon.

Poseidon's Response:

- As described above, in assessing the potential for fault rupture at the site, Geosyntec—and later Geo-Logic Associates—modeled a hypothetical scenario in which a postulated fault capable of generating 25% of the displacement potential of the main trace of the NIFZ is located directly below the Project site. (See Nov. 2013 Poseidon Response to Staff Report, p. 90; May 2022 Geo-Logic Associates Response to Staff Report, pp. 8-10.) This assessment was itself extremely conservative, given the lack of evidence that the South Branch Fault even exists below the Project site, let alone the lack of proof as to the South Branch's magnitude. (See, e.g., Poseidon NOI Response, p. 9; May 2022 Geo-Logic Associates Response to Staff Report, p. 5; Nov. 2013 Poseidon Response to Staff Report, p. 90.) Geosyntec's analysis confirmed that, under this hypothetical scenario, the alluvial deposits beneath the Project site ensure that the Project can withstand a worst-case fault rupture with only reparable aesthetic and temporary serviceability issues. (2013 Poseidon Response to Staff Report, pp. 90-91; June 2020 Geo-Logic Associates

Supplemental Seismic assessment, p. 4; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, pp. 4-5.) Poseidon's commitment to design and construct the Project to Risk Category IV standards further increases the safety margin and reduces the potential that the Project would be impacted by a seismic event.

- Staff misinterprets the angle of displacement analysis conducted for the Project site. In assessing the potential for surface fault rupture at the site, Geo-Logic Associates applied the potential displacement at an angle that coincides with the actual inclination of the NIFZ. By applying the possible displacement at an angle, the analysis accounts for both a horizontal and a vertical displacement component. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 8-9.) Further, staff's comment on the angle of calculated displacement is wholly irrelevant, as the alluvial sediments below the Project site mitigate possible horizontal displacement equally as effectively as vertical displacement. (*Id*, pp. 3-4.) As confirmed by previous Geosyntec and Geo-Logic Associates analyses, the alluvial deposits beneath the Project site ensure that the Project can withstand a worst-case seismic event with only reparable aesthetic and temporary serviceability issues. (2013 Poseidon Response to Staff Report, p. 90; June 2020 Geo-Logic Associates Supplemental Seismic assessment, p. 4; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, pp. 4-5.)

Staff Report Assertion:

- The Staff Report claims that, based on the alleged inadequacies in the analysis of potential surface rupture at the Project site: (1) the Project should utilize a setback from the underlying South Branch Fault, as used by the HBEP; and (2) that Poseidon should incorporate structural mitigation to accommodate large displacements. (Staff Report, pp. 61, 62.) Staff further claims that Poseidon has not proposed an alternative layout with a setback, and has not demonstrated that it can build the Project to withstand displacements larger than those indicated in its non-conservative analysis, or what impacts would be involved in such a design. (*Ibid.*)

Poseidon's Response:

- Consistent with 2010 SEIR Mitigation Measures GEO-1 and GEO-2, and pursuant to proposed Special Condition 12, following demolition of the fuel oil storage tanks and prior to construction of the desalination facility, Poseidon will submit for Executive Director review and approval a Geotechnical Investigation Plan approved by the City. The Plan will identify feasible measures required pursuant to CGS Note 49 for determining the possibility for surface fault rupture at the Project site, and to identify whether Project structures require a setback from potential rupture areas. Poseidon will therefore implement a setback from potential

areas of surface rupture if and when a geotechnical investigation conducted to CGS standards indicates such a setback is necessary.

- Moreover, as stated above, repeated geotechnical analyses have demonstrated that the presence of at least 200 feet of alluvial deposits below the Project site, which significantly mitigates the potential for surface fault rupture. (2013 Poseidon Response to Staff Report, pp. 90-91; June 2020 Geo-Logic Associates Supplemental Seismic assessment, p. 4; Sept. 2015 Geo-Logic Associates Review and Evaluation of Supplemental Information, pp. 4-5.) This mitigating effect also obviates the need for Poseidon to employ setbacks or additional structural mitigation measures beyond those already included for the Project.

Staff Report Assertion:

- Staff argues that Poseidon's claim in the 2021 CDP application that the proposed design can accommodate fault rupture or displacement is based on "several non-conservative assumptions": (1) Poseidon does not consider the South Branch Fault to be capable of expressing as strong a seismic event as the more well-known North Branch Fault; and (2) Poseidon does not expect its facility to continue operating after a strong earthquake, but is planning to design it to experience some damage from earthquakes. (Staff Report, p. 62.)

Poseidon's Response:

- As described above, the Staff Report does not cite any evidence that the South Branch Fault is capable of producing a seismic event comparable to the NIFZ North Branch fault.

- Staff's claim that Poseidon is "planning" to design the Project to experience some damage from an earthquake is inaccurate. While the Project as previously designed and analyzed in the Staff Report is more than adequate to accommodate site-specific seismic risks, in response to Commission staff's concerns, Poseidon has agreed to implement Risk Category IV design measures. These measures will further reduce the potential seismic risks at the Project site and ensure the Project will be capable of operating immediately following a Maximum Considered Earthquake event. (Poseidon, Analysis of Site Hazards Risk Category IV Potential Project Modifications (Apr. 12, 2022).)

Staff Report Assertion:

- The Staff Report also states that Poseidon has declined to provide seismic calculations modeling a South Branch Fault capable of displacement at 50, 80, or 100% of the North Branch Fault. (Staff Report, p. 62.)

Poseidon's Response:

- The South Branch Fault is a postulated secondary fault, such that there is no conclusive evidence demonstrating the length of the fault, or indeed, even the fault's existence. Given that the length of a fault is the controlling factor in the fault's assigned magnitude, geotechnical experts ***cannot assign an earthquake magnitude to the South Branch***. However, it is known that the South Branch Fault, if it exists, is not the main trace of a major fault (i.e., the NIFZ). (See May 2022 Geo-Logic Associates Response to Staff Report, p. 9; see also May 2022 Geo-Logic Associates Response to Comments, p. 2.) It would neither be logical nor supported by science to assign the same intensity of displacement to the secondary South Branch Fault as is evaluated for the main trace of the NIFZ. *(*May 2022 Geo-Logic Associates Response to Staff Report, p. 9.) Therefore, it would be similarly improper to conduct modeling under the spurious assumption that the South Branch is capable of generating a seismic event causing displacement at 50, 80, or 100% of the North Branch Fault. (*Ibid*.) Staff have not provided ***any evidence*** to demonstrate that the South Branch Fault is capable of producing such an event and instead resort to mere speculation.

- Nonetheless, to respond to staff comments, Poseidon has attempted to assign a magnitude to this postulated secondary fault. Based upon the published observational information discussed above, Geosyntec and Geo-Logic Associates estimated that 25% of the displacement evaluated for the NIFZ should be assigned to the South Branch Fault. (May 2022 Geo-Logic Associates Response to Staff Report, pp. 9-10.) To arrive at this estimate, in November 2012, Geosyntec reviewed available data regarding the displacement potential of other secondary faults as compared to the corresponding main faults. (*Ibid.*) Of the 35 data points compiled, only three secondary faults were deemed capable of generating displacement greater than 25% of the displacement of the main fault. (*Ibid.*) Moreover, within the distance field of concern (the Project is approximately 0.5 miles from the primary fault of the NIFZ), there are no data points above the 25% threshold. (*Ibid.*) Based on this assessment, Geosyntec determined that secondary faults generally do not move more than 25% of the displacement of the corresponding main faults, and thus assigned the South Branch Fault a potential displacement value at 25% of the NIFZ main branch. (*Ibid.*)

- Using the above described estimate of the South Branch Fault's potential displacement, Geosyntec assessed the potential for surface rupture at the Project site. As alluvial sediments present at the site mitigate fault displacement at depth, Poseidon's geotechnical experts assigned the 25% displacement at 200 feet—itself a highly conservative assumption given the likely 500 feet of alluvial deposits at the site discussed above. (See Nov. 2013 Geosyntec Response to Staff Report, p. 6; May 2022 Geo-Logic Associates Response to Staff Report, pp. 2, 3.) Based on those

assumptions, those experts demonstrated that bedrock ruptures at depth could cause very little, if any, ruptures at the surface of the Project site. (*Ibid.*)

b. Ground Shaking

Staff Report Assertion:

- Staff attempts to describe the 2013 site-specific analysis conducted by Geosyntec to assess the potential for ground shaking at the Project site during a large earthquake. Staff argues that while the 2013 analysis conformed to the then-applicable CBC and ASCE standards, the resulting design ground motions should be re-evaluated to account for new information about seismic hazards in the Project area, and to account for the need for the facility to continue operating during an MCE. (Staff Report, p. 64.) Staff specifically argues that information indicating that the NIFZ can generate earthquakes of Mw 7.4-7.5 requires re-evaluation of ground shaking potential for the Project site. (*Ibid.*)

Poseidon's Response:

- The March 2013 Geosyntec report provided a site-specific seismic response analysis for a design-level earthquake/MCE—an event with a 2% probability of exceedance in 50 years, based upon a 2,475-year return interval. (See Nov. 2013 Poseidon Response to Staff Report, p. 92.) Following then-current CBC and ASCE procedures, Geosyntec first calculated a "bedrock" (Soil Class B) peak horizontal ground acceleration ("PHGA") of 0.61g using the 2003 USGS online Seismic Hazard Calculator. (*Ibid.*)

- Geosyntec then generated a set of site-specific ground motions (over a range of seismic wave periods) using the observed ground motion histories of recent large earthquakes and adjusting for the deep sediment profile occurring beneath the site. The resulting ground motion "spectrum" was then compared to a code-based minimum spectrum, corresponding to 80% of the calculated ground motions assuming Soil Class E, "soft clay" conditions, and the larger of the two spectra was selected for structure design. (Nov. 2013 Poseidon Response to Staff Report, p. 92) The recommended design spectral accelerations derived from this calculation were 0.83g for short-periods (0.2 seconds) and 0.80g for long-periods (1.0 second), with a design PHGA of approximately 0.33g. (Staff Report, p. 63.) Based on this calculation, Geosyntec determined that, with implementation of relevant design standards for Site Class F, as required by proposed Poseidon Special Condition 21, the Project would withstand ground shaking hazards at the site. (Nov. 2013 Poseidon Response to Staff Report, p. 92.) Staff ignores that this 2013 Geosyntec analysis was in fact based upon the conservative assumption that the NIFZ could

produce earthquakes up to Mw 7.5. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 11-12.)

- The CEC reached a similar conclusion with respect to AES' HBEP, which is located adjacent to the Project site. There, the CEC found that compliance with the CBC's seismic requirements would effectively mitigate the danger to power plant structures from seismic ground shaking. (See CEC Final Decision on the HBEP, pp. 4.5-10, 5.4-23; see also June 2020 Geo-Logic Associates Supplemental Seismic Assessment, p. 5.)

- Further, to address the Staff Report's claims, Geo-Logic Associates recalculated the PHGA for the site, based on the latest calculator from USGS and consistent with current CBC requirements for site response analyses. This analysis confirmed the PHGA of 0.61g in the bedrock, and a ground surface PHGA of 0.33g for the Project site, consistent with the 2013 Geosyntec analysis. (See May 2022 Geo-Logic Associates Response to Staff Report, pp. 10-11.)

Staff Report Assertion:

- Staff claims that the June 2020 Geo-Logic Associates report relies upon a Uniform Hazard Tool that does not fully incorporate new information on the NIFZ that has emerged since 2014, including potential for an earthquake of up to Mw 7.5. (Staff Report, p. 64.) Staff claims that Geo-Logic Associates does not provide the basis for its conclusion that any increase in the seismic hazard related to an Mw 7.5 earthquake could be accommodated by the current Project design, nor did Geo-Logic describe the design measures that would mitigate the increased hazard. (*Id.*, p. 65.)

Poseidon's Response:

- To address staff's concerns, Geo-Logic Associates re-analyzed the potential seismic hazard at the Project site, again incorporating a de-aggregated moment magnitude of 7.49, corresponding to a worst-case Mw 7.5 earthquake on the NIFZ. (May 2022 Geo-Logic Associates Response to Staff Report, pp. 10-12.) The results of that analysis, provided as Appendix B to the May 2022 Geo-Logic Associates Response to Staff Report, confirmed that the current Project design could accommodate a the ground shaking impacts of a potential Mw 7.5 earthquake. (*Ibid.*)

- Notwithstanding the above, the Special Conditions proposed by Poseidon requiring development on the Project site be designed to Risk Category IV standards will ensure that the desalination facility can accommodate ground shaking produced by an design-level event. (See Risk Category IV Memo.) Indeed, the Staff Report acknowledges that use of Risk Category IV design standards would place the Project facility in a higher, more

stringent Design Category and will result in a facility that will withstand ground shaking hazards. (Staff Report, p. 65.)

c. Liquefaction

Staff Report Assertion:

- Staff notes that the March 2013 Geosyntec liquefaction analysis assumed a design PHGA of 0.33 for the site. (Staff Report, p. 66.) Staff noted that this design PHGA calculation includes several reductions in magnitude per CBC and ASCE procedures for generating design ground motions, but that the 2019 CBC requires that liquefaction analyses use the true, unadjusted PHGA associated with the MCE. (*Ibid.*) As such, staff argues that the ground motions that would occur during an MCE event at the Project site would "greatly exceed" 0.33g PHGA, and therefore would be expected to generate larger amounts of vertical displacement and differential settlement than calculated in the 2013 Geosyntec liquefaction analysis. *(Ibid*.) Staff therefore argues that the liquefaction analysis must be updated to include both the unadjusted PHGA and recent evidence that the NIFZ can generate earthquakes up to Mw 7.4-7.5. (*Ibid.*)

Poseidon's Response:

- The Project is located within an area designated by the City as having a "Very High" liquefaction potential. (Staff Report, p. 65 [citing Staff Report, Exhibit 10].) Studies described in the 2010 SEIR concluded the uppermost 10 to 16 feet of the native sediments in the vicinity of the Project site are highly susceptible to liquefaction during strong ground motion from nearby seismic sources. However, at 17 feet below ground surface, data suggests that native sediments are not prone to liquefaction and are not compressible or subject to collapse under normal structural loads. (2010 Draft SEIR, p. 4.2-7.) To address the potential for liquefaction at the Project site, the 2010 SEIR requires that Poseidon conduct a construction-level geotechnical survey for the Project during the design phase that would recommend design measures to mitigate liquefaction and lateral spread impacts—such design measures include: (1) over-excavation and recompaction of liquefaction/lateral spread-prone soils; (2) in-situ soil densification; (3) injection grouting; or (4) deep soil mixing. (*Id.*, pp. 4.2-12, 4.2-15.) The 2010 SEIR mandates that a certified engineer ensure that all Project structures have been designed to withstand a design-level earthquake, as established by the current version of the UBC, prior to issuance of any grading permits on the Project site. (*Id.*, p. 4.2-15.)

- Despite the requirements of the above-described mitigation measures, in response to comments from Commission staff, the March 2013 Geosyntec

analysis further assessed the potential for liquefaction at the site. Geosyntec identified two liquefiable zones in the subsurface soils; an upper layer approximately 4 feet thick, and multiple lenses between 45 and 70 feet below ground surface. (See Nov. 2013 Poseidon Response to Staff Report, p. 93.) Based on this evaluation, Geosyntec estimated that up to 9 inches of total liquefaction-induced reconsolidation settlement may occur at the Project site prior to the consideration of the proposed mitigation measures described above, within the normal range for a site with this type of soil profile in an area of high seismicity. (*Ibid*.) As stated, this analysis was based upon a potential moment magnitude of Mw 7.5 for the NIFZ. (May 2022 Geo-Logic Associates Response to Staff Report, pp. 11-12.)

- The June 2020 Geo-Logic Associates assessment, also applying a moment magnitude of M 7.5 for the NIFZ, found no change in Geosyntec's estimated liquefaction-induced settlement from 2013. (June 2020 Geo-Logic Associates Supplemental Seismic Assessment, Table 1.) As such, multiple geotechnical experts already have evaluated the liquefaction potential at the site in response to a hypothetical Mw 7.5 earthquake, and determined a Mw 7.5 event would cause liquefaction effects consistent with previous site-specific analyses. As discussed, this level of liquefaction potential is within the normal range for an area with the site's particular geologic characteristics. (See Nov. 2013 Poseidon Response to Staff Report, p. 93.)

- Commission staff provides no evidence to support its claim that ground motions that would occur during an MCE event would "greatly exceed" 0.33g. Nonetheless, Poseidon has proposed design measures intended to address worst-case potential liquefaction-induced settlement. As recently stated in responses to staff's August 5, 2021 Notice of Incomplete CDP Application, in order to address the potential of liquefaction-induced settlement the Project foundation design may include one or more proven methods of ground improvement, such as rigid grout inclusions with a load transfer platform, over excavation and soil compaction, and/or auger cast in place pile deep foundation elements. (See Poseidon NOI Response, pp. 4-5.) The Engineer of Record for the Project will select the specific foundation type(s) to be used. Additionally, Poseidon will install 3-foot-thick soil/cement mixed shear panels, which will be approximately 50 feet long, spaced at approximately 9 feet center to center, and approximately 26 feet deep to further address settlement. (See *id.*, p. 4.) These design features are based upon measures employed during the successful construction of the adjacent HBEP to address potential seismic hazards. (*Ibid.*) Further, under Poseidon's proposed Special Condition 21, prior to commencing desalination plant construction, Poseidon will provide to the Executive Director documentation from a California-licensed structural engineer certifying that the desalination plant is

designed to resist, without collapse or structural damage, liquefaction-induced settlement of at least 9 vertical inches, in accordance with Geosyntec's modeling.

Staff Report Assertion:

- Staff asserts that it is doubtful that a Project design based on the 2013 Geosyntec liquefaction analysis would be sufficient to prevent significant damage to the desalination facility following a major earthquake, or what level of structural mitigation would be needed to ensure continuous operation of the facility. (Staff Report, p. 66.)

Poseidon's Response:

- As described above, the Project, as described in Poseidon's 2021 CDP application, will include proven methods of ground improvement that will ensure the Project can withstand liquefaction-induced settlement. (See Poseidon NOI Response, pp. 4-5.)

- Nonetheless, to address staff's concerns, the Project will comply with Risk Category IV design standards pursuant to Poseidon's proposed Special Conditions 7 and 21. Commission staff acknowledges that compliance with these standards will address risks associated with liquefaction-induced settlement. (Staff Report, p. 68.)

Staff Report Assertion:

- Staff argues that with the potential for additional liquefaction at the Project site, and the corresponding need for additional excavation and dewatering, the impacts from the structural mitigation measures proposed in the 2021 CDP application would likely be more severe than previously identified. (Staff Report, p. 67.)

Poseidon's Response:

- The Project design changes required to meet Risk Category IV standards will not result in any new significant impacts, including in the areas of aesthetics and lighting, air quality, noise, and offsite traffic. (See Dudek Memo, pp. 3-8.) As stated above, dewatering impacts are expected to remain onsite and will not affect any adjacent coastal resources. (Risk Category IV Memo, p. 4.)

- Further, pursuant to proposed Special Condition 12 and as explained above, Poseidon would be required to identify in the Geotechnical Investigation Plan submitted to the Commission Executive Director for approval: (1) identifying the expected volumes of dewatering that will be needed during desalination plant construction; (2) describing the extent of

drawdown expected from that dewatering; and (3) providing specific measures and performance standards to ensure the dewatering does not adversely affect purported environmentally sensitive habitat areas and wetlands adjacent to the Project site. Further, Special Condition 12 would require Poseidon to install monitoring wells or piezometers to monitor the amount of drawdown during dewatering, and to cease dewatering activities if drawdown exceeds depths and durations established as the limits of natural variability—thereafter, Poseidon would be required to either reduce its groundwater pumping rate or utilize another dewatering method identified in the approved Geotechnical Investigation Plan that ensures the limits of natural variability are not exceeded. Collectively, these measures will ensure that dewatering activities required to construct the Project to Risk Category IV standards will not significantly impact any adjacent wetland areas.

d. Lateral Spread

Staff Report Assertion:

- Staff claims that because the March 2013 Geosyntec analysis of the potential for lateral spread at the Project site was based upon a PGHA of 0.33g, as discussed above, that analysis underestimates the ground motions that occur at the site during an MCE, such that lateral spread may also be underestimated. (Staff Report, p. 68.) Staff argues that Poseidon has not yet identified a selected approach to addressing lateral spread. (*Ibid.*)

Poseidon's Response:

- Geosyntec's 2013 site-specific analysis used two methods to assess potential for lateral spread at the desalination plant site: (1) the strain potential approach; and (2) the Newmark sliding block approach. (Nov. 2013 Poseidon Response to Staff Report, p. 94.) Based on this analysis, Geosyntec estimated the potential lateral spread displacement on the Project site to range from approximately 15 to 38 inches. (*Ibid.*) Geosyntec concluded that this range of displacement could be accommodated by the then-proposed Project design features and that, based on results of the investigation and analysis, no change to the Project layout was needed to ensure structural stability. (*Ibid.*) Thereafter, Geo-Logic Associates, applying a moment magnitude of Mw 7.5 for the NIFZ, found no change in the estimated liquefaction-induced lateral spreading. (June 2020 Geo-Logic Associates Supplemental Seismic Assessment, Table 1.) As such, Poseidon's geotechnical experts have prepared precisely the conservative estimates of potential lateral spread that staff claims are lacking.

- Staff's claim that Poseidon has not yet identified an approach to addressing lateral spread is not accurate. As discussed above, Poseidon

will install 3-foot-thick soil/cement mixed shear panels, which will be approximately 50 feet long, spaced at approximately 9 feet center to center, and approximately 26 feet deep to extend below the liquefiable layer. (See Poseidon NOI Response, p. 4.)

- Staff also notes that Poseidon has not yet conducted an in-depth site-specific analysis of the potential for lateral spread at the site, as required by the 2010 SEIR. (See 2010 Draft SEIR, pp. 4.2-12, 4.2-15.) However, such an analysis cannot be conducted until the existing oil tanks on the site have been removed. Pursuant to proposed Special Condition 12, Poseidon will conduct a geotechnical investigation to assess the extent of lateral spread expected at the site, in accordance with an investigation plan approved by the City and submitted to the Commission Executive Director for approval, prior to beginning construction of the desalination plant.

- Further, under Poseidon's proposed Special Condition 21, prior to commencing desalination plant construction, Poseidon will provide to the Executive Director documentation from a California-licensed structural engineer certifying that the desalination plant is designed to resist, without collapse or structural damage, the forces from at least 38 inches of lateral spread. As stated above, this projection of lateral spread is based upon multiple assessments from Poseidon's geotechnical experts, assuming a Mw 7.5 earthquake on the NIFZ. (See June 2020 Geo-Logic Associates Supplemental Seismic Assessment, Table 1.)

3. LCP Conformity

Staff Report Assertion:

- The Staff Report claims that evidence does not demonstrate the Project's siting or design standards would assure structural stability to the extent needed to allow Poseidon to continue operating the desalination plant during or after a major seismic event, as required by the LCP. (Staff Report, p. 68.) Staff specifically claims that the Project is inconsistent with LCP policy C 1.1.9, which requires that new development be sited and designed to assure stability and structural integrity and to minimize risks to life and property, and with Policy C 10.1.4, which requires "appropriate engineering and building practices for all new structures to withstand ground shaking and liquefaction such as those stated in the Uniform Building Code." (*Id.*, pp. 50, 68.)

Poseidon's Response:

- As described above, pursuant to Special Conditions 7 and 21, Poseidon is proposing to design the Project to Risk Category IV standards – which will ensure that the facility will be capable of immediate occupancy and operation following a design-level event. (See Risk Category IV Memo, pp. 2, 3.) Further, the Project's foundation design may include one or

more proven methods of ground improvement. (See Poseidon NOI Response, pp. 4-5.) While Risk Category III design standards would have ensured consistency with the LCP and Coastal Act policies at issue, implementation of these design measures will ensure that the Project incorporates best building practices to withstand shaking and liquefaction, and will minimize seismic-related risks to life and property, such that the Project is consistent with LCP Policies C 1.1.0 and 10.1.4.

Staff Report Assertion:

- As staff explicitly recognizes, if Poseidon were to construct the Project to meet Risk Category IV standards, then the Project can be found to minimize risks to life and property from ground-shaking, liquefaction, and lateral spread hazards. (Staff Report, p. 68.) However, staff again states that the extent of the measures needed to redesign the facility to Risk Category IV standards, and the potential impacts from those measures on coastal resources, have not been analyzed. (*Id.*, pp. 51, 69.)

  Poseidon's Response:

  - Poseidon has committed to designing the Project to Risk Category IV standards, implementing those design measures described above and in Poseidon's April 12, 2022 memorandum provided to staff.

  - As discussed above, the Project design changes required to meet Risk Category IV standards will not result in any new significant impacts, including in the areas of aesthetics and lighting, air quality, noise, and offsite traffic. (See Dudek Memo, pp. 3-8.) As noted above, dewatering impacts are expected to remain onsite and will not significantly impact any adjacent coastal resources. (Risk Category IV Memo, p. 4.)

  - Further, as described above, under Special Condition 12, the Geotechnical Investigation Plan that Poseidon must submit to the Commission for approval must comply with specified performance standards to ensure that dewatering involved in desalination plant construction does not significantly impact purported environmentally sensitive habitat areas or wetlands adjacent to the Project site.

Staff Report Assertion:

- Despite arguing that the Project should be built to Risk Category IV standards, staff asserts that siting a facility like the Project that requires significant foundation and engineering work in a "hazardous location" is "in tension" with LCP Policy C 1.1.9, which requires that development be stable without contributing significantly to destruction of the site or surrounding areas, and with Policy C 10.1.14, which encourages removal of encroachments in floodplains,

rather than hardening the land in and adjacent to floodplains. (Staff Report, p. 69.)

Poseidon's Response:

- Importantly, the Project is sited within an existing industrial site, which currently includes contaminated soils and defunct fuel oil tanks. Staff cannot reasonably claim that construction of the desalination plant would contribute to "destruction" of the existing site. Further, the Project is not located in a floodplain. (See Poseidon NOI Response, p. 11.)

- Additionally, there is no reason to believe that building the Project to Risk Category IV standards will involve significant "hardening" of the Project site as compared to the desalination plant design described in the 2021 CDP application, or indeed as compared to the current industrial structures on the site. Implementation of Risk Category IV design standards will require the use of additional concrete and an increase in the number of structural supports in the subgrade, and increased support structures and anchorages above the ground surface. (Risk Category IV Memo, pp. 4-5.) However, these design measures do not involve additional surface hardening. (See *ibid.*) Staff's assertions to the contrary are pure speculation.

- As such, the Project will not significantly contribute to the destruction of the site or surrounding area, and will not require any hardening of adjacent floodplains, and is therefore consistent with LCP Policies C.1.1.9 and 10.1.14.

Staff Report Assertion:

- Finally, the Staff Report states that the area around the site contains older infrastructure at risk of failure during an earthquake, such that even if Poseidon were to construct the Project to Risk Category IV standards allowing it to withstand an earthquake, the surrounding infrastructure could not provide the support needed to allow the facility to continue operating after an emergency. (Staff Report, pp. 51 [citing Staff Report, Exhibits 3 and 4], 69-70.) Staff therefore claims that the Project is not sited in an area able to accommodate it, or an area with adequate public services that can serve a critical facility, as required by Coastal Act section 30250 and LCP Policy C 1.1.1. (*Ibid*.)

Poseidon's Response:

- It is wholly speculative to assume that the infrastructure surrounding the Project site could not withstand likely seismic forces. The fact that the existing roads and bridges in the City of Huntington Beach may have been constructed under previous structural design codes provides no evidence to suggest that those facilities would simply fail upon exposure to seismic

hazards. Staff also ignores that the facilities in the Project's vicinity are likely to undergo seismic retrofitting as those facilities are upgraded and replaced during the operating life of the Project, further enabling those facilities to withstand a hypothetical worst-case earthquake.

- Staff seemingly misinterprets Coastal Act section 30250 and LCP Policy C 1.1.1, as requiring that the Commission ensure that the Project is sited in an area where the provision of public services can be guaranteed over the life of the Project. (See Staff Report, pp. 69.) In reality, as stated in LCP Policy C 1.2.3, these policies only require that public services be provided to serve the Project "***at the time of occupancy***," and do not require a speculative analysis of the potential for public services to fail in the future. Here, City has confirmed the availability of public services to serve the Project. (See generally 2017 Draft SEIR section 4.6.)

- Further, staff's interpretation of Coastal Act section 30250 and LCP Policy 1.1.1 is illogical and unworkable. If, as staff suggests, the Coastal Act and LCP policies forbid the placement of any development in areas where a hazardous event such as an earthquake could temporarily disrupt the provision of public services to that development, then the Commission could ***never*** approve development in a location that may be subject to earthquake damage—a wholly irrational outcome that is not contemplated in either the Coastal Act or the LCP and that would amount to frequent takings of private property, which the Coastal Act does not condone. (See Public Resources Code, section 30010 ["[T]his division is not intended, and shall not be construed as authorizing the commission, port governing body, or local government acting pursuant to this division to exercise their power to grant or deny a permit in a manner which will take or damage private property for public use, without the payment of just compensation therefor."].)

- To that end, when the Commission encounters a conflict between different provisions of the Coastal Act, such as between section 30250 and section 30010, the Coastal Act requires the Commission to make findings that identify the conflict and explain how it has been resolved. (*McAllister v. Cal. Coastal Com.* (2009) 169 Cal.App.4th 912, 939-940; Pub. Resources Code, §§ 30200, subd. (b), 30007.5) Despite many statements in the Staff Report indicating that future events such as seismic activity, tsunamis, and sea level rise could result in severe impacts to off-site infrastructure that could render such infrastructure unable to provide the support needed to allow the Project to continue operating during an emergency, the Staff Report never recognizes the potential that denying the CDPs on this basis could result in a taking. (See, e.g., *McAllister,* 169 Cal.App.4th at pp. 941-942.)

- Commission staff also ignores that the recently-developed HBEP, which is directly adjacent to the Project site, will be served by precisely the same

infrastructure as the Project over the course of the HBEP's operating life. Plainly, with public services in the vicinity of the Project that are adequate to serve a 939-megawatt combined-cycle power plant—it is wholly unsupported to argue that those some public services could not support the Project.

- Staff also claims that the sheet pile wall replacement in the adjacent Huntington Beach Flood Channel may not survive a seismic event, ignoring that the Commission itself approved the sheet pile wall replacement project. As discussed in Section E, *infra*, instead of identifying and evaluating any concerns about the sufficiency of the sheet pile wall replacement and its ability to withstand hazards, the Executive Director waived the CDP requirement entirely. (See CDP Waiver 5-20-0590-W (Feb. 24, 2021).)[12] Staff provides no evidence to suggest that the sheet pile wall replacement would be unable to withstand likely seismic hazards.

- In sum, staff provides no evidence to suggest that the Project would not be sited in a developed area able to accommodate it, as required by Coastal Act section 30250 and LCP Policy C 1.1.1.

D. Geologic Hazards – Tsunami (Staff Report, pp. 71-80)

Staff Report Assertion:

- Commission staff asserts that, "during the approximately 20 years Poseidon has been proposing to locate its facility at this site . . . expected tsunami run-up elevations have about doubled, with some studies indicating that the run-up could be up to several times higher, which would be at or above much of Poseidon's existing site." (Staff Report, pp. 71.) In particular, staff claims that several studies have established that the Project site and surrounding areas could be subject to run-up elevations ranging from 14 feet to 22.5 feet, and potentially as high as 32 feet. (*Id*., p. 72.)

Poseidon's Response:

- Staff fails to identify any studies providing evidence supporting the run-up elevations it claims could occur from a severe tsunami. In addition, these run-up elevations contradict site-specific modeling performed for the Project site and surrounding areas by Moffatt & Nichol, which – the Staff Report separately confirms – is more accurate than regional, lower resolution modeling. (See Moffatt & Nichol, Huntington Beach Desalination Project Tsunami Flood Assessment (Aug. 2020), pp. 2-4

[12] CDP Wavier 5-20-0590-W is available at: https://documents.coastal.ca.gov/reports/2021/3/W9/W9-03-2021-report.pdf.

("M&N Tsunami Analysis"), attached to Poseidon's CDP Application as Attachment 5.)

- In 2017, the American Society of Civil Engineers ("ASCE") published building standards that contain provisions specific to tsunami hazards. As part of these standards, the ASCE released a generic model that can be used to simulate tsunami hazards. (See M&N Tsunami Analysis, pp. 1-2.) Instead of relying on the generic model, Moffatt & Nichol conducted a tsunami risk assessment for the Project using a site-specific model in the M&N Tsunami Analysis. In particular, Moffatt & Nichol determined that the ASCE model's low-resolution flood mapping was not sufficiently detailed to characterize flood depths and speeds at the Project's site-specific locations. (*Id*., p. 7; see also *id*., p. 19.) Moffatt & Nichol further explained that the ASCE model did not account for flood storage capabilities of lower elevations that exist surrounding the Project site. (*Id*., p. 20.) Thus, Moffatt & Nichol used higher resolution mapping and more precise site elevation data that included features such as the beach berms and individual streets. (*Id*., p. 19.) As Moffatt & Nichol explained, "[t]he increase in elevation variability and resolution . . . within the site-specific model produce more likely patterns of tsunami flooding within the region." (*Ibid*.) Although Moffatt & Nichol deviated from ASCE's generic model, Moffatt & Nichol still incorporated key ASCE inputs into its modeling, such as a worst-case tsunami with a 2,475-year Average Return Period ("ARP"). (See Staff Report, pp. 74, 75.) After comparing Moffatt & Nichol's site-specific model to ASCE's base model, the Staff Report explained that although the ASCE's base model "shows greater tsunami hazards at the site and surrounding areas," Poseidon's site-specific model "is likely a better representation of the site's response to a tsunami" because it employs higher resolution mapping and higher quality elevation data. (*Id*., p. 78.)

- Moffat & Nichol's site-specific modeling demonstrates that the Project will not be exposed to damaging run-up from a 2,475-year ARP tsunami over the course of the Project's design life in conjunction with 3.3 feet of sea level rise. (See M&N Tsunami Analysis, pp. 3-4.) As discussed further below, this complies with ASCE's requirements for Risk Category IV buildings, and no further analysis is required. The M&N Tsunami Analysis specifically identifies that under these conditions, any tsunami-related flooding would be temporary and limited to the western side of the Project site. (*Id*., p. 36.) Further, the Project is not expected to cause adverse impacts to adjacent properties during a tsunami under anticipated sea level rise scenarios. (*Ibid*.) Accounting for site-specific considerations not reflected in ASCE's base model, Poseidon's modeling shows that "the extent of tsunami flooding for the south Huntington Beach region near the project site would likely be *smaller* than indicated by the ASCE" model. (*Ibid*. [emphasis added].)

- In sum, Poseidon appropriately relied on site-specific modeling to evaluate the potential tsunami-related risks to the Project site and surrounding areas. Substantial evidence in the record demonstrates that such impacts would be limited to temporary flooding of approximately 3 to 3.5 feet across portions of the western portion of the Project site. (See, e.g., M&N Tsunami Analysis, p. 32.) As the Project has been designed to withstand 3.3 feet of sea level rise and a worst-case scenario tsunami, Project facilities and equipment would not be adversely impacted by potential flooding.

1. Potential On-Site Impacts

Staff Report Assertion:

- Staff states that Poseidon did not model tsunami flooding for sea level rise scenarios higher than 3.3 feet, but that "the trends for increased flood levels, more debris, and longer times for the water to recede could be expected to continue" even after 3.3 feet of sea level rise. (Staff Report, p. 77.)

Poseidon's Response:

- As an initial matter, the ASCE treats tsunami hazards differently than other coastal hazards, imposing different modeling standards and building requirements. (See ASCE 7-16, § C6.4 [describing tsunami risk categories].) The ASCE does not require designing and constructing a building to an H++ sea level rise scenario in conjunction with a tsunami. (See *id.*, § C6.5.3.) Rather, the ASCE requires considering historic rates of sea level rise, such as those measured by the U.S. National Oceanic & Atmospheric Administration ("NOAA"). (*Ibid*.) Therefore, the ASCE's building standards only specify a minimum rate of sea level change; they do not mandate the use of higher sea level rise projections when considering tsunami-related impacts. (See M&N Tsunami Analysis, pp. 2, 22 [referring to ASCE 7-16].)

    - To assess potential tsunami flooding under ASCE's prescribed methodology, Moffatt & Nichol relied on the Ocean Protection Council's 2018 Guidance ("2018 OPC Guidance") for Los Angeles, which indicates that sea level rise will likely remain below 1.7 feet through 2070 and below 3.2 feet through 2100. (*Id*., pp. 2, 22.) The 2018 OPC Guidance's sea level rise projections far exceed the historical rate of sea level rise for the Project area measured by NOAA of 0.73 feet per century (0.37 feet over a 50-year period). Thus, by modeling tsunami flooding using the 2018 OPC Guidance's sea level rise projections of 3.3 feet over the Project's 50-year design life, Moffatt & Nichol used sea level rise rates that are almost 9 times greater than the historic rates required by the ASCE. (See M&N Tsunami Addendum, p. 6.) As such,

Moffatt & Nichol conservatively modeled potential tsunami hazards using 3.3 feet of sea level rise—well above and beyond what ASCE already requires.

- Notably, a 2,475-year ARP tsunami has "such a low probability of occurrence" that it would not be practical for Project design to combine that tsunami event with extreme sea level rise projections. (M&N Tsunami Analysis, pp. 2, 22.) That probability is "nearly 1/15,000." (*Id*., pp. 2, 22.)[13] Thus, the probability that such a scenario occurs *and* that the Project structures (which will be designed in accordance with Risk Category IV standards) fail as a result, is extremely remote.

- Further, NOAA recently issued guidance that narrowed projected sea level rise over the near- and long-term. (See GHD, Updated SLR Projections released by NOAA (2022) and effects on Project-specific Analysis (Apr. 20, 2022), p. 2, submitted to Commission staff on April 20, 2022.) NOAA's updated projections for 2050 result in a narrower range of sea level rise, likely between 0.6 to 1 foot, with sea level rise unlikely to exceed 3.3 feet until after 2080 under conservative risk scenarios. (*Ibid*.) NOAA's updated guidance support the use of 3.3 feet of sea level rise to assess the Project's vulnerability to tsunami hazards, in compliance with ASCE requirements.

- In sum, in compliance with the ASCE requirements, Poseidon appropriately selected 3.3 feet of sea level rise as a conservative projection of sea level rise for its tsunami model scenarios and Project design.

- Under a conservative scenario of 3.3 feet of sea level rise coupled with the 2,475-year ARP tsunami, only limited areas of the western portion of the Project site would experience flooding. (M&N Tsunami Analysis, p. 3; M&N Tsunami Addendum, p. 5.) Although flooding could reach a depth of 3 to 3.5 feet, flood waters "are expected to quickly recede from the project site." (M&N Tsunami Analysis, p. 4.) Thirty minutes after the tsunami, conditions are expected to return to pre-tsunami conditions along the south side of the intake pump. (*Id*., p. 33; see also *id*., p. 34 [Figure 26].) After thirty minutes, only six inches of water would remain on the west side of the intake pump station, and this area would return to pre-tsunami conditions after about ninety minutes. (*Id*., p. 34 [Figure 27].)

[13] Under NOAA's updated projections, the probability that a 2,475-year ARP tsunami happens in combination with 3.3 feet or more of sea level rise during the Project's anticipated 50-year operating life is approximately 1 in 25,000, or a 0.004% chance over 50 years.

- Therefore, even under a conservative assumption that the Project could be subject to 3.3 feet of sea level rise during its design life in combination with a 2,475-year ARP tsunami, flooding across the Project site would be limited in duration and geographic scope. In fact, flooding risk from a tsunami is likely lower given NOAA's recent guidance discussed above. As such, the Project complies with Risk Category IV standards for potential tsunami flooding risks.

Staff Report Assertion:

- Staff also claims that Poseidon's tsunami analysis contained little discussion of projected tsunami velocities, and that "velocities could be high enough to cause scour around equipment or damage from debris-laden flows." (Staff Report, p. 77.) For instance, staff states that "Poseidon's model showed maximum current speeds at the adjacent mobile home park to be up to 10 feet per second, suggesting highly destructive conditions with the potential to convey large debris to parts of the project site." (*Ibid*.)

  Poseidon's Response:

  - Contrary to staff's assertion, Moffatt & Nichol thoroughly evaluated projected tsunami velocities. (M&N Tsunami Analysis, p. 32 [discussing velocities associated with 3.3 feet of sea level rise].) Under a scenario of 3.3 feet of sea level rise coupled with the 2,475-year ARP tsunami, while peak speeds may reach nearly 10 feet per second (6.8 miles per hour) over much of the adjacent mobile home park, peak speeds over the Project site would be substantially lower at roughly 4 feet per second (2.7 miles per hour). (*Id*., pp. 32-33 [Figure 25 depicts projected maximum speeds]; see also *id*., p. 4 [explaining that likely velocities would range from 3-5 feet per second].) In comparison, very large ocean waves have the velocity of over approximately 31 miles per hour.[14] The velocity difference between the Project site and the mobile home park is due to a short-term phenomenon associated with the initial tsunami flow overtopping the beach berm in areas of rapid elevation change. (M&N Tsunami Analysis, p. 32.) As such, the peak water velocities in certain areas surrounding the Project site would be very brief in duration, with no indication that such conditions would be "highly destructive," as staff contends. Further, there is no evidence such tsunami velocities would affect the Project site given the Project's proposed elevations above the floodwaters. Therefore, Poseidon's expert analysis accounted for the anticipated potential impacts of tsunami-related water velocities, which were taken into consideration in designing the Project. (See Poseidon NOI Response, p. 10.)

[14] Steven Earle, Physical Geology (2nd ed. 2019), Ch. 17.1, available at https://opentextbc.ca/geology/chapter/17-1-waves/.

- In addition, Poseidon has proposed modifications to the Project to meet Risk Category IV design standards pursuant to proposed Special Condition 21, which would further guard against potential scour and debris impacts. For instance, structures would be "elevated and/or reinforced to resist the anticipated hydrostatic and hydrodynamic water pressures, debris impacts, . . . and other effects associated with the [tsunami]." (See Risk Category IV Memo, p. 4.) "In the subgrade, additional concrete and an increase in the number of piles and other structural supports . . . [would] make foundations thicker, deeper, and stronger." (*Ibid*.) Therefore, the implementation of Risk Category IV standards pursuant to proposed Special Condition 21 would further ensure the Project site remains resilient to scour and debris impacts over the Project's life.

Staff Report Assertion:

- Staff contends that Poseidon should have analyzed the potential for tsunami flows to damage the Project's proposed ammonia and chlorine storage tanks or cause a chemical spill on the Project site. (Staff Report, p. 77.)

Poseidon's Response:

- Under the previously proposed Project design, the Project's chemical storage tanks would be located adjacent to the product water pumps at roughly the same elevation of approximately 10 feet NAVD88. (Staff Report, p. 77; M&N Tsunami Analysis, p. 11.) Poseidon now proposes to elevate the chemical storage areas above maximum tsunami flooding depths. Flooding is not expected to exceed 3 feet in the area under a scenario of 3.3 feet of sea level rise with a 2,475-year ARP tsunami. (M&N Tsunami Analysis, p. 33.) "The maximum flooding of 3 ft . . . ***is below the elevation of any sensitive equipment that would potentially be damaged by flooding***." (*Ibid*. [emphasis added].) In addition, as explained above, flood waters would recede quickly. (*Ibid*.) As such, flooding also would not adversely affect the storage tanks.

    - Moreover, most of the chemical storage will be on the eastern side of the Project site, which is not expected to experience flooding during a tsunami. (See Revised General Site Plan (submitted to Commission staff April 14, 2022) [depicting most chemical storage along the eastern portion of the site]; see also M&N Tsunami Analysis, pp. 3, 36 [explaining that tsunami-related flooding would be limited to the western portion of the site].)

- Further, chemical storage areas within the Project site will include secondary containment and other design features to minimize the potential for a chemical spill. For instance, chemical storage areas will be designed with enclosed tanks, pressure vessels, and control valves to prevent

chemical releases. (See, e.g., City of Huntington Beach, Findings of Fact (Aug. 2010), p. 18 ["Hazardous materials would be stored in concrete containment structures within a 110% spill containment capability"].) In addition, the walls of the secondary containment will extend well-above the areas that could be exposed to flooding.

- In sum, the Project's chemical storage tanks have been sited and designed to minimize the likelihood of damage and chemical release as a result of a tsunami.

2. Potential Off-Site Impacts

Staff Report Assertion:

- The Staff Report asserts that "Poseidon's modeling also shows that the [areas surrounding the Project site], including the key access routes for emergency response vehicles and the locations of supporting infrastructure could be severely damaged and temporarily unusable during a 2,475-year tsunami under current mean high tide conditions and increasingly so with sea level rise." (Staff Report, p. 77.) In particular, staff claims that with 1.6 feet of sea level rise, flooding at nearby intersections could take up to 2 hours to recede to below 6 inches, rendering it difficult or dangerous for vehicles to use the roads during this time. (*Id*., p. 78.)

Poseidon's Response:

- The Project site is accessible through either the intersection of Newland Street and Edison Drive or the intersection of Newland Street and Pacific Coast Highway ("PCH"). (See M&N Tsunami Analysis, p. 26.) Current ground elevation for the Newland-Edison intersection is approximately 7 feet NAVD88, and for the Newland-PCH intersection is approximately 10 feet NAVD88. (*Id*., p. 27.) Under a conservative scenario of 3.3 feet of sea level rise with a 2,475-year ARP tsunami, peak water levels at the Newland-Edison intersection could reach up to 13 feet NAVD88, and up to 16 feet NAVD88 at the Newland-PCH intersection. (See *id*., pp. 34-35.)

Intersection	*Ground Elevation*	*Water Level Immediately At Tsunami Peak + 3.3 ft. Sea Level Rise*	*Water Levels 30 Minutes After Tsunami + 3.3 ft. Sea Level Rise*	*Water Levels 3 Hours After Tsunami + 3.3 ft. Sea Level Rise*
Newland-PCH	10 ft. NAVD88	16 ft. NAVD88	10.5 ft. NAVD88	10 to 10.5 ft. NAVD88

Newland-Edison	7 ft. NAVD88	13 ft. NAVD88	9 ft. NAVD88	8 ft. NAVD88

- However, after 30 minutes, water levels at the Newland-PCH intersection would recede to 10.5 feet NAVD88, leaving only 6 inches of water. (*Ibid*.) After 3 hours, water levels at the Newland-Edison intersection would recede from 13 feet NAVD88 to 8 feet NAVD88, a foot above ground elevation. (*Ibid*.) Thus, although a tsunami could inhibit access to the Project site from the Newland-Edison intersection for several hours, post-tsunami access to the Project site would be available through the Newland-PCH intersection within approximately 30 minutes. (*Ibid*.; see also M&N Tsunami Addendum, p. 6 [large debris may temporarily impede access to the Project site].)

Staff Report Assertion:

- Staff contends that Poseidon's modeling does not address the type or level of damage that could result in areas surrounding the Project site from water-borne debris "or the extent of off-site water-borne debris that could exacerbate damage to the Poseidon site." (Staff Report, p. 77.)

Poseidon's Response:

- Although it is speculative, immediately following a 2,475-ARP tsunami coupled with 3.3 feet of sea level rise, access to and from the Project site potentially could be impeded by large debris, but the Project site itself is expected to avoid damage. (See M&N Tsunami Addendum, pp. 5-6.) Large debris only could be reasonably expected to damage the Project site if peak flood depths exceed 3 feet at the site. (*Ibid*.) However, the additional grading proposed for the Project site would raise site elevations to above flooding depths, with the exception of the product water storage tank. (*Id*., p. 4.) The finished elevation of the product water storage tank would remain at 10 feet NAVD88. (*Ibid*.) Model results show that maximum water surface elevations following a tsunami, plus 3.3 feet of sea level rise, could be 13 feet NAVD88 in the area of the area of the product water storage tank. (*Ibid*.) As a result, although the increased elevations would eliminate flooding across the overwhelming majority of the Project site, "[w]ater depths surrounding the product water storage tank may exceed 3 feet." (*Id*., p. 5.) Water levels would recede to pre-tsunami conditions in about thirty minutes, and areas surrounding the product water tank are unlikely to convey debris to the product water storage tank because those flood depths would be less than 3 feet across those areas. (*Ibid*.; see also M&N Tsunami Analysis, p. 34.) As such, it is unlikely the product water storage tank would be impacted by water-borne debris. (See *ibid.*) Further, as described above, water levels surrounding

the Project site are expected to quickly recede following a tsunami. (See *ibid*.) Therefore, potential debris-related impacts to off-site areas likely would be minimal.

Staff Report Assertion:

- Staff further contends that Poseidon's modeling shows that removing the existing containment berms to create elevated building pads would result in negligible to beneficial effects on flooding surrounding the Project site by creating additional flood storage capacity. "However, with Poseidon's most recent proposal to keep the exterior berm on the east side of its site in place, it is unclear whether some of that benefit may be lost, as Poseidon did not provide updated modeling to show the effects of this proposed change." (Staff Report, p. 77.)

  Poseidon's Response:

  - Poseidon has proposed to maintain the existing eastern exterior berm on the Project site in response to staff's concerns about providing appropriate buffer protection to a triangular area that is partially vegetated with plants outside the footprint of the exterior berm (the "Triangle Area"), which staff alleges may contain wetlands. Moffatt & Nichol analyzed the potential effects of retaining the existing earthen berm and determined that the "effects of keeping the berm on maximum flood depths and peak current speeds are expected to be negligible . . . with up to +3.3 feet of sea level rise." (M&N Tsunami Addendum, p. 1.) In other words, peak conditions with or without the earthen perm would not be "noticeably different." (*Ibid*.)

Staff Report Assertion:

- The Staff Report disputes that rapid access to the site would be available following a tsunami. The Staff Report cites a USGS study effort—the Science Application for Risk Reduction on Physical Damages ("SAFRR Report")—on tsunamis for the proposition that damaged roads would take 4 days to backfill at a cost of $5 million per lane-mile. (Staff Report, p. 78.)

  Poseidon's Response:

  - As described above, access to the Project site would be available following a tsunami. More specifically, the intersection of Newland Street and Pacific Coast Highway would be accessible within about 30 minutes, and the intersection of Newland Street and Edison Drive would be usable after approximately three hours. (M&N Tsunami Analysis, p. 34.) Although large debris could delay returning access to the site, such impacts would be temporary. (M&N Tsunami Addendum, p. 6.)

- Moreover, the SAFRR Report only estimates the degree of damage and duration of repair on the average California Department of Transportation ("Caltrans") highway or bridge. (See SAFRR Report, p. 102.)[15] The SAFRR Report recognizes that "[t]raffic disruption is likely to be briefer than repair duration, especially where alternate routes are available." (*Id*., p. 109.) Where, as here, an alternate access route to the site is available and "traffic is merely slowed and not cut off, . . . we need not quantify the delay." (*Ibid*.) Further, staff's cited repair duration applies to backfilling and repaving bridge embankment scour and the cited repair cost estimate applies to Caltrans highway repairs—***not local roadways***. (*Ibid*.)

Staff Report Assertion:

- The Staff Report acknowledges that the Project's proximity to the AES power plant could increase priority for reestablishing access following a tsunami. (Staff Report, p. 78.) However, staff believes that the Project would likely need to operate "somewhat independently for several days or longer before it could be easily accessed." (*Ibid*.)

Poseidon's Response:

- Poseidon agrees that the Project's proximity to the AES power plant likely increases priority for reestablishing site access following a tsunami. Nevertheless, as explained above, there is no reasonable basis to assume that the Project site would be inaccessible for several days following a tsunami. If a 2,475-year APR tsunami occurs with 3.3 feet of sea level rise, access to the Project site could be restored within several hours.[16] (M&N Tsunami Analysis, p. 34.)

3. LCP Conformity

Staff Report Assertion:

- Staff recognizes that Poseidon's modeling demonstrates that it can minimize flooding impacts at the Project site by raising the site elevation. (Staff Report, p. 79.) However, staff contends that raising site elevations would not ensure that the site could function after a large tsunami. (*Ibid*.) As such, staff claims that Poseidon cannot guarantee it will be able to deliver critical drinking water supplies after a major tsunami event. (*Ibid*.)

Poseidon's Response:

[15] The SAFRR Report is available on the USGS website at https://pubs.usgs.gov/of/2013/1170/e/pdf/of2013-1170e.pdf.

[16] To the extent large debris in the roadways impedes access to the site, any obstructions are expected to be temporary. (M&N Tsunami Addendum, p. 6.)

- As described above, Moffatt & Nichol's modeling demonstrated that tsunami-induced flooding would not rise to an elevation that would damage sensitive equipment and would recede from the Project site and nearby roads within an hour of the tsunami event. (M&N Tsunami Analysis, pp. 33-34; see also *id*., p. 36.) Thus, there is no support for staff's claim that the Project could not deliver water supplies after a major tsunami event.

Staff Report Assertion:

- Staff contends that the Project does not comply with LCP Policy C 10.1.4, which requires appropriate engineering and building standards, or Policy C 1.1.9, which requires minimizing risks to life or property. (Staff Report, p. 80.) According to staff, "Poseidon did not design and analyze its facility as one meant to remain operational after tsunamis . . . [and] it is not clear how or whether Poseidon could design, construct, or operate its facility to allow for ongoing operations in the event of a tsunami." (*Ibid*.)

  Poseidon's Response:

  - Staff's contention erroneously assumes that the Project as currently designed cannot withstand a tsunami. Poseidon designed the Project to address and withstand anticipated tsunami risks. (See Poseidon NOI Response, p. 10.) As demonstrated by Moffatt & Nichol's modeling, tsunami-related flooding would be limited to the western portion of the Project site, and "[m]aximum flood elevations are not expected to rise to an elevation that would impact equipment that is sensitive to flooding." (M&N Tsunami Analysis, p. 36.) Tsunami flood waters would rapidly recede, such that "at the proposed product [water] pump location, floodwaters are expected to recede from the site within thirty minutes of the tsunami's passage." (*Ibid*.) Therefore, the Project complies with the LCP because it has been designed to comply with all appropriate and applicable engineering and building standards and could remain operational after a tsunami event.

  - In addition, Poseidon submitted a memorandum to Commission staff on April 14, 2022, that identified the design features Poseidon would implement to design the Project to Risk Category IV standards. (See Risk Category IV Memo, pp. 4-6.) For instance, Poseidon would elevate a portion of the western Project site to approximately 13 to 14 feet NAVD88, raising it to a similar elevation as the eastern Project site (which would not flood during a tsunami). (*Id*., p. 7.) Although the product water storage tank will remain at 10 feet NAVD88, Poseidon proposes to reinforce the tank's walls to minimize potential impacts from debris impacts and to resist the static and dynamic water loads during the tsunami. (See *ibid.*) Poseidon would increase the amount of concrete used throughout the Project site, as well as the number of piles, structural

steel, and other architectural and mechanical supports. (*Id*., p. 6.) Implementation of these changes as part of proposed Special Condition 21 would elevate buildings and equipment above anticipated flooding depths and fortify Project components to protect against potential structural damage. (*Id.*, pp. 6-7.)

Staff Report Assertion:

- Staff acknowledges that "Poseidon could likely address many of these concerns by incorporating feasible design and construction measures into its facility." (Staff Report, p. 80.) However, staff asserts that Poseidon may not be able to rely on "vulnerable infrastructure in the surrounding area." (*Ibid*.) Therefore, staff determines that the Project does not conform to Coastal Act or LCP policies requiring that development be sited in areas able to accommodate it. (*Ibid*.) Staff also asserts that incorporating "additional building requirements could result in additional impacts to coastal resources that have not been fully identified or assessed." (*Ibid.*)

  Poseidon's Response:

  - Poseidon agrees that it could address Staff's tsunami-related concerns by incorporating feasible design and construction measures.

    - For example, Poseidon proposed adaptation strategies to improve emergency preparedness in the event of a tsunami and limit damage and loss of life. (See Moffatt & Nichol, Huntington Beach Desalination Project Sea Level Rise Analysis (September 2020), p. 40 ("M&N SLR Analysis"), attached to Poseidon's CDP Application as Attachment 4.) Poseidon would prepare an emergency response plan that "communicates how to plan, prepare, and respond to a natural disaster such as a tsunami or catastrophic flooding event" and provide it to facility personnel. (*Ibid*.) The plan would be developed with input from local emergency responders. (*Ibid*.) The facility itself would also be designed to withstand a tsunami event as required by applicable building code requirements. (*Ibid*.) Thus, "the facility would be safe to occupy and resume operations immediately after the event." (*Ibid*.) Poseidon proposes to implement this flood and tsunami hazard mitigation planning as a Special Condition.

    - As explained above, Poseidon has proposed to build the Project to Risk Category IV standards in response to Commission staff's concerns. These design changes would make the Project more resilient to potential tsunami flooding. Nevertheless, under Special Condition 20, Poseidon must demonstrate that the Project changes

comply with the Coastal Act and LCP or otherwise seek an amendment to its CDP.

- Poseidon disagrees with staff's assertion that areas surrounding the Project site would be so vulnerable to tsunami-related flooding so as to justify finding the Project inconsistent with LCP Policies C 10.1.4 and C 1.1.9 and the Coastal Act. LCP Policy C 10.1.4 requires that the Project use appropriate engineering and building standards, and LCP Policy C 1.1.9 requires that the Project be designed so as to minimize risks to life and property. By committing to Risk Category IV design standards, Poseidon has done precisely that. Specifically, Poseidon has agreed to design the structures on the Project site to the most conservative engineering and building standards, and the incorporation of these standards would minimize risks to life and property from hazard events – including tsunami flooding. Further, although a tsunami could flood adjacent residential areas and roadways, as described above, any flooding would be shallow and temporary. (M&N Tsunami Analysis, p. 36.)

    - Nothing in the LCP or Coastal Act requires public services and infrastructure to be upgraded to accommodate development that can be designed consistent with LCP and Coastal Act requirements. Indeed, LCP Policy 1.2.3 states that the City "shall make the finding that adequate services . . . can be provided to serve the proposed development, consistent with policies contained in the Coastal Element, ***at the time of occupancy***." (Emphasis added.) As the Staff Report itself admits, "***[i]t is not necessary for LCP or Coastal Act conformity to determine, with absolute certainty, that a development can be continuously served by surrounding infrastructure for its lifetime***." (Staff Report, p. 70.) Yet that is exactly what Commission staff is attempting to require here. By imposing an unnecessary, near impossible standard that is directly contradicted by the plain language of LCP Policy 1.2.3, Commission staff essentially is ensuring that nothing could ever be built on the Project site. Therefore, denial of the Project on this basis would amount to an unconstitutional taking. (See *Penn Cent. Transp. Co. v. New York City* (1978) 438 U.S. 104, 127; *Nollan v. Cal. Coastal Com.* (1987) 483 U.S. 825, 831-836; *Dolan v. City of Tigard* (1994) 512 U.S. 374, 385; see also Sections C & E.)

- In sum, because the Project will be built to Risk Category IV standards, thereby minimizing potential tsunami hazard impacts to life and property on and off the Project site, and is being located on a developed site that has adequate services, the Project conforms to applicable LCP Policies and the Coastal Act.

E. Coastal Hazards – Flooding & Effects of Sea Level Rise (Staff Report, pp. 81-96)

Staff Report Assertion:

- The Staff Report asserts that the Project would not conform to applicable LCP and Coastal Act policies "due largely to Poseidon's selection of a site within an extensive, low-lying area of Huntington Beach expected to be subject to relatively severe effects of sea level rise and fluvial flooding" during the Project's life. (Staff Report, p. 82.)

  Poseidon's Response:

  - Contrary to the Staff Report's assertion, and as explained throughout this section, substantial evidence demonstrates that the Project would not be exposed to flooding from extreme tides, coastal storms, or other coastal or fluvial hazards during the Project's design life when considering likely sea level rise scenarios. As an initial matter, the Project is located 2,000 feet away from the active shoreline.[17] (M&N SLR Analysis, p. 7.) Studies demonstrate that there is a 98% chance that sea level rise will not exceed 5 feet this century, such that the Project would not be exposed to coastal hazards during its design life. (*Id*., p. 8.) Nonetheless, even under a very conservative, worst-case future sea level rise scenario of 6.6 feet, the Project would still be setback 1,750 feet from the active shoreline. (Poseidon NOI Response, p. 6.) Thus, the site has a high adaptive capacity to sea level rise and other hazards through 2100. (*Ibid*.)

  - To ensure that the Project conforms with applicable LCP and Coastal Act policies, Poseidon has proposed Special Condition 21, in which it has committed to building the Project to comply with Risk Category IV design standards. As described in Section B, Risk Category IV standards apply to "essential facilities" and are intended to allow buildings to withstand more severe hazards. Thus, "[i]f the Project is designed and constructed in accordance with Risk Category IV standards, it would be capable of operating following a maximum considered site hazard event." (Risk Category IV Memo, p. 2.) Specifically, regarding sea level rise and non-tsunami coastal hazards, by conforming to these standards the Project will not be vulnerable to flooding events in conjunction with up to 6.6 feet of sea level rise—the maximum projected sea level rise that might occur under the extreme risk aversion scenario (H++) during the Project's 50-year operating life. (See Risk Category IV Memo, p. 6; see also Moffatt & Nichol, Addendum to Huntington Beach Desalination Project, Sea Level Rise Hazard Analysis and Adaptation Plan (May 5, 2022), p. 4 ("M&N SLR Addendum"), attached hereto as **Exhibit 5**.)[18]

[17] The Staff Report incorrectly states that the Project site "is located about 1,500 feet inland from the current open ocean shoreline." (See Staff Report, p. 83.)

[18] The Staff Report notes that it typically relies on the Coastal Storm Modeling System ("CoSMoS") to assess potential coastal hazard impacts, and that this "modeling shows Poseidon's site is in an area expected to experience

1. Shoreline Change

Staff Report Assertion:

- The Staff Report acknowledges that "it is highly unlikely that Poseidon's site would directly experience erosion in the foreseeable future due to beach narrowing." (Staff Report, p. 84.) However, the Staff Report contends that "the protection the beach provides to the surrounding area and infrastructure . . . would likely diminish with cessation or reduction of the sand replenishment program." (p. 84.)

  Poseidon's Response:

  - Poseidon agrees that it is highly unlikely the Project would experience coastal erosion directly during the Project's design life. Yet staff's suggestion that the Project would be vulnerable to sea level rise if the existing sand replenishment program at Huntington Beach ceases is wholly unfounded and speculative. In fact, in March 2022, Congress allocated approximately $15.5 million in federal funds toward beach restoration projects in Orange County, including Huntington Beach.[19] As a result, the U.S. Army Corps of Engineers will deposit 1.75 million cubic yards of sand along Huntington Beach, which is planned to start fall or winter 2022.[20]

  - Further, the Project would be protected from sea level rise regardless of the sand replenishment program. As described above, the Project is over 2,000 feet away from the active shoreline, "behind one of the widest and most stable beaches in Orange County." (M&N SLR Analysis, p. 10.) Absent further beach nourishment, modeling shows a shoreline retreat of just 100 feet if sea level rises 3.3 feet by approximately 2070. (*Id*., p. 17.) If sea levels rise 6.6 feet—a worst-case, very unlikely scenario—modeling shows a shoreline retreat of another approximately 150 feet, for a total of 250 feet. (*Ibid*.) Thus, under a worst-case scenario of no further beach nourishment and 6.6 feet of sea level rise, the Project would still be 1,750 feet from the shore. (*Ibid*.) As such, the beach would protect the Project

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significant effects of sea level rise." (Staff Report, p. 27.) However, Moffatt & Nichol, likewise relied on CoSMoS modeling in performing its analysis and do not dispute that CoSMoS is the best available predictor of coastal hazards and their impacts. (See M&N SLR Analysis, pp. 17, 22.) As explained throughout this Section, Moffatt & Nichol's modeling demonstrates that the Project will be resilient to coastal hazards with up to 6.6 feet of sea level rise during the Project's operating life.

[19] See LA Times, Sand restoration project receives federal funding to combat coastal erosion on O.C. beaches (Mar. 18, 2022), available at https://www.latimes.com/socal/daily-pilot/news/story/2022-03-18/sand-restoration-project-receives-federal-funding-to-combat-coastal-erosion-on-o-c-beaches.

[20] See U.S. Army Corps, Draft Supplemental Environmental Assessment, Modifications to the Surfside-Sunset Beach Nourishment Project (Feb. 2022), p. 2, available at https://files.ceqanet.opr.ca.gov/276144-2/attachment/JluIJ-pTtS9PxvUh8n57oUlMOyHtPopcPpRQN4MV3mdXr8XHvmmZO2Vc1AzVfTxs9nl7ti88J-fQK-lW0.

site, surrounding areas, and infrastructure during the Project's protected 50-year operating life under likely and worst-case sea level rise scenarios.

Staff Report Assertion:

- The Staff Report claims that although the Project's intake and outfall infrastructure are currently buried "several feet" beneath the beach, they include several access ports that extend upward to "just a few feet" beneath the beach. (Staff Report, p. 84; see also *id*., p. 92.) As a result, staff argues that coastal erosion could expose these ports or other infrastructure, causing harm to the structures, marine life, and public access. (*Id*., p. 84.) Thus, according to staff, "the access ports under the beach, if exposed . . . , would potentially need to rely on a prohibited protective device for continued safety." (*Ibid*.)

Poseidon's Response:

- Staff provides no support for this assertion. To the contrary, coastal erosion would likely result in deeper burial of the infrastructure—not exposure. (See GHD, Huntington Beach Desalination Project Technical Memorandum (May 6, 2022), pp. 1-2 ("GHD Technical Memorandum"), attached hereto as **Exhibit 6**.) "As water levels rise, waves erode the upper beach, causing the shoreline to recede. . . . Although the upper portion of the beach profile experiences retreat, the lower portion of the provide experiences accretion." (*Id.*, p. 2.) "[T]he vertical increase in beach profile elevation will be equal to the rise in water level. In other words, 3 feet of sea level rise will result in an additional three feet of burial over the intake/outfall pipes and access ports." (*Ibid.*) "The end result will be an increased depth of burial over the access ports, and even less likelihood of exposure due to SLR." (*Ibid*.) Because the infrastructure, including the access ports, would be buried deeper beneath the beach than they are currently located, they would not require a shoreline protective device for continued operation. (See *ibid*.) Staff's assertion is simply speculation without any evidentiary basis.

- Nevertheless, as part of proposed Special Condition 23, Poseidon has proposed to assess sand levels over the existing intake and outfall infrastructure on the sandy beach to ensure that these components are not at risk of exposure due to coastal erosion. Poseidon would submit annual reports to the Executive Director that identifies the sand conditions and whether corrective action may be needed to avoid potential exposure. If corrective action is required, Poseidon would submit an application to its CDP unless the Executive Director determines that an amendment is not required.

2. Present Flood Risks and Existing Conditions

Staff Report Assertion:

- The Staff Report notes that the Project would be relatively safe from flooding hazards under current conditions due to the proposed Project elevations. (Staff Report, p. 84.)

Poseidon's Response:

- Poseidon agrees. Substantial evidence demonstrates that the Project would be safe from coastal hazards during its operating life given the Project's finished floor elevations above any anticipated flooding depths and Poseidon's commitment to build the Project to Risk Category IV standards. (See, e.g., M&N SLR Analysis, pp. 7-8; Risk Category IV Memo, p. 6.)

Staff Report Assertion:

- The Staff Report explains that the Huntington Beach Flood Control Channel runs along the Project site and that the channel is designed to accommodate a 100-year storm event. (Staff Report, p. 85.) However, staff asserts that under the scenario in which "high ocean water levels coincide with reduced flood conveyance, a failure in the flood channel walls, or lack of capacity from the series of pumps and stormwater conveyance features associated with the flood channel," the areas surrounding the Project site could flood and access to the Project would be temporarily blocked. (*Id.*, p. 96.)

Poseidon's Response:

- Moffatt & Nichol's evaluation of sea level rise demonstrates that the existing Huntington Beach Flood Control Channel can convey a 100-year flow event and accommodate up to 5 feet of sea level rise with little or no flooding of the Project site and adjacent areas. (M&N SLR Analysis, p. 26; see also *id*., pp. 25-26 [explaining that Anchor QEA reached similar conclusions when evaluating potential sea level rise impacts to the Magnolia Tank Farm].)

- In the unlikely event sea level rise exceeds 5 feet and combines with a 100-year flow event *and* spring high tide ocean water level, there could be limited shallow flooding in areas surrounding the Project site. (*Id*., p. 26.) Given the exceedingly low probability of such a combination of events occurring and the low risk it would pose to the Project site even if they were to occur, the Huntington Beach Flood Control Channel can accommodate all likely flood risks during the Project's life.

Staff Report Assertion:

- The Staff Report also claims that the Huntington Beach Flood Control Channel puts the Project site at risk of flooding impacts in the event of damage to the Huntington Beach Flood Control Channel walls because the recent sheet pile wall

replacement project within the channel "uses standards substantially less than those needed to resist the area's Maximum Credible Earthquake." (Staff Report, p. 86.)

Poseidon's Response:

- Staff essentially takes a position that the Huntington Beach Flood Control Channel sheet pile wall replacement, ***which the Commission itself approved***, is insufficient to guard against flooding risks to the Project site due to a MCE. (See Staff Report, p. 85 [citing CDP Waiver 5-20-0590-W].) Indeed, instead of identifying and evaluating any concerns about the sufficiency of the sheet pile wall replacement and its ability to withstand hazards such as a MCE, the Executive Director ***waived the CDP requirement entirely*** for that project. (See CDP Waiver 5-20-0590-W (Feb. 24, 2021).[21]) Given the Commission's determination that the sheet pile wall project constituted *de minimis* development with "no potential for any adverse effect . . . on coastal resources,"[22] staff's concern does not appear genuine. Moreover, as described in Section C, there is no evidence that the sheet pile wall replacement would be unable to withstand potential geologic hazards. As the Orange County Flood Control District's website explains, the purpose of the sheet pile repair project is to replace the portions of the existing wall that are deteriorating with "an extremely durable steel wall that will strengthen the flood control channels and enhance flood protection."[23]

Staff Report Assertion:

- The Staff Report asserts that although current flood risk at the Project site is reduced through a network of flood protection and drainage infrastructure, the risk is not eliminated for a 500-year flood. (Staff Report, p. 84; see also *id*., pp. 89, 93.)

Poseidon's Response:

- As an initial matter, the site is not located in either a City designated 100-year or 500-year flood zone. (See City of Huntington Beach General Plan, Fig. HAZ-7 [depicted below, with the Project site marked by the red dot].)

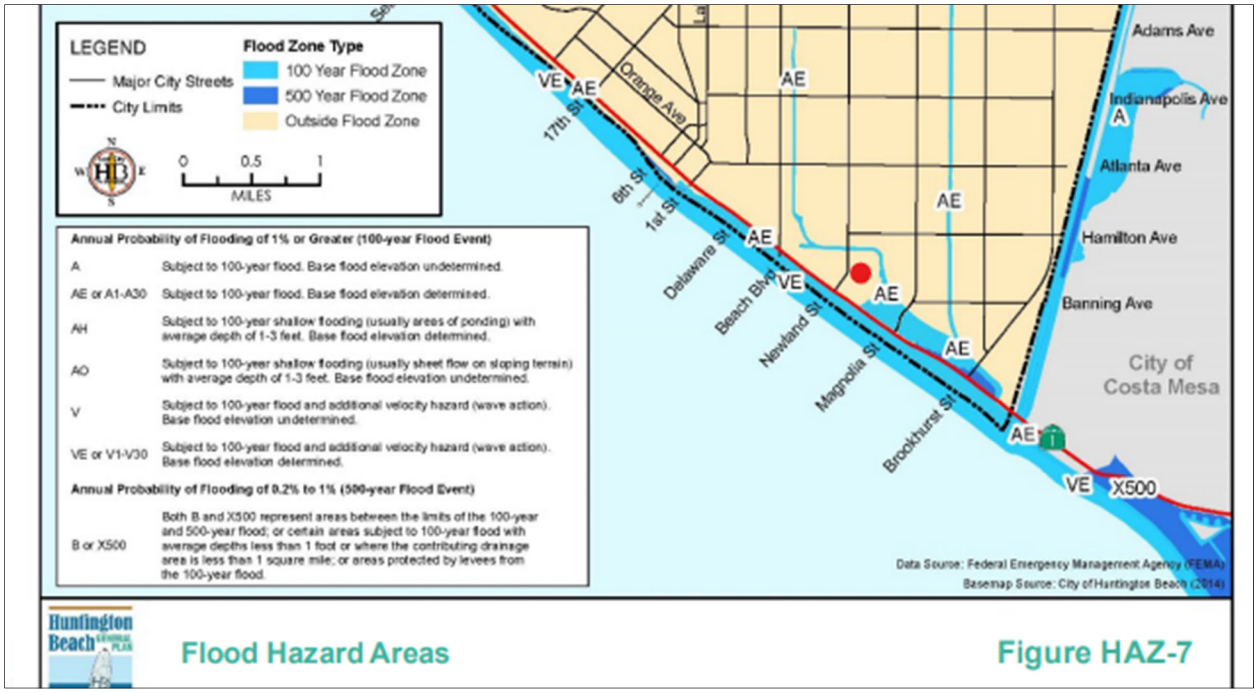
- Further, no Commission policy—not even the recently adopted CCC SLR Guidance—requires analyzing a 500-year flood. Nevertheless, even if a

[21] CDP Waiver 5-20-0590-W is available at https://documents.coastal.ca.gov/reports/2021/3/W9/W9-03-2021-report.pdf.

[22] See Pub. Resources Code, § 30624.7.

[23] See Huntington Beach Channel/Talbert Channel Sheet Pile Repair Project, available at https://ocip.ocpublicworks.com/service-areas/oc-infrastructure-programs/projects-and-studies/huntington-beach-channel-talbert.

500-year flood occurred, the Huntington Beach Flood Control Channel could accommodate a significant amount of water to minimize flooding of the Project site and surrounding area. (GHD Technical Memorandum, p. 4.) The Huntington Beach Flood Control Channel has a discharge capacity of 2,300 cubic feet per second ("cfs"), which is significantly higher than the 100-year event flow rate of 1,480 cfs. (*Ibid*.) Thus, in the event of a 500-year event, the Huntington Flood Control Channel could accommodate almost 900 more cfs before the waters exceed its capacity and overtop the Channel. Although this could result in temporary flooding in areas surrounding the Project site, "the extent of flooding would be limited by the volume and duration of a particular rain event." (*Ibid*.) Further, any potential flooding would be much less severe than flooding caused by other extreme events, such as a 2,475-year ARP tsunami. (See *ibid*.) As explained in Section D, potential flooding impacts at the Project site from a 2,475-year ARP tsunami would be shallow and temporary.



Staff Report Assertion:

- The Staff Report characterizes sea level rise studies[24] previously performed by the City, claiming these reports "illustrate the extensive flood risk of the low-lying portions of South Huntington Beach." (Staff Report, pp. 87-88.)

[24] The Staff Report identifies the City's 2014 Sea Level Rise Vulnerability Assessment, 2021 Sea Level Rise Vulnerability Assessment, 2017 Local Hazard Mitigation Plan, and General Plan. (Staff Report, pp. 87-88.)

Poseidon's Response:

- Moffatt & Nichol is well aware of the City's 2014 and 2021 Sea Level Rise Vulnerability Assessments, ***as it prepared those reports for the City***. Moffatt & Nichol considered those reports in evaluating the Project's potential impacts from coastal hazards and sea level rise. (See M&N SLR Analysis, pp. 9, 43 [the 2014 Sea Level Rise Vulnerability Assessment provided "the basis for a site-specific assessment of how coastal hazards . . . are influenced by sea level rise and how that could impact the Project"]; Moffatt & Nichol, Similarities and Differences Between City's SLR Vulnerability Assessment and HB Desal Project SLR Hazard Assessment (July 2021) [describing the similarities and differences between the M&N SLR Analysis and 2021 Sea Level Rise Vulnerability Assessment].) To that end, those reports do not call into question the validity of Moffatt & Nichol's Project-specific analysis and conclusions that the Project would not be vulnerable to coastal hazards with 3.3 feet of sea level rise through the Project's design life.

- Further, staff overstates the impact of the City's 2017 Local Hazard Mitigation Plan and General Plan in claiming that these plans recommend that the City "[d]iscourage major new development and redevelopment efforts within the Sea Level Rise Hazard Zone." (Staff Report, p. 88.) Importantly, the Project site is not located within the identified Sea Level Rise Hazard Zone. (See City of Huntington Beach General Plan (Oct. 2, 2017), Figure HAZ-6 [depicted below].) The Staff Report concedes this. (Staff Report, p. 88 ["The City's General Plan shows this Hazard Zone extends to the Upper Magnolia Marsh next to Poseidon's site."].) Even if the Project were within the Hazard Zone, the General Plan encourages "new development applicants to design projects to address coastal hazards," which is precisely what Poseidon has done. (General Plan, p. 8-44; M&N SLR Analysis, p. 8.)

    - Specifically, Poseidon has proposed Special Condition 21 in which it has committed to building the Project to Risk Category IV standards. With implementation of these standards, the Project will not be vulnerable to 100-year coastal hazard-related flooding events in conjunction with up to 6.6 feet of sea level rise—the maximum projected sea level rise that might occur under the extreme risk aversion scenario (H++) during the Project's 50-year operating life. (See Risk Category IV Memo, pp. 6-7.)

- In sum, Poseidon considered the City's sea level rise studies in designing the Project and evaluating potential coastal hazard-related impacts, such that the Project is consistent with the City's coastal hazard policies.

3. Future Flood Risks with Sea Level Rise

Staff Report Assertion:

- The Staff Report contends that, based on the 2018 OPC Guidance, "Huntington Beach could see as much as 6.4 feet of sea level rise under the H++ scenario for extreme risk aversion, 4.3 feet (medium-high risk aversion scenario), and 2.2 feet (low risk aversion scenario)" during the Project's operating life. (Staff Report, p. 86.) According to staff, the 2018 OPC Guidance recommends that agencies use the H++ scenario to inform decisions regarding long-term infrastructure projects. (*Ibid*.) Staff claims that under the H++ scenario, the Project would be significantly at risk. (*Ibid*.)

Poseidon's Response:

- As described below, substantial evidence in the record demonstrates that it is not necessary to design the Project to withstand an H++ scenario of 6.6 feet of sea level rise. (See, e.g., M&N SLR Analysis, pp. 6-7; see also Section B.) Nonetheless, Poseidon has agreed to construct the Project using Risk Category IV design standards, which means "the Project . . . would not be vulnerable to lower elevation flooding events, including up to 6.6 feet of sea level rise in conjunction with king tides, extreme tides, and 100-year coastal and fluvial storm events." (Risk Category IV Memo, p. 6.)

- According to the 2018 OPC Guidance, there is just a 17% probability that sea level rise could exceed 1.6 feet by 2070, and ***only a 0.5% probability*** that sea level rise could exceed 3.3 feet by 2070. (See M&N SLR Analysis, p. 6.) Further, there is only a 2% probability that sea level rise would exceed 5 feet this century. (*Ibid.*) As a result, Moffatt & Nichol

concluded that the H++ scenario of 6.6 feet to be "extreme and improbable." (*Ibid*.) Therefore, Moffatt & Nichol appropriately determined that the Project should be designed to withstand 3.3 feet of sea level rise through the Project's life. (*Id*., pp. 6-7, 13-16.)

- Notably, as explained in Section D, recent NOAA guidance concludes that the H++ is viewed as "less plausible" than previously believed. (NOAA, Global and Regional Sea Level Rise Scenarios for the United States (Feb. 2022), p. 12.) "Based on the most recent scientific understanding . . . , the uncertain physical processes such as ice-sheet loss that could lead to much higher increases in sea level are now viewed as less plausible in the coming decades before potentially becoming a factor toward the end of the 21st century and beyond." (*Ibid*.) NOAA therefore removed the H++ scenario from its report. (*Ibid*.) NOAA's most recent guidance includes a "High" scenario, with sea level projections of 4 feet by 2082, 6 feet by 2098, and 8 feet after 2100.[25] Under NOAA's "High" scenario, the Project as analyzed in the Staff Report would be resilient to sea level rise during the Project's design life of 50 years.

- Nevertheless, and as discussed above, by agreeing to design the Project to comply with Risk Category IV standards, the Project would be designed so that it is not vulnerable to the H++ scenario of 6.6 feet by 2080 in combination with reasonably anticipated coastal hazards. (See Risk Category IV Memo, pp. 6-7.)

Staff Report Assertion:

- The Staff Report asserts that, although the Commission's own guidance does not require that "every project must be designed to be safe from the H++ scenario," "critical infrastructure should be analyzed for the H++ scenario to understand what the associated impacts could be, particularly for new development, so that planners and decision-makers can understand and identify steps needed to adapt to this scenario if and when it occurs." (Staff Report, p. 87.)

Poseidon's Response:

- As a primary matter, the Commission ***excluded*** desalination facilities from its recently adopted CCC SLR Guidance. Although the CCC SLR Guidance states that desalination facilities could be considered "critical infrastructure" if "they are integrated with other water systems, provide needed or emergency water supply to communities, or have the potential to cause significant environmental impacts or social consequences if damaged by future hazards," the ***CCC SLR Guidance does not require***

[25] See NOAA, Coastal County Snapshot: Orange County Sea Level Rise, available at: https://coast.noaa.gov/snapshots/#&state=eyJmaXBzIjoiMDYwNTkiLCJzbmFwc2hvdElEIjoiZnV0dXJlRmxvb2QiLCJzZWN0aW9uSUQiOiJoZWFkZXJTZWN0aW9uIiwic2xyVmFsdWUiOiIyIn0=.

critical facilities to be designed for extreme sea level rise scenarios. (See CCC SLR Guidance, p. 24.)

- Indeed, both the CCC SLR Guidance and the 2018 OPC Guidance provide that critical infrastructure projects need only "***understand and plan*** for the H++ scenario, ***not necessarily to site and design for the H++ scenario***." (See CCC SLR Guidance, p. 24 [emphasis added]; see also 2018 OPC Guidance, p. 25.) As the Commission's own Guidance explains, "in some cases it may not be appropriate or feasible to site and design a project today such that it will avoid the impacts associated with, for example, ~10 feet of sea level rise (the approximate H++ scenario in 2100 for much of the California coast)." (CCC SLR Guidance, p. 24.)

- Nevertheless, consistent with the CCC SLR Guidance, Moffatt & Nichol ***did*** study the H++ scenario for the Project, and Poseidon has proposed to build the Project to withstand 6.6 feet of sea level rise through Risk Category IV design standards. (M&N SLR Analysis, p. 6; Risk Category IV Memo, p. 6.)

    - Moreover, to ensure that the Project conforms with applicable LCP and Coastal Act policies, Poseidon proposes to assess the Project's consistency with applicable City of Huntington Beach sea level rise adaptation strategies in the event 2.5 feet of sea level rise occurs or by 2050, whichever is earlier. (See Proposed Special Condition 20.) As part of Special Condition 20, Poseidon would update its site-specific sea level rise and coastal hazard analyses and prepare a Coastal Hazards Adaptation Plan to submit to the Commission that documents the Project's consistency with adopted sea level rise adaptation strategies. If the Coastal Hazards Adaptation Plan identifies Project changes are required, then Poseidon would seek an amendment to its CDP unless the Executive Director determines an amendment is not required.

- In sum, the Project has been designed to withstand worst-case sea level rise through the Project's design life. (M&N SLR Analysis, p. 6; Risk Category IV Memo, p. 6.) As Poseidon explained in its NOI Response, even under worst-case flood hazard projections (i.e., 6.6 feet under the H++ scenario by 2080—the anticipated end of the design life of the facility), the Project will comply with Coastal Act and LCP policies regarding sea level rise and coastal hazards. (Poseidon NOI Response, pp. 6-8; Risk Category IV Memo, p. 6.)

<u>Staff Report Assertion</u>:

- Staff asserts that the "tipping point" for flood risk is likely in the range of three to four feet of sea level rise (projected to occur as early as 2060-2070 under the H++ and medium-high projection scenarios)" because "flood waters could potentially

bypass the existing floodwall system." (Staff Report, p. 90.) Further, staff claims that best available science projects that sea levels will rise at an increasing rate, particularly in the latter half of this century, with 6.7-9.9 feet projected by 2100 (medium-high and H++ scenarios, respectively)." (*Id*., p. 91.)

Poseidon's Response:

- As explained above, although substantial evidence shows that it is not necessary to design the Project to withstand an H++ scenario, that is precisely what Poseidon has done. There is a 98% probability that sea level rise ***would not exceed 5 feet this century***, rendering the H++ scenario of 6.6 feet to be "extreme and improbable." (M&N SLR Analysis, p. 6.) In fact, NOAA removed the H++ scenario from its updated guidance because it "less plausible" than previously thought. (NOAA, Global and Regional Sea Level Rise Scenarios for the United States (Feb. 2022), p. 12.)

- Based on the 2018 OPC Guidance, there is a 99.5% probability that sea level rise will not exceed 3.3 feet by 2070. (See M&N SLR Analysis, p. 6.). Under NOAA's most conservative "High" scenario, sea level is not expected to reach 4 feet until after 2082, 6 feet by 2100, and 8 feet after 2100.[26] Poseidon designed the Project as analyzed in the Staff Report to be resilient to 3.3 feet of sea level rise, which is not likely to occur until after the Project's design life. (See GHD Letter, Updated SLR Projections released by NOAA (2022) and effects on Project-specific Analysis (Apr. 20, 2022), p. 2.) Accordingly, under NOAA's updated projections, sea level rise poses less of a risk to the Project than previously expected. Nevertheless, Poseidon has committed to building the Project to Risk Category IV standards, which would protect the Project from impacts of 6.6 feet of sea level rise. (See Risk Category IV Memo, pp. 6-7 [6.6 feet of sea level rise "would not affect the Project's ability to operate"].)

4. High Tide Flooding

Staff Report Assertion:

- Staff claims that, under various sea level rise scenarios, the Project would be at high risk of flooding and resulting damage because adjacent roadways and Project equipment could end up below high tide. (Staff Report, p. 88.)

Poseidon's Response:

[26] See NOAA, Coastal County Snapshot: Orange County Sea Level Rise, available at: https://coast.noaa.gov/snapshots/#&state=eyJmaXBzIjoiMDYwNTkiLCJzbmFwc2hvdElEIjoiZnV0dXJlRmxvb2QiLCJzZWN0aW9uSUQiOiJoZWFkZXJTZWN0aW9uIiwic2xyVmFsdWUiOiIyIn0=.

- Staff's unsupported assertions are contradicted by evidence in the record. As Moffatt & Nichol's modeling demonstrates, the Project's buildings would not be exposed to king tide flooding for all sea level rise scenarios studied, including the 6.6-foot scenario. (M&N SLR Analysis, p. 19; see also Risk Category IV Memo, pp. 6-7.) In fact, "[t]he Project site's vertical setback above the king tide water levels indicates there is about 2 feet of freeboard at key process buildings above the improbable SLR projection (H++) of 5 feet . . . for the 2070 planning horizon." (M&N SLR Analysis, p. 20; see also *id*., p. 21 [Figure 9 depicts finished grade elevations for key buildings above king tide water levels for all sea level rise scenarios].)

- Further, only under the extremely unlikely H++ scenario would low-lying adjacent areas to the site experience some flooding; this would not occur under lower sea level rise scenarios as staff suggests it would. (Compare Staff Report, p. 88 with M&N SLR Analysis, p. 20 ["The offsite impact of this scenario would be flooding of Newland Street and Pacific Coast Highway that could limit access to the Project site temporarily"].) Moreover, any such flooding would be temporary. (See M&N SLR, p. 20; see also Risk Category IV Memo, pp. 6-7 ["If one of these flooding events were to occur in conjunction with 6.6 feet of sea level rise (the maximum projected sea level rise that might occur under the H++ scenario during the Project's 50-year operating life), then the Project site may experience shallow, temporary, and localized flooding, but it would not affect the Project's ability to operate."].)

- Therefore, it is highly unlikely the Project would be damaged or become inaccessible as a result of sea level rise in combination with flooding caused by king tides.

5. <u>Fluvial Stormflows</u>

<u>Staff Report Assertion</u>:

- The Staff Report contends that sea level rise could affect the impacts that fluvial stormflows would have on the Project, in particular by impacting the capacity of the Huntington Beach Flood Control Channel. (Staff Report, p. 88.) Staff complains that Poseidon did not perform site-specific modeling regarding fluvial stormflows. (*Id.*, pp. 88-89.) However, based on prior studies performed by others, staff asserts that the Channel walls could be overtopped during a 100-year stormflow event in combination with 5 feet of sea level rise. (*Ibid*.)

<u>Poseidon's Response</u>:

- As an initial matter, the Project's exposure to fluvial storm hazards "is considered very low, given the existing channel can convey the 100-year flood and accommodate up to 5 feet of SLR with little or no flooding of

adjacent areas, including the Project site." (M&N SLR Analysis, p. 26.) After Project grading and construction, however, this flooding would not occur because key process buildings would have a finished floor elevation of 14 to 16 feet NAVD 88. (*Ibid*.) Thus, the Project will have at least 2 feet of freeboard above predicted flood levels. (*Ibid*.) Importantly, best available science shows that there is a greater than 98% chance that sea level rise will not exceed 5 feet this century, rendering staff's scenario extremely conservative and unlikely. (*Id*., p. 27.) ***The probability of staff's scenario coming to fruition is 0.02%***. (*Ibid*.)

- Further, there was no need for Poseidon to conduct additional modeling given prior studies performed for other recent projects in the Project area. For instance, the City's 2014 evaluation of sea level rise in its Sea Level Rise Vulnerability Assessment determined that only under the extreme sea level rise scenario of 5.5 feet would storm flows overtop the Huntington Beach Flood Control Channel walls and result in some flooding in areas surrounding the Project site during the peak of the storm. (See M&N Analysis, p. 25.) In addition, in 2018 for the Magnolia Tank Farm remediation project, Anchor QEA analyzed fluvial hazards and the impact of sea level rise on the Huntington Beach Flood Control Channel. Like the City's 2014 evaluation, "[t]he results of [Anchor's] modeling indicate flooding of low-lying areas would only occur for the highest SLR scenario evaluated." (*Id*., p. 26.) Given the consistent results across various modeling efforts, Poseidon appropriately relied on the prior analyses in evaluating potential fluvial storm flow risks.

6. Groundwater

Staff Report Assertion:

- Although the Staff Report recognizes that groundwater is not expected to "daylight" at the Project site due to the Project's higher elevation, staff claims that recent USGS modeling "suggests that groundwater could increasingly be at risk of being emergent in the lower-lying areas around the site, including the low-lying portions of Newland St, used to access the site." (Staff Report, p. 89; see also *id*., p. 93.)

Poseidon's Response:

- As the Staff Report correctly finds, although "[i]ncreased groundwater levels in the future may create additional buoyancy forces on underground structures . . . ***the threat of persistent flooding from groundwater levels (groundwater daylighting) is not a concern at the project site***." (M&N SLR Analysis, p. 31 [emphasis added].)
    - Further, Poseidon has proposed adaptive measures that could be undertaken to minimize potential impacts from increases in

groundwater elevations. For instance, Poseidon can add ballast concrete inside the Product Water Tank. (*Id*., p. 8.) "The bottom elevation of the tank foundation would be above the design groundwater elevation. Any buoyancy could be countered by placing an additional ballast concrete inside the tank that could easily be accomplished during an extended shutdown in the future. Or, if the tank is never completely emptied during operation, the remaining fluid inside the tank would be adequate to offset the additional buoyant force." (*Ibid*.)

- In addition, in building to Risk Category IV design standards, the Project would include additional reinforcements to resist potential buoyancy impacts, such as using additional concrete in the foundations. (Risk Category IV Memo, pp. 4-5.)

- Moreover, contrary to staff's assertion, site-specific groundwater monitoring shows "***there has been no evidence or observations of 'groundwater daylighting' in the low-lying neighborhoods of south Huntington Beach***" or adjacent areas, which includes Newland Street. (M&N SLR Analysis, p. 30 [emphasis added].)

7. <u>Probability of Extreme Events</u>

<u>Staff Report Assertion</u>:

- The Staff Report contends that the probability the Project will be affected by a 100-year flood is about 1 in 2, and 1 in 10 for a 500-year flood. (Staff Report, p. 90.)

<u>Poseidon's Response</u>:

- The Project has been designed to withstand a 100-year flood event in combination with anticipated sea level rise. (See M&N SLR Analysis, pp. 25-26 [explaining that the existing Huntington Beach Flood Control Channel can accommodate a 100-year event and up to 5 feet of sea level rise with little or no flooding of the Project site and adjacent areas].) In the unlikely event sea level rise exceeds 5 feet and combines with a 100-year event, there could be limited and shallow flooding in areas surrounding the Project site. (*Id*., p. 26.) However, the probability of this worst-case event is about 0.02%. (*Id*., p. 27.) Therefore, the Project is not vulnerable to significant damage from a 100-year flood. (*Ibid.*) Further, as explained above, the Project site is not within the City's 100-year or 500-year flood hazard zones. (See City of Huntington Beach General Plan, Fig. HAZ-7.) Nonetheless, as explained above, a 500-year flood would likely result in only shallow and temporary flooding of low-lying areas adjacent to the Huntington Beach Flood Control Channel, and little or no flooding of the Project site. (GHD Technical Memorandum, p. 4.)

Moreover, any potential flooding would be much less severe than temporary flooding caused by other extreme events, such as a 2,475-year ARP tsunami. (See *ibid.*; see also Section D.) As discussed therein, under a conservative scenario of 3.3 feet of sea level rise coupled with the 2,475-year ARP tsunami, only the western portion of the Project site would experience temporary and shallow flooding. (M&N Tsunami Analysis, p. 3.) After thirty minutes, conditions are expected to return to pre-tsunami conditions along the south side of the intake pump, and only six inches of water would remain on the west side of the intake pump station. (*Id*., pp. 33-34.)

8. Poseidon's Plans for Addressing Coastal Hazards

Staff Report Assertion:

- The Staff Report states that Poseidon has limited options to adapt its facility in the event of sea level rise without relying on shoreline protection devices. (Staff Report, pp. 83, 91.) However, the Staff Report notes that "[p]otential additional adaptation measures could include retroactively elevating sensitive processing equipment, adding additional ballast to vulnerable buried infrastructure and foundations, or dry floodproofing the exterior of structures to prevent floodwaters from entering areas with sensitive equipment." (*Ibid*.)

  Poseidon's Response:

  - Poseidon disputes staff's characterization of Poseidon's options as "limited." As staff acknowledges, there are various measures Poseidon could implement to adapt to sea level rise. (See Staff Report, p. 91.) Poseidon already has proposed to build the Project to Risk Category IV standards, which ensures that the Project will be resilient to 6.6 feet of sea level rise (H++ scenario) over its proposed 50-year operating life. (Risk Category IV Memo, pp. 6-7.) Further, Poseidon has committed to develop and implement adaptation strategies to address sea level rise and coastal hazards in the future. (M&N Tsunami Analysis, p. 34; M&N SLR Analysis, pp. 39-40; see also Poseidon NOI, Response #7.)

  - More specifically, as described above, Poseidon is proposing Special Condition 20 that would require Poseidon to assess the Project's consistency with applicable City sea level rise adaptation strategies in the event 2.5 feet of sea level rise occurs or by 2050, whichever is earlier. As part of Special Condition 20, Poseidon would prepare a Coastal Hazards Adaptation Plan to submit to the Commission that documents the Project's consistency with adopted sea level rise adaptation strategies. If the Coastal Hazards Adaptation Plan identifies Project changes are required, then Poseidon would seek an amendment to its CDP unless the Executive Director determines an amendment is not required. This will ensure the Project adapts to sea level rise over time and minimizes potential risks

from sea level rise and coastal hazards consistent with LCP Policies C 1.1.1., C 1.1.9, C 10.1.14, and C 10.1.15.

Staff Report Assertion:

- The Staff Report asserts that "it is out of Poseidon's control as to how the surrounding area might adapt to rising flood risk." (Staff Report, p. 91.) Those strategies will take "significant planning time and resources to identify, develop, and implement, and no such broad scale detailed planning has been completed." (*Ibid*.) The impacts of any larger scale adaptation strategy has not been analyzed under the Coastal Act. (*Ibid*.)

Poseidon's Response:

- Poseidon agrees that how the surrounding area adapts to sea level rise is outside of Poseidon's control. However, as described above, Poseidon proposes to evaluate the Project's consistency with the City's sea level rise adaptation strategies in the event sea levels reach 2.5 feet or by 2050, whichever is earlier. As part of this effort, Poseidon would demonstrate the Project's consistency with those strategies or be required to propose changes to the Project through an amendment to the CDP. This will ensure that the Project and aspects within Poseidon's control adapt to sea level rise and the City of Huntington Beach's future adaptation strategy.

9. LCP and Coastal Act Consistency

Staff Report Assertion:

- The Staff Report contends that the portions of the Project within the Commission's retained jurisdiction could be exposed and damaged by coastal erosion, and, therefore, any permit would need to include special conditions "to require monitoring of sand levels and identifying measures to be taken should they be exposed." (Staff Report, p. 92.) However, staff claims that, given other purported Coastal Act and LCP inconsistencies, special conditions would not be sufficient to provide overall Project conformity. (*Ibid*.)

Poseidon's Response:

- As described above, extreme coastal erosion would likely result in deeper burial of the infrastructure—not exposure. (See GHD Technical Memorandum, p. 2 ["The end result will be an increased depth of burial over the access ports, and even less likelihood of exposure due to SLR."].) Therefore, the Project components within the Commission's retained jurisdiction would comply with the Coastal Act. Nevertheless, as part of Special Condition 23, Poseidon has proposed to assess sand upon commencing construction to ensure that Project components are not at risk of exposure.

Staff Report Assertion:

- The Staff Report states that Project components within the City's LCP jurisdiction would be adequately protected from on-site flooding hazards under almost all predicted sea level rise and fluvial flooding scenarios. (Staff Report, p. 93.) Staff nonetheless claims that the Project will be at risk because surrounding areas and nearby roads will be subject to flooding, potentially leaving the Project site inaccessible. (*Ibid*.) According to staff, the Commission has previously denied proposals to construct large infrastructure projects on elevated building pads within flood zones, citing a case of a proposed wastewater treatment plant. (*Ibid*.)

  Poseidon's Response:

  - Low-lying Adjacent areas to the site could experience some temporary flooding and limit access to the site if sea levels exceed 5 feet. (M&N SLR Analysis, p. 20 ["The offsite impact of this scenario would be flooding of Newland Street and Pacific Coast Highway that could limit access to the Project site temporarily"]; see also M&N SLR Addendum, p. 4.) However, "[c]oastal storm and extreme high tide flood events are predictable, and their durations are limited to a few hours." (M&N SLR Addendum, p. 7; see also *id*., p. 6.) As a result, it is possible to plan for these flooding events in advance. (*Ibid*. [explaining that "temporary hazard mitigation measures such as deployable barriers can be employed in advance of such events."].)

  - Moreover, staff's cited precedent is distinguishable. (See Staff Report, p. 93.) There, the Commission denied the City of Morro Bay's proposal to demolish its existing wastewater treatment plant ("WWTP") and construct a new WWTP on the same site, just inland of the beach.[27] The staff report explained that the WWTP site is located in a flood plain, and Morro Bay's LCP prohibits new development in such areas. (Morro Bay WWTP Staff Report, p. 28-30.) Morro Bay's own modeling demonstrated that the site would be flooded under scenarios with maximum wave run-up, predicted sea level rise, and a 100-year flood. (*Id*. at p. 30.) Although Morro Bay proposed to raise the elevation two feet above expected flood levels, "raising the site on fill does not change the fact that the footprint of the new development is in a 100-year flood hazard zone as designated by the City's LCP." (*Ibid*.) Further, the staff report explained that adding the fill would convert the WWTP into an island during a flood event, with 2 to 5-foot-deep waters along the only access roads. "Therefore, in a 100-year flood, when equipment is most at risk for failure, it would be difficult for plant operators to reach the site, potentially increasing the risk of a malfunction or sewer spill." (*Id*. at p. 33.)

[27] See Coastal Commission, Staff Report: De Novo Hearing for Application No. A-3-MRB-11-001 (Dec. 21, 2012), available at: https://documents.coastal.ca.gov/reports/2013/1/Th23b-1-2013.pdf.

- Here, unlike the Morro Bay WWTP, the Project site is not located within the Sea Level Rise Hazard Zone. (See City of Huntington Beach General Plan (Oct. 2, 2017), Fig. HAZ-6.) Nor is it located in a City designated flood zone. (See *id*., Fig. HAZ-7.) In fact, nothing in the City's LCP identifies the Project site as being located within any area of sea level rise or flooding hazard that would preclude development. (See *id.*, Fig. HAZ-7; *id*., p. 5-21.) Consistent with applicable City planning documents, substantial evidence in the record demonstrates that the Project is resilient to sea level rise and coastal hazards through its design life to 2080. (See, e.g., M&N SLR Analysis, pp. 6-7; Risk Category IV Memo, pp. 6-7.) Flooding due to a tsunami, coupled with potential sea level rise, would be limited to temporary flooding along the western portion of the Project site. (See M&N Tsunami Analysis, pp. 33-36.) See Section D above for a more detailed discussion of potential impacts to site access. However, a storm event coupled with 6.6 feet of sea level rise would not result in flooding of the Project site given Poseidon's proposal to build to Risk Category IV standards and raise finished floor elevations throughout the site. (See M&N SLR Addendum, p. 4.)

  - In sum, the Project is not in a City-designated flood or coastal hazard zone. Nevertheless, Poseidon has designed the Project to withstand anticipated sea level rise and coastal hazards. In the unlikely event that nearby roadways are flooded, any impacts would be temporary. (See M&N SLR Analysis, p. 20; see also Section D *supra*.)

Staff Report Assertion:

- The Staff Report correctly explains that "[i]t is not necessary or feasible to guarantee that Poseidon's site will completely avoid all risk of flooding and be accessible at all times in order to find Coastal Act and LCP Consistency." (Staff Report, p. 93.) Nonetheless, staff asserts that it is appropriate to identify potential future risks and reasonably foreseeable potential adaptation pathways. (*Ibid*.)

  Poseidon's Response:

  - That is precisely what Poseidon has done. Poseidon has agreed to develop and implement adaptation strategies if sea level rise advances faster than current projections. (M&N Tsunami Analysis, p. 34; M&N SLR Analysis, pp. 39-41; see also Poseidon NOI, Response #7.) As Special Condition 20, Poseidon has agreed to a assess the Project's consistency with applicable City sea level rise adaptation strategies in the event 2.5 feet of sea level rise occurs or 2050, whichever is earlier, and submit a Coastal Hazards Adaptation Plan that documents that consistency or apply to the Commission for an amendment to the CDP if Project changes are required.

- Further, as expressly stated in LCP Policy C 1.2.3, public services must be able to accommodate the Project "***at the time of occupancy***." (Emphasis added.) The LCP does not require a speculative analysis of the potential for public services to fail in the future. Here, City has confirmed the availability of public services to serve the Project. (See generally 2017 Draft SEIR § 4.6.)

Staff Report Assertion:

- Staff contends that siting the Project in its current location will not minimize risks from coastal hazards and does not meet the LCP requirement to site development in an area able to accommodate it with public services. (See Staff Report, p. 94.)

Poseidon's Response:

- As explained throughout this Section, Poseidon has designed the Project to minimize reasonably foreseeable risks from coastal hazards by building to Risk Category IV standards. Substantial evidence in the record demonstrates the Project is "very unlikely to be exposed to coastal hazards at the 2100 planning horizon." (M&N SLR Analysis, p. 40; Risk Category IV Memo, pp. 6-7.)

    - Moreover, staff's strained interpretation of LCP Policy C 1.1.1 is without merit. LCP Policy C 1.1.1 states that "new development shall be encouraged to be located within, contiguous or in close proximity to, existing developed areas able to accommodate it or in an area with adequate public services." Here, the site is an existing developed area that is adjacent to other developed areas – including the recently developed Huntington Beach Generating Station. Further, the site is fully accessible under current conditions; there is nothing in the record to suggest that existing public services cannot accommodate the Project. The 2010 SEIR specifically determined that the Project would have no impacts related to public services and utilities. (See 2010 Draft SEIR, p. 4.6-16.) Indeed, as staff explains in other sections of the Staff Report, "[i]t is not necessary for LCP or Coastal Act conformity to determine, with absolute certainty, that a development can be continuously served by surrounding infrastructure for its lifetime." (Staff Report, p. 70 [citing Policy C 1.1.1 in Geologic Hazards – Seismic].) Moreover, speculating as to future conditions that are beyond the control of a new development that has been sited in a developed area with adequate services is well beyond what the plain language of LCP Policy C 1.1.1 intends.

    - It is only under such speculative and unlikely *future* scenarios in which a catastrophic storm or flood event combines with worst-case sea level rise projections that there would be the potential for

the Project site to be inaccessible via adjacent roadways for several hours. (See M&N SLR Analysis, p. 20.) But there is no evidence that the Project site would experience prolonged inaccessibility as a result of any coastal hazard. In the unlikely event that nearby roadways are flooded, any impacts would be temporary. (See M&N SLR Analysis, p. 20; see also Section D *supra*.)

- However, staff's concerns about future conditions can be addressed through Special Conditions, such Special Condition 20. As described above, Special Condition 20 requires Poseidon to demonstrate compliance with the City's sea level rise adaptation strategies if sea levels rise 2.5 feet or by 2050, whichever is sooner.

- Further, the LCP does not designate this site as an area at risk of hazards such that new development should be precluded. (See City of Huntington Beach General Plan, Figs. HAZ-6 & HAZ-7.) Under staff's strained interpretation, significant portions of the City that have never been identified in any City planning document as being at risk of sea level rise or flooding hazards could not be developed. This amounts to an unconstitutional regulatory taking. (See Section C; *Penn Cent. Transp. Co. v. New York City* (1978) 438 U.S. 104, 127; *Nollan v. Cal. Coastal Com.* (1987) 483 U.S. 825, 831-836; *Dolan v. City of Tigard* (1994) 512 U.S. 374, 385.)

- Because the Project has been designed to minimize potential risks from coastal hazards and is located in an area serviceable by existing public services and utilities, the Project complies with the applicable LCP and Coastal Act policies.

Staff Report Assertion:

- Staff claims that Poseidon's proposal to elevate the Project site "would foreclose opportunities to remove existing encroachments into the floodplain or restore the area's historic wetlands, as called for by LUP Policies C 10.1.14 and 7.2.4." (Staff Report, p. 95.) According to staff, these options could "serve as pieces of an overall sea level rise adaptation strategy that is more focused on the use of nature-based adaptation strategies in line with a variety of statewide goals and recommendations." (*Ibid*.)

Poseidon's Response:

- First, staff does not identify any encroachments into the floodplain proposed as part of the Project. There are none. (See CDP App., Att. 9, p. 21 ["Nor does the Project involve an encroachment into the floodplain."].) Therefore, the Project complies with LCP Policy C 10.1.14, which

provides that development should avoid the use of protective devices and encroachments into the floodplain.

- Second, LCP Policy C 7.2.4 does not apply to Poseidon's proposed Project. LCP Policy C 7.2.4 "[e]ncourage[s] ***the Orange County Flood Control District*** to improve, and continue to maintain once improved, the Huntington Beach and Talbert Flood Control Channel embankment" through various measures designed to protect and promote "the overall functioning of the wetland ecosystem." (Emphasis added.)

- Nonetheless, Project development does not foreclose future opportunities to protect wetlands. As described in Section G, outside of the footprint of the exterior berm is the Triangle Area that is partially vegetated with plants. The Triangle Area was not identified as wetlands in the 2010 SEIR; however, staff describes it as including approximately 0.5 acres of wetlands. While Poseidon disputes the characterization of the Triangle Area as wetlands, the Project will not adversely impact the Triangle Area. (See Section G *infra*.)

    - In fact, if the Commission denies the Project on the basis that surrounding areas adjacent to the Project would be vulnerable to sea level rise—even though the Project itself can withstand coastal hazards under likely sea level rise scenarios—and, thus, the Project site should be converted to wetlands, the Commission's denial would amount to an unconstitutional taking. By suggesting that the most appropriate use for the Project site is wetland restoration, staff deprives Poseidon of all economically beneficial or viable use of the Project site. (See Section C; see also *Penn Cent. Transp. Co. v. New York City* (1978) 438 U.S. 104, 127; *Nollan v. Cal. Coastal Com.* (1987) 483 U.S. 825, 831-836; *Dolan v. City of Tigard* (1994) 512 U.S. 374, 385.)

- In addition, Poseidon has proposed as part of its mitigation proposal to compensate for impacts to onsite wetlands that were disturbed by AES' prior operations. (See Section G.) Although LCP Policy C 7.2.4 does not apply to the Project, the Project's implementation of this additional mitigation promotes the spirit of Policy C 7.2.4 by restoring and enhancing the wetland ecosystem.

- In sum, contrary to staff's assertion, the Project will not encroach into the floodplain or directly impact purported wetlands on the Project site. The Project complies with applicable LCP Policies and the Coastal Act.

<u>Staff Report Assertion</u>:

- The Staff Report recognizes that some LCP or Coastal Act inconsistencies could be addressed through special conditions. (Staff Report, pp. 95-96 [identifying

potential conditions].) However, staff maintains that "even if these were all imposed, it would not fully minimize risks . . . and would not bring the project fully into conformity." (*Id*., p. 96.)

Poseidon's Response:

- Poseidon disagrees with Commission staff that the Project does not conform to applicable LCP and Coastal Act policies, as explained throughout this response. Nevertheless, Poseidon has proposed multiple special conditions that fully address staff's stated concerns and ensure the Project complies with the LCP and the Coastal Act. Specifically:
    - Special Condition 21 requires Poseidon to build the Project to Risk Category IV standards. Implementation of Special Condition 21 ensures the Project site is designed to minimize flood and other coastal hazard risks to life and property, consistent with LCP Policies C 1.1.9, C 10.1.14, and C 10.1.15.
    - Special Condition 20 requires Poseidon to assess the Project's consistency with applicable City sea level rise adaptation strategies when sea level rise of 2.5 feet occurs or by 2050, whichever is sooner. At that time, Poseidon would submit a Coastal Hazards Adaptation Plan demonstrating the Project's consistency with those strategies or apply to the Commission for an amendment to the CDP if Project changes are required. Implementation of Special Condition 20 ensures the Project would adapt appropriately to changing sea levels in the future, consistent with the City's adaptation strategies, and ensure the Project continues to be serviceable by existing utilities as required by LCP Policy 1.1.1.
    - Special Condition 23 requires Poseidon evaluate sand levels over the existing intake and outfall infrastructure, including access ports, prior to commencing construction to ensure that Project components are not at risk of exposure or damage from coastal erosion.
- Accordingly, the Project would more than comply with the LCP and Coastal Act.

F. Marine Life and Water Quality (Staff Report, pp. 97-134)

1. Background on Agency Authorities and Joint Review by Staff of the Regional Board, State Lands Commission, and Coastal Commission

Staff Report Assertion:

- The Staff Report claims that Project operations would cause "substantial and continual losses of marine life" due to the Project's intake and diffuser. (Staff Report, p. 98.)

  Poseidon's Response:

  - The City of Huntington Beach, the State Lands Commission, and most recently the Regional Board each have assessed the proposed Project and its potential impact on marine resources, and have determined that following the implementation of mitigation, the Project's impacts on marine life will be less than significant and are consistent with the California Ocean Plan and its Desalination Amendment. (See Water Code, § 13142.5, subd. (b); see also California Ocean Plan, Chapter III.M.)

  - The 2010 SEIR estimated the Project's entrainment impacts and concluded that larval entrainment losses due to stand-alone operation of the Project would affect only a small fraction of the larvae within the source water and would not substantially reduce populations of affected species or affect the ability of affected species to sustain their populations. Therefore, the SEIR concluded entrainment impacts would be less than significant. (2010 Final SEIR, pp. 4.10-67 to 4.10-68.)

  - In May 2015, the State Water Resources Control Board amended the Ocean Plan to address the construction and operation of seawater desalination plants in the Desalination Amendment. [28] (2017 Final SEIR, pp. 1-8 to 1-9.) Effective as of January 28, 2016, the Desalination Amendment "establish[ed] a uniform statewide approach for protecting beneficial uses of ocean waters from degradation due to seawater intake and discharge of brine wastes from desalination facilities." (2015 SWRCB Final Staff Report, p. 11.)

  - The Desalination Amendment imposes certain restrictions on the use of different types of seawater intake systems. Although the Desalination Amendment prefers subsurface intakes, where subsurface intakes are infeasible, it requires surface water intakes be screened with a one millimeter or smaller size screen and that through-screen velocity for the intake not exceed 0.5 feet per second. (Desalination Amendment, § III.M.2.d(1)(c)(ii), (iv).) As for brine discharge, the Desalination

[28] In adopting the Desalination Amendment, the State Board "was assisted by the formation of expert review panels, an interagency workgroup, and extensive stakeholder outreach that provided the State Water Board with many concepts and recommendations to consider in the development of the proposed amendment." (2015 SWRCB Final Staff Report, pp. 11-12.) This process culminated in the issuance of the SED that evaluated the environmental impacts and mitigation measures associated with desalination plants, including the screens and intake system that Poseidon has proposed to implement for the Project. (*Id.*, pp. 11, 16.) The Commission was part of the interagency workgroup that came to the conclusion that the intake system proposed by Poseidon would most effectively minimize impacts to marine life.

Amendment favors facilities that commingle brine generated during the desalination process with wastewater before discharging the brine into the ocean. (*Id*., § III.M.2.d(2)(a).) However, "[m]ultiport diffusers are the next best method for disposing of brine when the brine cannot be diluted by wastewater and when there are no live organisms in the discharge." (*Id*., § III.M.2.d(2)(b).)

- Following the Desalination Amendment's adoption, Poseidon proposed several technological improvements to the Project's intake and outfall to add: (1) four one-millimeter slot width wedgewire screens on the offshore end of the Project's seawater intake pipeline to reduce entrainment and impingement of organisms; and (2) a multiport diffuser on the end of the discharge pipeline to enhance the mixing of brine with seawater. (2017 Final SEIR, pp. 1-3, 2-7.) Poseidon also reduced the Project's seawater intake volume by 30 percent—from 152 to 106.7 mgd—to further reduce entrainment of marine life. (2017 State Lands Commission Staff Report Findings, p. D-31; *id.*)

- In July 2016, Poseidon applied to the State Lands Commission to amend its existing lease to reflect the intake and outfall modifications. The State Lands Commission analyzed the environmental effects of these enhancements, including the effects on fish larvae and other marine life, and determined that such impacts would be less than significant with implementation of Mitigation Measure OWQ/MB-7, which requires restoration of the total calculated acreage of habitat impacted to fully compensate for any larvae lost. (2017 Final SEIR, pp. 11-148, 4-57 to 4-69; 2010 SEIR Findings of Fact, p. 29.) Further, the State Lands Commission found that Project operation will only impact a fraction of the larvae in the water column and will not substantially reduce populations of affected species or affect the ability of such species to sustain their populations. (2017 Draft SEIR, pp. 4-55 to 4-63; 2017 Final SEIR, pp. 11-34 to 11-36.)

- On April 29, 2021, the Regional Board approved the renewal of the Project's National Pollutant Discharge Elimination System (NPDES) Permit, and adopted findings under Water Code Section 13142.5(b), which requires that "for each new or expanded coastal powerplant of other industrial installation using seawater for cooling, heating, or industrial processing, the best available site, design, technology, and mitigation measures feasible shall be used to minimize intake and mortality of all forms of marine life."

    - As conditionally approved in the Regional Board's Order, Poseidon proposes to fully mitigate for the mortality to marine life by completing one or more mitigation projects, including various wetland restoration, enhancement, and preservation projects at the Bolsa Chica Wetlands as well as the creation of an artificial reef

near the Palos Verdes Peninsula. (2021 Regional Board Order, pp. G-80 to G-84.)

- In support of its mitigation proposal, Poseidon prepared a detailed entrainment study as part of its Marine Life Mortality Report, in compliance with Ocean Plan section III.M.2.e(1)(a). As mandated by section III.M.2.e(1)(a) of the Ocean Plan, Poseidon calculated the Project's entrainment impacts using the Empirical Transport Model ("ETM")/Area of Production Foregone ("APF") method, which assesses direct and indirect impacts on marine life. This analysis was also peer reviewed by a neutral third-party reviewer, Dr. Peter Raimondi. The analysis translates the Project's entrainment impacts into a number of acres that will be needed to mitigate for the impact—in this case, 100.5 acres, after appropriate mitigation ratios are applied. (2021 Regional Board Order, Attachment F, p. F-49; see also *id.*, Attachment G, pp. G-60 to G-71, G-88; *id*., Attachment G.4.) The proposed mitigation projects will provide sufficient acreage to meet this standard, as confirmed by the Regional Board. (*Id*., Attachment F, pp. F-49 to F-50.)

- Further, in order to address specific questions and concerns from Commission staff, Poseidon has agreed to implement additional marine life mitigation projects, above and beyond the mitigation that the Regional Board found would fully mitigate the Project's marine life impacts.

Staff Report Assertion:

- The Staff Report asserts that the one-millimeter screen on the Project's intake "helps reduce entrainment, though by only about one percent compared to an unscreened intake." (Staff Report, p. 100.)

Poseidon's Response:

- The Desalination Amendment states that "[t]he regional board ***shall require that surface water intakes be screened***." (Desalination Amendment, Ch. III.M.2.d(1)(c), p. 46 [emphasis added].[29]) "In order to reduce entrainment, all surface water intakes must be screened with a 1.0 mm (0.04 in) or smaller slot size screen when the desalination facility is withdrawing seawater." (*Ibid*.)

[29] Desalination Amendment Ch. III.M.2.c(2) provides that if the Regional Board determines that subsurface intakes are not feasible and surface water intakes are proposed instead, the Regional Board must analyze potential designs for those intakes in order to minimize the intake and mortality of all forms of marine life. Here, the Regional Board determined that subsurface intakes are not feasible for the Project; therefore, the Desalination Amendment provisions for screened surface intakes apply to the Project, including the requirement to install a 1-mm screen. (See 2021 Regional Board Order, p. G-34.)

- The SED evaluated a variety of intake screens to determine that wedgewire screens are effective at reducing impingement and entrainment. (SED, pp. 53-62.) "The proposed Desalination Amendment includes a requirement that screen slot size is no larger than 1.0 mm because it would be feasible at all open ocean intakes and reduce entrainment while ensuring regulatory consistency." (*Id*., p. H-299.)

- As stated in the SED, the addition of 1 mm wedgewire screens reduces entrainment of all organisms measuring 1 to 10 mm by 1 percent as compared to unscreened intakes. (SED, pp. H-424, H-437.) However, for organisms larger than 10 mm, a 1-mm wedgewire screen reduces entrainment by 100 percent. (*Ibid.*) As the State Board explained:

    - "[T]he majority of the biomass is protected from entrainment [by using a 1-mm screen] . . . Some species will never reach the size to prevent entrainment at that slot size, however low velocity intake coupled with ocean currents will ensure that many organisms are not entrained. This residual entrainment will be mitigated." (*Id.*, p. J-76.)

- Further, Project-specific impacts from the use of wedgewire screens were evaluated exhaustively during the SLC's and Regional Board's proceedings.

    - The SLC prepared the 2017 Final SEIR in part to evaluate the impacts of "[i]nstall[ing] four 1-millimeter wedgewire screens with a through-screen velocity of 0.5 feet per second or less on the offshore end of the seawater intake pipeline . . . to reduce entrainment and impingement to *de minimis* levels." (2017 Final SEIR, p. I-3.)

    - The 2017 SEIR analyzed the effects of the wedgewire screens, and concluded that "[t]he proposed wedgewire screen would further reduce entrainment, especially for fish," as well as eliminate impingement. (See 2017 Draft SEIR, p. 4-56 to 4-57.) The SEIR explains that "any impingement or entrainment impacts . . . would not substantially reduce populations of any affected species, or affect the ability of any affected species to sustain their populations." (*Ibid*.)

    - The Regional Board also studied the potential impacts from the wedgewire screens and the resulting mitigation required. The Regional Board ultimately determined that "the existing surface intake and discharge structures at the AES HBGS . . . be used for the proposed desalination facility and upgraded as required by the Ocean Plan (i.e., add 1mm wedgewire screens to the intake structure, linear diffuser to the discharge structure)." (2021

Regional Board Order, p. 13 [intake specifications], G.1-78, p. F-14 ["Pursuant to this Order, and as discussed in the 2017 FSEIR, the Discharger ***must*** install wedgewire screens with a 1.0 mm or smaller slot size screen at the onset of the intake pipe"] [emphasis added].)

- Poseidon acknowledges that wedgewire screens do not completely eliminate potential impacts to marine life. Therefore, in compliance with the Desalination Amendment, Poseidon has proposed robust marine life mitigation projects to "replace[] all forms of marine life or habitat that is lost due to the construction and operation of [the] desalination facility after minimizing intake and mortality of all forms of marine life through best available site, design, and technology,"[30] as described below.

Staff Report Assertion:

- The Staff Report asserts that the Project's discharge effluent will have salinity levels of up to 65.5 ppt, which Commission staff claims could cause mortality or harm to many forms of marine life. The Staff Report also states that the Project's discharge would contain various concentrations of other treatment chemicals, such as chlorine, antiscalants, coagulants, metals, cleaning chemicals, and others that must meet limits for these contaminants established by the Regional Board. (Staff Report, p. 102.)

Poseidon's Response:

- As described above, the Project is designed to use a multiport diffuser, which "rapidly dilute[s] brine to salinities near ambient background, often within only a few tens of meters of the outfall." (Desalination Amendment, p. 108.) This discharge method is believed to result in exposure of a smaller area of ocean and benthic environment to elevated salinity when compared to other disposal methods. (*Ibid.*)

- In addition, the Regional Board thoroughly analyzed the Project's brine diffuser and concluded that the Project complies with the Desalination Amendment. "[T]he design of the 14-port linear diffuser has been optimized to produce rapid mixing to maximize dilution, minimize the [brine mixing zone], and reduce the volume of seawater that would expose organisms within the entrained seawater to lethal shearing stresses." (2021 Regional Board Order, p. G-67.) "The Santa Ana Water Board finds that the proposed linear diffuser is designed so that the brine mixing zone does not encompass or otherwise result in adverse effects to existing sensitive habitat." (*Id*., p. G-36 [citing over a dozen technical appendices supporting the Regional Board's conclusions].)

[30] Desalination Amendment, Ch. III.M.2.e.

- Furthermore, the 65.5 ppt effluent limit was calculated using the formula provided in the Ocean Plan. (Ocean Plan, p. 54; Regional Board Order, p. F-37.) The effluent limit factors in the natural background salinity (defined as a 20-year monthly mean) and the minimum probable initial dilution expressed as parts seawater per part brine discharge. (*Ibid*.) The Regional Board relied on Orange County Sanitation District monitoring station data to determine the background salinity and the authorized brine mixing zone ("BMZ") dilution credit of 15 to calculate the salinity effluent limitation of 65.5 ppt. (*Ibid.*) "The proposed limit of 65.5 ppt is anticipated to be conservative and protective during all months of the year." (*Id.*, p. G-99.)

- With respect to the trace levels of residual treatment chemicals that may be present in the brine, the Regional Board permits the discharge of chemicals associated with the Project in small amounts and the Project is required to maintain compliance with the effluent limitations set in the Regional Board Order. (*Id.*, pp. 8-9.) Portions of these chemicals found in cleaning solution waste will also be discharged to the local sewer system rather than the ocean. (*Id.*, p. F-9.)

- The Scripps Institution of Oceanography has extensively evaluated the effects of the Project on the chemistry of the receiving ocean water, using a worst-case scenario for water discharge. (2010 Draft SEIR, Appendix N, p. 4.) The study analyzed trace elements found in ocean waters as well as seawater quality, pH, dissolved oxygen levels, suspended solids, and turbidity. (*Id.*, p. 5.) Analysis of the chemical constituents in the Project's discharge indicates that they all fall within safe levels under the Ocean Plan. (*Id.*, p. 6.) In fact, the iron concentrations in the discharge stream will likely "have a positive effect on local marine biology because iron is considered a limiting [] nutrient that readily mixes with ocean water and is thus available for uptake by phytoplankton and other primary producers in the discharge area." (*Ibid.*)

Staff Report Assertion:

- The Staff Report asserts that the Regional Board's determination that the Project water is "needed" is not a determination that the water is critical or immediately necessary or that it is the only available new water source. Rather, the Staff Report claims that Regional Board viewed the concept of need broadly, deferring to various water agencies that see a general need to develop new, local, drought-proof water supplies over the coming years and view the Project as one possible way to obtain this water. (Staff Report, pp. 102-104.)

Poseidon's Response:

- Multiple agencies and courts that have considered the Project to date have confirmed that there is a need for the Project.

- **First**, the 2010 SEIR determined that the Project could meet Orange County's ongoing water needs in four different ways: (1) providing increased water supply reliability during times of drought or during shortages in other water supplies; (2) replacing imported water supplies that have been, and will be, lost to statewide and environmental needs; (3) providing long-term water supply source to accommodate Orange County's increasing water needs as shown in water plans adopted by state, regional, and local water agencies; and (4) increasing operational flexibility in groundwater management, which would assist in protecting the Orange County Groundwater Basin from seawater intrusion and/or replace groundwater supplies lost to overdraft pumping. (See 2010 Draft SEIR, p. 3-80.)

- **Second**, the SLC reviewed water planning documents and correspondence from MWDOC and OCWD to confirm that the water supply agencies had "identif[ied] Orange County's need for a diverse set of potable water supply options including the HB Desalination Plant Project, as set forth in the 2010 EIR[.]" (2017 Final SEIR, p. 11-19.) The Court of Appeal for the Third Appellate District in turn reviewed the SLC's findings and determined that substantial evidence in the record supported the SLC's conclusion that there remained a need for the Project. (*California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 35, 65 [certified for partial publication].) This evidence included an exchange between Controller Betty T. Yee and OCWD at an October 19, 2017 public meeting concerning the need for the project. OCWD stated that "[d]esalinization [sic] provides the district with a high quality, locally controlled, and drought-proof source that reduces the demand on imported water sources that are climate driven." OCWD also noted that, historically, OCWD had "taken more than [its] adjudicated rights to the Santa Ana River, and cannot be certain that water will always . . . be there for us." OCWD emphasized that "the base flow of [the Santa Ana River] continues to decline because of drought . . . And that's something that's somewhat alarming to us. So we need to continue to look for and develop new water sources to offset that." (*Ibid.*)

- **Third**, the Regional Board recently reaffirmed that MWDOC and OCWD "have identified a need for 56,000 AFY of desalinated water." (2021 Regional Board Order, Att. G.2, p. 7.) Contrary to the Staff Report's contentions, this determination was based on evidence demonstrating Orange County's critical and immediate need to develop reliable and resilient water sources, such as the Project, to surmount accelerating climate change conditions and

their adverse impacts to Orange County's water supply system. (See *id.*, Att. G.2, pp. 1, 9.)

- For example, the Regional Board's analysis referenced evidence presented in a May 15, 2020 presentation from OCWD, which stated that the Project's drought-proof water supplies are needed to provide insurance against climate change impacts that threaten approximately 288,000 AFY of existing supplies. (*Id.*, p. 9; OCWD, Orange County Water District Poseidon Resources Huntington Beach Ocean Desalination Project Presentation (March 15, 2020), slides 5, 9, 13, attached hereto as **Exhibit 13**.)

- The Regional Board also considered letters and planning documents from MWDOC and OCWD. (2021 Regional Board Order, Att. G.2, pp. 9-15.) In a July 16, 2020 letter to the Regional Board, OCWD explained that, as a result of accelerating climate change impacts and their ability to disrupt local water supplies, Orange County's need to reduce its reliance on imported water had become increasingly acute. The letter also noted that the OCWD Board approved a resolution and a policy in 2013 requiring OCWD to develop more local water supply projects. The letter indicated that ocean desalination facilities, like the Project, would advance these policies by providing a hedge against the negative impacts of climate change. (OCWD, July 16, 2020 Letter to Regional Board: Re – July 15, 2020 Orange County Water District Board Action – Water Supply Reliability Resolution Modification, pp. 1-2, attached hereto as **Exhibit 14**.)

- Additionally, the Regional Board relied on planning documents prepared by MWDOC that indicated that South Orange County is short of emergency supplies today by 20 to 27.6 MGD. (2021 Regional Board Order, Att. G.2, pp. 10-11, 12-13; MWDOC, 2018 Orange County Water Reliability Study ("2018 Reliability Study"), p. 7-3 [emphasis in original].) MWDOC's 2018 Reliability Study demonstrated that, contrary to the Staff Report's contentions, other water sources, such as additional conservation and water recycling, cannot meet Orange County's need for reliable, drought-proof supplies. (See 2018 Reliability Study, p. 4-4, Appendix F: Final PowerPoint Presentation (December 12, 2018), slide 27-28.)

- As discussed in Section K, California's record-breaking drought conditions and increasingly limited water supplies confirm the state's desperate need for the Project's water. In light of these known conditions and the state's deteriorating water sources, the Staff Report's suggestion that the Project is not needed is untenable. Indeed, Governor Newsom has urged the Commission to approve the Project, stating that "[w]e need more tools in the damn took kit . . . What more evidence do you need that you need to have more tools in the tool kit than what we've experienced? Seven out of the last 10 years have been severe drought." In an attempt to downplay the Regional Board's approval, the Staff Report ignores the ample evidence, climate change science, and recent unprecedented Western drought conditions and water supply cutbacks, all of which compel a finding consistent with the Regional Board's determination that there is a critical and immediate need for the Project.

2. Impacts from the Intake and Discharge

Staff Report Assertion:

- The Staff Report claims that the Project's source water areas include State Marine Conservation Areas and State Marine Resources Areas. (Staff Report, p. 106.)

Poseidon's Response:

- Studies have confirmed that no Marine Protected Area ("MPA")[31] resources would be significantly impacted by the Project. (2017 Final SEIR, p. 4-24.)

- At the request of Commission staff, in 2015, Poseidon analyzed the relationship between the proposed Project's ocean intake and the state's networks of MPAs. Tenera Environmental issued a report which concludes that 91% of larvae estimated to be entrained by the Project are from fish that are not associated with the kelp and rocky reef habitat inside the Southern California coastal MPA reserve network. (Tenera Environmental, Assessment of Entrainment Effects Due to the Proposed Huntington Beach Desalination Facility on State Marine Protected Areas (May 2015) p. ES-3.) Of the remaining 9% associated with kelp and rocky reef habitats, the report's ocean currents model concludes that the probability is, at most, 1.0% of the larvae from inside one of these MPAs could be transported into the vicinity of the Project and be subject to

[31] State Marine Conservation Areas and State Marine Reserves are types of MPAs that are classified based upon the activities that are permitted within the designated area. State Marine Reserves are MPAs prohibiting damage or take of all marine resources, including recreational and commercial take. (California Department of Fish and Wildlife, California Ocean Protection Council, Marine Protected Area Monitoring Action Plan (2018), p. 8.) State Marine Conservation Areas are MPAs that either may allow certain recreational or commercial take of marine resources or areas that prohibit the take of living geological, and cultural marine resources, but allow certain permitted activities such as dredging and maintenance to continue. (*Ibid.*)

entrainment (or 0.09% of the total larvae potentially at risk of entrainment). (*Id.*, p. ES-5.) The results of the ocean current modeling suggest that the more likely source of the larvae from fishes associated with kelp and rocky reef habitat in the vicinity of the Project's intake and discharge is from the rocky habitat formed by Los Angeles/Long Beach Harbor Complex, which is not a protected area and is closer to the proposed Project's intake than any of the kelp and rocky reef coastal MPAs. (*Ibid.*) Therefore, there is little or no likelihood the Project's potential entrainment impacts could negatively affect a coastal MPA.[32] (*Id.*, p. ES-6.)

- At the request of Regional Board staff, in 2016, Poseidon augmented the 2015 Tenera Environmental report with a species-specific marine life biological assessment. The report was prepared, in part, to address concerns about potential impacts to Bolsa Chica and non-open-ocean, rocky-reef MPA species and whether moving the proposed screened intake location farther offshore would reduce marine life effects. The HDR/MBC report concluded:

    - Only four of the twenty most abundant taxa occurring in plankton samples taken offshore of Huntington Beach are documented to occur in the Bolsa Chica Ecological Reserve; and

    - The current intake location entrained the fewest fish taxa and lowest density of those taxa that the California South Coast Region MPA Network was designed to protect and enhance. (MBC, Huntington Beach Desalination Facility: Intake Location Entrainment Analysis (Feb. 6, 2017) pp. 14, 31-32.)

- In 2017, also at the request of the Regional Board, Poseidon commissioned a report from Moffatt & Nichol, with support from HDR, that included a hydrodynamic model to assess how and to what extent the source water body for the proposed surface intake overlaps with the proposed Bolsa Chica (the closest estuarine MPA) mitigation project's production area. (Moffatt & Nichol, Response to RWQCB Comments RCF 61 & 21 (July 10, 2017).) Model results indicate that 0.35% of larvae released from Bolsa Chica could potentially be entrained by the Project's intake. (*Id.*, p. 12.) Almost all passive particles flow past the intake location toward the Newport Coast. (*Id.*, pp. 14, 20.)

- Based on these studies, the 2017 SEIR includes a full analysis of MPA impacts and identifies MPAs near the Project site. The nearest MPA is the Bolsa Chica State Marine Conservation Area, approximately 4.3 miles northwest of the Project site, and the nearest Area of Special Biological

[32] This analysis conservatively did not include any consideration of the entrainment minimizing effects of the 1-mm wedgewire screens.

Significance[33] is located more than 9 miles southeast and down current of the Project site. (2017 Final SEIR, p. II-33; Desalination Amendment, p. 20.)

- The 2017 SEIR found "[m]ost of the larvae anticipated to be within the . . . Project impact area are primarily from open ocean or soft-bottom habitats, and not fish species associated with the kelp and rocky reef habitat inside the Southern California coastal MPA reserve network." (2017 Final SEIR, p. 4-24.) The likelihood of larvae traveling from the nearest MPA to the Project is less than 1%. (Tenera Environmental, Assessment of Entrainment Effects Due to the Proposed Huntington Beach Desalination Facility on State Marine Protected Areas (May 2015) p. ES-5.)

- Nevertheless, to be conservative, the State Lands Commission assumed that some larval fishes that originated from an MPA may be present in the Project's impact area, and determined that impacts to species associated with MPAs would be less than significant with mitigation. (2017 Final SEIR, pp. ES-13, 4-24, 4-67.)

Staff Report Assertion:

- The Staff Report claims that the Regional Board's review of the Project concluded that the Project's brine diffuser would cause "significant impacts" to marine life. (Staff Report, p. 107.)

Poseidon's Response:

- The Desalination Amendment expresses a preference for multiport diffusers if brine cannot be commingled with wastewater. (See Desalination Amendment, Ch. III.M.2.d(2)(b) ["Multiport diffusers are the next best method for disposing of brine when the brine cannot be diluted by wastewater and when there are no live organisms in the discharge."].) Although Poseidon previously proposed to commingle brine with wastewater as part of a co-located operation with the Huntington Beach Generating Station ("HBGS"), HBGS is scheduled to cease its once-through-cooling operations by December 31, 2023, pursuant to State law. (See 2021 Regional Board Order, p. G-29.) "The substantial reduction and eventual termination of [once-through-cooling] operations will significantly reduce HBGS's discharge and the available wastewater will not be sufficient to commingle with the proposed Facility's brine discharge to meet the receiving water limitations for salinity. As such, the Discharger will not be able to commingle brine discharge with wastewater

[33] Areas of Special Biological Significance are ocean areas supporting and unusual variety of aquatic life that are monitored and maintained for water quality by the State Water Resources Control Board.

from the adjacent HBGS."[34] (*Ibid*.) Therefore, the Desalination Amendment mandates that Poseidon install a linear multiport diffuser. (Desalination Amendment, Ch. III.M.2.d(2)(b).)

- Staff mis-states the Regional Board's conclusion and misleadingly omits the Regional Board's discussion of mitigation. Although the diffusers would cause an impact on marine life, the 2017 Final SEIR and the Regional Board both found that the impacts to marine life from diffuser operation would be less than significant with mitigation. (2021 Regional Board Order Addendum, pp. 19-20; 2017 Final SEIR, p. 4-59.)

- The SLC previously analyzed this issue in the 2017 SEIR using a worst-case, very conservative assumption of 100% mortality of diffuser entrained larvae. (2017 Final SEIR, p. 4-62.) Notwithstanding this assumption, because the proposed diffuser would be located along a fairly homogenous stretch of coastline dominated by sandy habitat, estimated levels of mortality would generally be quite low. (*Id.*, p. 4-63.) The 2017 Final SEIR includes Mitigation Measure OWQ/MB-7, which requires Poseidon to develop and implement a diffuser-operation marine life mitigation plan, which will mitigate any negative impacts on marine life. In addition, MM OWQ/MB7 requires compensatory mitigation of the Area of Production Foregone ("APF"), including up to 95.9 acres of restoration. (*Id.*, p. 4-67.) The calculated APF is meant to compensate for all direct and indirect diffuser entrainment impacts to all organisms in the affected source water body because it takes into consideration both the affected species itself and its contribution to the ecological community. (*Id.*, p. II-148; see also *id*., pp. 4-64 to 4-67.) When considering this additional mitigation, the 2017 SEIR concluded that the impact is less than significant. (*Id.*, p. 4-59.)

- In addition, the Regional Board thoroughly analyzed the Project's brine diffuser and concluded that the Project complies with the Desalination Amendment. "[T]he design of the 14-port linear diffuser has been optimized to produce rapid mixing to maximize dilution, minimize the [brine mixing zone], and reduce the volume of seawater that would expose organisms within the entrained seawater to lethal shearing stresses." (2021 Regional Board Order, p. G-67.) "The Santa Ana Water Board finds that the proposed linear diffuser is designed so that the brine mixing zone does not encompass or otherwise result in adverse effects to existing sensitive habitat." (*Id*., p. G-36 [citing over a dozen technical appendices supporting the Regional Board's conclusions].)

[34] The Orange County Sanitation District is the only other nearby wastewater discharge, but this water source is also not available because its use would not be consistent with the Orange County Sanitation District's future plans for wastewater recycling. (2017 Final SEIR, p. 5-8.)

Staff Report Assertion:

- The Staff Report asserts that because Poseidon's impacts are measured as an annual loss of marine life productivity, the mitigation needed to compensate for these losses must be sufficient to produce a similar amount of marine life during each year of the Project's operation. (Staff Report, p. 108.)

Poseidon's Response:

- Although true for the purposes of calculating the mitigation credits required, Staff's characterization of the issue is misleading. Poseidon is required to provide the requisite number of mitigation credits over the life of the Project. As discussed further in Section F.3, this number is 100.5 acres of mitigation credits per year over the operating life of the Project.

3. Compensatory Mitigation

Staff Report Assertion:

- The Staff Report asserts that the Coastal Act and LCP have different mitigation requirements and review standards from those that the Regional Board applied under the Desalination Amendment. For example, the Desalination Amendment requires that a project use the best mitigation "available" to minimize the intake and mortality of marine life, whereas achieving Coastal Act and LCP compliance would require Poseidon to "maintain, enhance, and where feasible, restore" marine life and "mitigate to the maximum extent feasible." (Staff Report, p. 109.)

Poseidon's Response:

- Poseidon believes that the mitigation projects considered and approved by the Regional Board fully mitigate the Project's marine life impacts. As conditionally approved in the Regional Board's Order, Poseidon would fully mitigate for the mortality to marine life by completing one or more mitigation projects, including various wetland restoration, enhancement, and preservation projects at the Bolsa Chica Wetlands as well as the creation of an artificial reef near the Palos Verdes Peninsula. (2021 Regional Board Order, pp. G-80 to G-84.)

- As discussed above, Poseidon prepared a detailed entrainment study as part of its Marine Life Mortality Report, in compliance with Ocean Plan section III.M.2.e(1)(a). As mandated by section III.M.2.e(1)(a) of the Ocean Plan, Poseidon calculated the Project's entrainment impacts using the Empirical Transport Model ("ETM")/Area of Production Foregone ("APF") method, which assesses direct and indirect impacts on marine life. The analysis translates the Project's entrainment impacts into a number of acres that will be needed to mitigate for the impact—in this case, 100.5 acres, after appropriate mitigation ratios are applied. (2021

Regional Board Order, pp. G-60 to G-71, G-88; see also *id*., Attachment G.4.) The Regional Board-approved mitigation projects provide sufficient acreage to meet this standard. (*Id*., pp. F-49 to F-50.)

- The selection of the Regional Board-approved mitigation projects spanned several years. In July 2016, Poseidon reviewed ten potential mitigation sites along the California coast and ranked them based on each site's ability to meet the requirements of the Ocean Plan. The first selected mitigation project – the Bolsa Chica Wetlands – was chosen because it has a high potential for providing sufficient mitigation for direct and indirect impacts to all forms of marine life from the construction and operation of the Project, and because it offers sufficient restoration opportunities that match the projected timing of construction and operation of the Project. (2021 Regional Board Order, pp. G-72 to G-73.) Poseidon plans to dredge the inlet at Bolsa Chica to maintain tidal flow, to complete restoration projects in the Bolsa Chica Wetlands, to complete water-circulation enhancement activities in the muted tidal basins to support the restoration projects, and to restore the intertidal shelf of the Bolsa Chica Wetlands. (*Id.*, p. G-75.) The Regional Board determined that the Bolsa Chica projects would provide a total of 59.2 acres of mitigation credit. (*Id.*, p. G-82.) To provide the additional credits needed to fully offset the Project's APF, Poseidon proposed to create an artificial reef offshore of the Palos Verdes Peninsula nearby to a buried, non-functional natural reef ("Reef Project"). The Reef Project would create approximately 41.3 acres of reef and reef ecotonal habitat, and is projected to support higher fish productivity than surrounding natural reefs, thus providing 41.3 acres of mitigation credit. (Miller Marine Science & Consulting, Palos Verdes Reef Performance: Responses to California Coastal Commission Staff Questions (Feb. 11, 2022) p. 2; 2021 Regional Board Order, pp. G-82, G-83.) The Regional Board determined these projects "fully mitigate for the impacts caused by the intake, discharge, and construction of the Facility after the appropriate mitigation ratios are applied to the total APF." (2021 Regional Board Order, p. G-84.)

- Under section 30230 of the Coastal Act, marine life must be "maintained, enhanced, and where feasible, restored." (Pub. Resources Code § 30230.) Feasible is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."[35] (*Id.*, § 30108.) This is identical to the definition of feasible under CEQA and the Ocean

[35] The Staff Report also points out that, during the Regional Board process, Poseidon "asserted to the Board that it would be economically infeasible for Poseidon to start implementing the necessary mitigation at the same time it started operating the desalination facility and causing marine life impacts." (Staff Report, p. 109.) It is permissible for the Regional Board to place weight on Poseidon's economic circumstances when considering feasibility. (*Surfrider Foundation v. California Regional Water Quality Control Bd.* (2012) 211 Cal.App.5th 557, 582-83.) Thus, the Regional Board's consideration of the Project's economic circumstances is proper.

Plan. (See CEQA Guidelines § 15364.) Therefore, a mitigation project that is not "available" may not be "feasible" to implement.

- The Staff Report argues that the Regional Board only evaluated those mitigation projects that Poseidon believed to be "available." (Staff Report, p. 109.) This is not true. The Regional Board evaluated a wide range of alternative mitigation sites following extensive consultation with Commission staff, the SLC, and the California Department of Fish & Wildlife. (See 2021 Regional Board Order, Att. G.5, Table 4.) Following this evaluation, the Regional Board conditionally determined that Bolsa Chica and the Reef Project are the best available and feasible mitigation and provide sufficient mitigation credits to fully mitigate the Project's effects to marine life. (Id., p. G-84, Att. G-5, p. 2.)

- Despite the Regional Board's acceptance of the Bolsa Chica and Palos Verdes Reef projects, and despite the fact that it was Commission staff that initially recommended the construction of an artificial reef to meet the Project's mitigation requirements (July 30-31, 2020 Regional Board staff report, Item 4, p.12 ["During the May 15, 2020 workshop, Coastal Commission staff raised the option of creating an artificial reef to possibly provide any necessary additional mitigation."]), Commission staff now take a different approach. Commission staff conclude that the Bolsa Chica mitigation project will provide only 58.84 acres of credit, and that the Reef Project is so speculative that no mitigation credit should be awarded for it. Accordingly, Commission staff assert that an additional 41.66 acres of mitigation credit is needed per year.

- As described in detail below, in light of Commission staff's concerns about the adequacy of the Regional Board-approved mitigation projects and use of different mitigation credit calculations, in February and March 2022, Poseidon proposed obtaining credits from a combination of four additional mitigation projects: South Los Cerritos, Upper Los Cerritos, Newland Marsh, and Pond 20. Collectively, these four projects could provide up to an additional 228.71 acres of marine life mitigation credits—more than double the 100.5 acres of credit that the Regional Board deemed necessary to fully mitigate the Project's marine life impacts. (See Staff Report, Exhibit 13, p. 4.) Therefore, these projects demonstrate that there is more than enough mitigation credits available to make up the shortfall of 41.66 acres of mitigation credit that staff claims to exist.

- Staff raises concerns about the conceptual nature of certain mitigation projects and recommends discounting certain credit calculations. Poseidon disagrees with Staff's arguments, as described below, and proposes certain reasonable adjustments to Staff's credit calculations that were not based on substantial evidence. With these adjustments, Poseidon has identified a feasible mitigation portfolio that provides more than the

required acres of mitigation credit, thereby fully mitigating the Project's marine life impacts and demonstrating compliance with the Coastal Act and LCP policies for marine life mitigation.

- Importantly, the Commission's feasibility determination should not prematurely limit credit availability based on speculative outcomes. Potential site plan changes or sea level rise impacts to mitigation projects are not certain, and these speculative future events should not be used to rule out potentially feasible projects. (See Coastal Act, § 21061.1 ["'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."].) Simply because there is present uncertainty does not make a project incapable of implementation.

Staff Report Assertion:

- The Staff Report asserts that the Commission already awarded mitigation credits to the Ports of Long Beach and Los Angeles (the "Ports") when Bolsa Chica was first constructed. As a result, the Staff Report contends that awarding the same credits to Poseidon would be "double-counting." The Commission has therefore prepared different credit calculations from those used by the Regional Board for the inlet dredging activities Poseidon has proposed at Bolsa Chica. (Staff Report, p. 110.)

Poseidon's Response:

- The Ports of Los Angeles and Long Beach already received their mitigation acreage from Bolsa Chica and have no further obligation to perform maintenance dredging at Bolsa Chica. (Regional Board Staff Report, p. 12.) The Regional Board reviewed the mitigation plans for the Ports and determined that no entity is currently obligated to perform the dredging, which is necessary to maintain the ocean inlet, which in turn is necessary for the preservation of the wetlands. (2021 Regional Board Order, Att. G-5, p. 13.) Without dredging, sand accumulates in the ocean inlet area of Bolsa Chica, resulting in tidal muting, which in turn results in a loss of marsh vegetation, including the eelgrass beds in the Bolsa Chica Bay, and degradation of other habitat area; in a worst-case scenario, the entire Bolsa Chica system could close to tidal action, impacting the species that utilize the wetland system. (See WRA, Revised Poseidon Huntington Beach Desalination Facility Marine Life Mitigation Plan: Bolsa Chica (March 2019), p. 7 [quoting a September 3, 2013 Letter from the State Lands Commission to the CCC].)

- Furthermore, the funding that the Ports set aside to maintain the ocean inlet has been exhausted, and none of the mitigation plans approved by the Commission could require the Ports to provide additional funding to fulfill

their obligation to maintain the ocean inlet. (2021 Regional Board Order, Att. G-5, p. 14.)

- Although the Regional Board acknowledged that there could be a double-counting concern if the Ports "were continuing work on the originally approved mitigation project," that is simply not the case here. (*Id.*, Att. G-5, p. 14.) The Regional Board ultimately concluded that the current lack of funding for dredging the inlet poses a serious threat to the continued functioning of the prior restoration efforts and that, because neither the Ports nor the U.S. Fish and Wildlife Service have a continued obligation to perform dredging at the site, awarding credits to Poseidon for undertaking this important task would not be double counting. (*Ibid.*)

- The Coastal Act does not mention any prohibitions or restrictions on "double-counting," nor does staff's interpretation of the issue fit with the intent of the statute. (See *id.*, Att. G-5, pp. 14-15.) The Commission may not rely on its claim of "precedence" to deny Poseidon credits for work that it is independently undertaking at Bolsa Chica, particularly where the Ports have no continuing obligations at the site. (*Ibid.*)

- Based on this alleged "double counting," the Staff Report asserts that the proper mitigation ratio for mitigation credits for dredging activities is 1:10. Thus, if Poseidon's dredging were to maintain an open inlet resulting in 150 acres of eelgrass, Poseidon would receive 15 credits. (Staff Report, p. 112.)

- Although Poseidon disagrees with Staff and reserves its rights to receive full mitigation credits for its dredging activities at Bolsa Chica, there are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly achieve the credit shortfall identified in the Staff Report even with only 15 credits allocated for Bolsa Chica dredging as proposed by the Commission. (See Table 1.1.)

Staff Report Assertion:

- The Staff Report raised concerns about the potential for sea level rise to negatively affect the Bolsa Chica mitigation project. The Staff Report contends that because Poseidon would not have site control over its mitigation areas, any conflicts between Bolsa Chica management goals and Poseidon's mitigation ultimately may be resolved in a manner that would prevent Poseidon from meeting its required performance standards. (Staff Report, pp. 113-116.) Specifically, the Staff Report contends that at the Year 15 period, Bolsa Chica is expected to go through adverse impacts due to climate change and sea level rise, requiring substantial changes in its design and management and potentially creating a mitigation shortfall. (*Id*., p. 127.)

Poseidon's Response:

- The Staff Report relies on an August 2021 Sustainability Alternatives Study by Anchor QEA in support of its assertions. However, this study merely makes recommendations that the landowners may consider if future adaptation is required, and is not binding on the agencies or Poseidon. Further, as described below, sea level rise engineering experts have concluded that the Bolsa Chica mitigation project, with the possible exception of the Intertidal Shelf, will not be impacted by sea level rise until after 2080.

- Pursuant to the Regional Board Order, Poseidon has prepared and submitted a Coordination and Communication Plan to coordinate with the State Lands Commission ("SLC") and the Bolsa Chica Steering Committee regarding the MLMP design, operations, performance standards, success criteria, and requirements under any of the permits Poseidon must obtain in order to complete its mitigation project at Bolsa Chica. (Regional Board Order, Att. K, Table K-1.) This Coordination and Communication Plan includes a plan for managing potential conflicts between the proposed improvements and the many desired goals for the operation of the Muted Tidal Basins. (*Ibid.*) In addition, Poseidon must prepare an Adaptive Management Plan, which requires Poseidon to solicit and address SLC and Steering Committee input regularly, to prepare a plan to undertake corrective actions in coordination with the SLC and the Steering Committee in the case of mitigation shortfalls, and to identify contingency mitigation options should there be changes at Bolsa Chica impacting the success of the proposed mitigation project. (*Ibid.*)

- Further, the Bolsa Chica wetlands are surrounded by an engineered perimeter levee with a crest elevation of 12.12 feet NAVD88.[36] This levee will not be overtopped in year 2080 under the medium-high risk aversion sea level rise scenario. (Moffatt & Nichol, Memorandum re: SLR Vulnerability Assessment for Bolsa Chica Mitigation Plan Elements of Poseidon (April 2022) p. 4.)

    - As explained in Moffatt & Nichol's assessment, the Intertidal Shelf, Full Tidal Basin, and Muted Tidal Basin can be restored and maintain their intended design functionality over the Project's 50-year design life. For example, Poseidon's adaptive management plans for the Bolsa Chica mitigation projects, that will be developed in accordance with the 2021 Regional Board Order, could include adaptive measures such as raising the elevation of portions of the site, including the Intertidal Shelf within the Full Tidal Basin, gradually over time to keep pace with sea level rise. (*Id*., p. 6.) In addition, "water levels in the Muted Tidal Basin can

[36] Elevations are referenced to the North American Vertical Datum of 1988 ("NAVD88").

be controlled via properly configured tidal control structures, pumping, and ground elevation adjustments." (*Ibid*.)

- As discussed in Moffatt & Nichol's report, projected sea level rise at Bolsa Chica ranges from 1.6 to 2.2 feet under the Low Risk Aversion scenario (likely range), and from 3.6 to 4.3 feet under the Medium-High Risk Aversion scenario (1-in-200 chance of occurrence). A significant portion of the wetlands (and the proposed mitigation credits) are protected by the existing perimeter levee, which separates the Full Tidal Basin from surrounding areas. The perimeter levee will not be overtopped even under a hypothetical 4.9-foot sea level rise scenario in conjunction with king tides or 100-year coastal storm events. In addition, the Intertidal Shelf restoration area of the wetlands can be restored to support Pacific cordgrass and other coastal salt marsh vegetation over the 50-year design life of the Project by gradually adding thin layers of soil over time to maintain an optimal elevation relative to rising sea levels. Further, the water circulation in the Muted Tidal Basin area and the associated restoration works can be improved and maintained over the 50-year design life of the Project by improving drainage connections, modifying drainage patterns, increasing pumping capacities, and raising certain areas of the site. These improvements will continue to promote the desired wetland habitat conditions that are the goal of the proposed restoration work and that will provide the intended mitigation credits. Habitat restoration on the wetlands' Fieldstone site, oil pads, berms, and roadway areas is also likely to be successful in meeting the applicable performance standards throughout the entire 50-year design life of the Project if appropriate tidal inundation and site drainage in the Muted Tidal Basin is maintained. Therefore, all the mitigation credits available at Bolsa Chica can be preserved, even under extreme sea level rise scenarios, through proper design, planning, and, if necessary, reasonable adaptation measures.

- In response to Commission staff's concerns on this topic, the Regional Board explained that even if sea level rise affects the function and success of Bolsa Chica, "maintenance dredging will remain an essential component for Bolsa Chica to successfully function." (Regional Board Responses to Comments (July 21, 2020), p. 304.) In addition, the adaptive management component of the Bolsa Chica restoration design will "ensure that all contingencies are addressed and a plan is implemented." (*Id*., pp. 304-305.)

- Given the above plans to adapt to climate change, Poseidon anticipates that it will be capable of providing mitigation at Bolsa Chica throughout the end of the Project life. As the Staff Report

has acknowledge, this alone could potentially eliminate staff's identified credit deficit before the end of the 50-year project life. (Staff Report, p. 127.)

- Finally, with respect to site control, the Commission previously approved the mitigation project for the Carlsbad desalination facility where Poseidon did not have full site control. Lacking site control does not mean that a mitigation project is improper or infeasible, as acknowledged by the Commission in approving the Carlsbad facility's mitigation project. Indeed, it is customary for mitigation sites to be protected in perpetuity, which generally includes ceding control and/or ownership to a land trust or dedicated non-profit.

Staff Report Assertion:

- The Staff Report recommends providing zero credits for the proposed Reef Project due to alleged significant uncertainties relating to feasibility and crediting. (Staff Report, pp. 116-118.)

Poseidon's Response:

- The Reef Project will provide approximately 41.3 acres of reef and reef ecotonal habitat, which is collectively projected to support higher fish productivity than surrounding natural reefs. (Miller Marine Science & Consulting, Palos Verdes Reef Performance: Responses to California Coastal Commission Staff Questions (Feb. 11, 2022), p. 2; 2021 Regional Board Order, p. G-82.) It will be ideally located adjacent to the Palos Verdes Reef Restoration Project (the "PV Reef"), which was successfully constructed in 2020, to extend its positive impacts on marine populations.

- The Regional Board extensively reviewed the Reef Project and found that it would be "significantly more productive than the soft-bottom habitat impacted by the proposed Facility." (2021 Regional Board Order, Att. G-5, p. 22.) Additionally, the Regional Board found that the Reef Project, when considered in conjunction with the Bolsa Chica mitigation project, constitutes the "best available mitigation feasible and [will] fully mitigate for all [marine life] intake and mortality caused by the Facility's operation and construction." (*Id.*, Att. G-5, p. 2.)

- The Staff Report raises concerns about the need for additional design and CEQA analysis of the Palos Verdes Reef project. Poseidon will perform the studies necessary to inform the CEQA analyses and develop the specific design measures for each mitigation project, including the Reef Project, and complete the required environmental review under CEQA. (See, e.g., 2021 Regional Board Order, Att. K, p. 1 ["The proposed projects are conceptual at this time and sufficient details are not available to complete a meaningful environmental analysis under the California

Environmental Quality Act (CEQA). The Marine Life Mitigation Plan Schedule below requires the Discharger to perform additional studies, complete supplemental reports, and coordinate with the appropriate agencies."].) As stated in the 2021 Regional Board Order, the Regional Board will conduct any necessary CEQA analysis in reviewing the plans for the Reef Project before the Board approves such plans. (2021 Regional Board Order, p. 24.) Indeed, the SLC also will be required to conduct its own CEQA review of the Reef Project before Poseidon may begin construction on that project, given that the Reef Project will be sited on an SLC submerged lands lease that will require amendment for the Reef Project. (2021 Regional Board Order, Att. G-5, p. 25; *id*., Att. K, p. 1.)

- In addition, Poseidon's development of its marine life mitigation projects, including the Reef Project, would be subject to specific performance criteria. CEQA explicitly permits the process for developing a project's mitigation measures, allowing agencies to articulate specific mitigation performance criteria at the time of project approval with which the project proponent must later comply through future studies and approvals. (See CEQA Guidelines § 15126.4, subd. (a)(1)(B) ["specific details of a mitigation measure, . . . , may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure."]; *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906 ["the details of exactly how mitigation will be achieved under the identified measures can be deferred pending completion of a future study"]; *Endangered Habitats League, Inc. v. Cty. of Orange* (2005) 131 Cal.App.4th 777, 793-794.) For example, MM OWQ/MB-7, which the SLC imposed in the 2017 SEIR and required development of the MLMP, includes specific performance criteria to which Poseidon must adhere in developing Project mitigation. (See 2017 SEIR, pp. 4-67 to 4-68.) Finally, the Ocean Plan itself provides for the detailed mitigation project requirements with which Poseidon must comply in carrying out Project mitigation. (See Cal. Ocean Plan, chapter III.M.2.e(3).)

- The Staff Report also raises concerns that the Reef Project may not be as productive as Poseidon or the Regional Board believes it may be due to the ratio of rock area to sand area. (Staff Report, p. 117.) The Regional Board already has analyzed this issue and found that even though rock does not cover the entire habitat, "the channels between rock outcroppings provide valuable ecotonal habitat for fish and invertebrates." (2021 Regional Board Order, Att. G-5, p. 22.) As a result, the Regional Board

appropriately considered the "overall benefit of the entire rocky reef system (both rock and sand channels in its determination of the proper mitigation credits to be awarded.[37] (*Ibid.*)

- In sum, as determined by the Regional Board, Poseidon believes that the Reef Project will generate 41.3 credits and should be accepted by the Commission. However, for purposes of determining feasible mitigation acreage, Poseidon does not require credits from the Reef Project. There are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly fill – and far exceed – the credit shortfall identified in the Staff Report. (See Table 1.1.) Nevertheless, to the extent that the Reef Project generates credits, Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

Staff Report Assertion:

- The Staff Report raises a variety of concerns regarding Poseidon's potential wetlands restoration project at the South Los Cerritos site, including concerns regarding adaptive strategies, site control, and tidal connectivity. (Staff Report, pp. 19-120.) Based on these contentions, the Staff Report recommends discounting the amount of mitigation credits available for the site. (*Id.*, p. 125.)

Poseidon's Response:

- In February 2022, Poseidon submitted a Marine Life Mitigation Plan for the South Los Cerritos site that was prepared in compliance with the Desalination Amendment and the Coastal Commission's precedent for preparation of an MLMP. (WRA, Marine Life Mitigation Plan - South Los Cerritos Wetlands Authority Site Fee-Based MLMP (Feb. 2022) ("South Los Cerritos MLMP"), p. 3. As described in the South Los Cerritos MLMP"), Poseidon has developed a conceptual plan to develop compensatory mitigation through the completion of the South Los Cerritos Wetlands restoration project in Seal Beach, California, in cooperation with the Los Cerritos Wetlands Authority ("LCWA"). The LCWA is a Joint Powers Authority, working with its member agencies (the State Coastal Conservancy, Lower Los Angeles and San Gabriel Rivers and Mountains Conservancy, and the Cities of Long Beach and Seal Beach) and its consultant team to conduct technical studies and prepare restoration designs for the South Los Cerritos restoration project. The LCWA's existing conceptual restoration designs are currently being refined to produce preliminary 30% restoration designs that will be reviewed by the

[37] Additionally, the design is based on the existing Palos Verdes Reef, which includes ecotonal habitat. Poseidon has provided preliminary data from the existing reef that indicates a high level of observed fish biomass on the reef, despite its relatively young age. See Miller Marine Science & Consulting, Inc., Technical Memorandum re: Palos Verdes Reef Performance: Responses to California Coastal Commission Staff Questions (Feb. 11, 2022).

LCWA, a Technical Advisory Committee, a Tribal advisory group, and the community. LCWA's consultant team will subsequently incorporate this input into the 65% restoration design, which will include engineering design plans and a Basis of Design report. The design will build on existing conceptual designs, the preliminary 30% designs, and additional hydrologic modeling that will be required to incorporate the design topography and proposed tidal connections.[38]

- The proposed restoration of South Los Cerritos will provide highly productive tidal wetland habitat to improve populations of estuarine and coastal organisms in the vicinity of the Project. In its current state, the site consists mostly of degraded tidal and non-tidal salt marsh habitats behind levees and weedy uplands where tidal marshes were filled in over the last 100-plus years. The wetlands have suffered substantial degradation over time due to isolation from tidal influence, neglect, encroachment, unauthorized access, and historic diking, filling, channelization and oil exploration and extraction. (South Los Cerritos MLMP, p. 5.) The primary actions needed to restore tidal wetlands at the site are re-establishing good tidal connectivity to areas behind levees and removing fill from historic wetlands, as described in the South Los Cerritos MLMP and the Los Cerritos Wetland Habitat Restoration Plan. (*Ibid*.) Under Poseidon's proposal, Poseidon would enter into a fee-based mitigation agreement with the LCWA to fund the restoration, in exchange for mitigation credits. (South Los Cerritos MLMP, p. 13.) The site is currently proposed for restoration under two phases. Phase 1 will cover about 40 acres in which various habitat types would be provided, including a mix of riparian, subtidal, marsh, and transitional wetland habitats. Phase 2 would involve similar habitat creation or restoration in an approximately 60-acre area. Poseidon identified up to approximately 20 credit acres for Phase 1 and 45 credit acres for Phase 2.[39]

- First, with respect to adaptation, Poseidon recognizes that unanticipated changes are a potential issue for mitigation projects in general, and is prepared to include adaptive strategies where appropriate to address potential changing conditions. (See, e.g., South Los Cerritos MLMP, p. 7; WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 2,5, attached as **Exhibit 7**.) The Staff Report does not identify any particular conditions or site-specific issues at South Los Cerritos that warrant staff's concern that there may be a shift in habitat conditions that would result in the project not meeting required performance standards. (See Staff

[38] The full South Los Cerritos restoration program is described in the 2015 Final Conceptual Restoration Plan, 2021 Restoration Plan Final Program Environmental Impact Report, and 2021 Habitat Restoration Plan. See South Los Cerritos MLMP, p. 3.

[39] See Staff Report, Exhibit 13; see also South Los Cerritos MLMP, p. 7.

Report, pp. 119-120.) Staff's unsubstantiated and undocumented concerns do not support the application of an "uncertainty factor" discount to Poseidon's proposed credits for mitigating the site. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 2-4.) Further, in the event that unanticipated changes result in the mitigation project not meeting its required performances standards, Poseidon would be required to provide additional mitigation in order to satisfy its mitigation requirements.

- Second, with respect to site control, permittees are entitled to receive mitigation credits for restoration sites that belong to third-party landowners. In fact, third-party owned mitigation options are codified within the Ocean Plan. (Ocean Plan Section M.2.a.e(4); see WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 5-6.) Further, all LCWA mitigation projects are committed to "provid[ing] a comprehensive program of acquisition, protection, conservation, restoration, maintenance and operation and environmental enhancement of the Los Cerritos Wetlands area consistent with the goals of flood protection, habitat protection and restoration, and improved water supply, water quality, groundwater recharge, and water conservation."[40] As acknowledged in the Staff Report, LCWA submitted a letter to staff indicating its intent to work with Poseidon to restore the site. Given LCWA's interest in providing a comprehensive program for habitat protection, conservation, restoration, maintenance and operation, in order to restore and protect the site's environmental and habitat values, there is no evidence that LCWA would not be interested in ensuring that the project complies with the Commission's performance standards over the Project's design life. Therefore, there is no reason for the Commission to accept Staff's contention that the restoration project may not provide consistent mitigation over the life of the Project or to accept Staff's proposed discount due to a lack of site control.

- With respect to tidal connectivity, prior to the release of the Staff Report, Poseidon provided Commission staff with a copy of the Los Cerritos Wetlands Habitat Restoration Plan, which contains a discussion of the tidal connectivity at the site, including near-term muted tides and future plans to become "fully tidal."[41] Nevertheless, the Staff Report contends that the South Los Cerritos Phase 1 restoration plan has little to no tidal connectivity to the site, so at least some of the proposed restoration may

[40] LCWA, LCWA Authority, available at https://intoloscerritoswetlands.org/los-cerritos-wetlands-authority/.

[41] See Coastal Restoration Consultants, The Los Cerritos Wetlands Habitat Restoration Plan (May 26, 2021), available at https://intoloscerritoswetlands.org/wp-content/uploads/2021/06/LCW-Restoration-Plan-Final-5_26_21.pdf. In particular, see pages 58-59, 103, and 105 regarding tidal connectivity.

not happen or would be less productive than expected. (Staff Report, p. 120.) The Staff Report posits, however, that the site would be appropriate for Poseidon's onsite wetlands impacts. (Staff Report, pp. 120, 125, 143-144.) While Poseidon believes that the site is also feasible for marine life mitigation, Poseidon is willing to accept the Staff Report's determination that the South Los Cerritos Phase 1 site would provide sufficient, appropriate and feasible mitigation for the Project's wetland mitigation requirements. Therefore, as discussed in Section G, Poseidon proposes Special Condition 11 which requires that prior to issuance of the CDP, Poseidon must submit for Executive Director review and approval a Wetland Mitigation Plan that provides for creation and/or restoration of no less than 14 acres of coastal wetland habitat. The South Los Cerritos Phase 1 site would satisfy this condition, as it provides at least 20 acres of suitable wetland mitigation acreage.

- With respect to South Los Cerritos Phase 2, the Staff Report proposes to cut Poseidon's identified mitigation credits in half because the restoration plan is currently conceptual in nature. (Staff Report, pp. 120, 125.) In Table I-2 of the Staff Report, Conceptual design availability ("c") is listed as an uncertainty factor for the South Los Cerritos Site. (*Id.*, p. 125.)

    - As described above, however, Poseidon has provided detailed plans and calculations describing the South Los Cerritos Phase 2 restoration plan, which confirm that there are over 44 credit acres available for Phase 2. (WRA, MLMP South Los Cerritos Wetlands Authority Site (February 2022); see also Staff Report, Exhibit 13.) Moreover, LCWA has spent the past 12 years working on a public restoration planning process focused on the South Los Cerritos Wetlands. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), p. 4.) LCWA has also developed a 340-page final Conceptual Restoration Plan (Moffat and Nichol 2015), a 140-page Los Cerritos Wetlands Habitat Restoration Plan (CRC 2021), a Programmatic EIR (ESA 2020), and a variety of supporting technical reports including Hydrology and Hydraulics (Moffat & Nichol 2011 and ESA 2020), and sediment contamination (Kinnetic Labs. 2020). (*Ibid*.) As shown by the time and resources that LCWA has put into the project, the implementation for Phase 2 of the South Los Cerritos project is not as uncertain as the Staff Report asserts. The Uncertainty Factor labeled as "c" in Table I-2 of the Staff Report should be removed.

- Similar to its approach for Phase 1, the Staff Report fails to provide any evidence that there are circumstances or site-specific factors justifying its proposed discount to the South Los Cerritos Phase 2 site. The Staff

Report states that between the Project's approval and actual implementation of the mitigation plan, the current proposal "may go through substantial modifications to address changes resulting from climate change, new information generated by ongoing sampling or monitoring at the site, or other issues that change our understanding about the site's characteristics, all of which increase the uncertainty about the eventual disposition of the site and number of credits that may be available." (*Id.*, p. 120.) First, the proposed MLMP for this site already includes adaptive design elements and strategies to handle sea level rise. (WRA, MLMP South Los Cerritos Wetlands Authority Site (February 2022), p. 7.) Second, these other potential changes and uncertainties are not unique and do not justify discounting the number of available credits for the South Los Cerritos Phase 2 site.

- The Commission has previously approved complex, multi-phase mitigation projects. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 6.) For example, the Commission approved the North Coast Corridor Public Works plan and Transportation and Resource Enhancement Program (NCC PWP/TREP) for use as mitigation for coastal impacts associated with the widening of I-5 in North San Diego, which identified 15 potential restoration sites with multiple private and public owners to be potentially restored over a period of 40 years. (*Id.*)

- Further, the Staff Report's recommendation assumes that no effective adaptive management will be available to meet these potential unanticipated changes. As a result, the Staff Report prematurely limits the number of credits available at the site. As stated above, in the event that the site conditions change, Poseidon is prepared to implement adaptation strategies where appropriate and there is no reason to determine, at this stage, whether those adaptation strategies will be effective. There is currently no evidence that the site conditions will change or that the project will not be able to effectively adapt to maintain mitigation over the life of the Project.

- The Staff report also notes a lack of a tidal connection as a factor of increased uncertainty. (Staff Report, p. 125.) However, Phase 1 will obtain tidal connection from an existing stormwater culvert connected to the San Gabriel River that will be improved. Phase 2 project would restore full tidal connectivity to Alamitos Bay via the Haynes Cooling Canal. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 4.) Accordingly, this uncertainty factor listed in Table I-2 in the Staff Report should be rejected and should not be applied to Poseidon's mitigation credit calculations.

- As noted above, Commission staff recommended reducing the available long-term credits for Phases 1 and 2 by 50%, to 27.5, exclusive of the mitigation credits set aside for wetlands impacts, based on concerns regarding site control, tidal connection, and the conceptual level of the project's design. In response, WRA submitted additional analysis justifying Poseidon's calculation of potentially available mitigation credits.[42] However, for purposes of determining feasible mitigation acreage, Poseidon is not claiming that it requires more than 27.5 credit acres from South Los Cerritos Phases 1 and 2 in order to meet its marine life mitigation obligations because there are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly achieve the credit shortfall identified in the Staff Report. (See Table 1.1.) Nevertheless, to the extent that Poseidon and Commission staff agree that South Los Cerritos Phases 1 and 2 generates more than 27.5 acres of credits, Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

Staff Report Assertion:

- The Staff Report contends that the Upper Los Cerritos Phase 2 site remains conceptual and highly dependent on the timing of the expected oil facility consolidation, decommissioning, and remediation, followed by the work needed to prepare the site for restoration. (Staff Report, p. 121.) The Staff Report therefore recommends that the Commission limit Poseidon's mitigation credits for the Upper Los Cerritos Phase 2 site to 24 mitigation credits,[43] a 50% reduction. (*Id.*, p. 125.)

Poseidon's Response:

- Poseidon has provided sufficient plans, site maps, and calculations describing the Upper Los Cerritos restoration plan that confirm that there are up to 58 credits available for Phase 2 of the restoration project at this site. (WRA, Marine Life Mitigation Plan Upper Los Cerritos Wetland Mitigation Bank (March 2022), p. 3.) Nevertheless, Poseidon is willing to accept a modified credit calculation of 44.8 credit acres that accounts for a 50% reduction in credit for acres that are rehabilitated.

- In March 2022, Poseidon submitted a Marine Life Mitigation Plan for the Upper Los Cerritos site that was prepared in compliance with the Desalination Amendment and the Coastal Commission's precedent for preparation of an MLMP. (WRA, Marine Life Mitigation Plan – Upper

[42] See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 3-4.

[43] Exhibit 14 to the Staff Report identifies 29 credits for Upper Los Cerritos Phase 1.

Los Cerritos Wetland Mitigation Bank (March 2022) ("Upper Los Cerritos MLMP"), p. 3.)[44] The MLMP describes the project and its objectives, the existing and expected habitats within the project, the expected biological productivity of the restored habitat, the project's compliance with the Coastal Commission's mitigation requirements, potential mitigation credits, and mitigation bank ownership. (See *id.*) As described in the MLMP, the Upper Los Cerritos site contemplates two phases of restoration. The Upper Los Cerritos Mitigation Bank (ULCMB) Phase 1 is a restoration project designed to preserve, enhance, and restore a total of approximately 57.62 acres of tidal wetlands on the 76.52-acre Northern Synergy Oil Field Site.[45] There is also a concept for a second phase (Phase 2) on the remaining 73.07-acre Southern Synergy Oil Field Site, which is currently an active oil field. Phase 2 contemplates the removal of all remaining oil operations to restore tidal salt marsh habitat by breaching or lowering an earthen berm and removing the sheet pile walls which are proposed to be constructed as part of Phase I of the ULCMB project to separate the Northern and Southern Synergy Oil Field Sites. The construction of Phase 2 would create significant additional acreage of tidal salt marsh habitat as well as create a larger, intact, and functional area of salt marsh on the Synergy property. (See Upper Los Cerritos MLMP, pp. 4-5.) Based on information from the mitigation bank sponsor, WRA estimated that the Phase 2 project could generate 58 credit acres. (Upper Los Cerritos MLMP, p. 9.) In addition, if Phases 1 and 2 go forward simultaneously, there may be more credits available at the site overall because certain buffers proposed to protect Phase 1 restoration areas from ongoing oil operations would no longer be needed.

- The Staff Report recommends that the Commission award Poseidon approximately half of its proposed credits for Upper Los Cerritos Phase 2 site based on arbitrary and unsubstantiated "uncertainty factors." (Staff Report, pp. 121,125.) However, the Staff Report fails to provide any evidence that there are circumstances or site-specific factors justifying its proposed discount to the Upper Los Cerritos Phase 2 site. (*Ibid.*) The Staff Report claims that that the site remains uncertain as a mitigation option because it remains conceptual and highly dependent on the timing of discontinuation of the oil field operations, a precursor to the site's restoration. (*Id.*, p. 121.) The fact that a Project's mitigation project is conceptual or may take time to implement is not unusual and does not justify a reduction in the number of credits that are available at the site. In

[44]Additionally, Poseidon has provided a restoration map for Upper Los Cerritos Phase 2 illustrating the mitigation project's potential design plan. (See Glenn Lukos Associations, Upper Los Cerritos Restoration Map Phase 2 (March 2020).)

[45] Poseidon agrees with the Staff Report's determination there could be up to 19 credits available at the Upper Los Cerritos Phase 1 site if Poseidon implements an agreement with the landowner to sell to Poseidon all the mitigation credits from the mitigation bank. (Staff Report, pp. 121, 125.)

fact, it is self-evident that restoration projects take time to implement – if the habitat areas were available today, there would be no need for restoration, and no mitigation credits would be available. Therefore, the Staff Report's recommendation is arbitrary, and the Commission should reject it.

- Further, the Staff Report's recommendation assumes that design changes or changing conditions will prevent the project from achieving the full amount of identified mitigation. As a result, the Staff Report prematurely limits the number of credits expected to be available at the site. There is currently no evidence that the site conditions will change or that the project will not be able to effectively adapt to maintain mitigation over the life of the Project.

- In addition, Synergy has confirmed that it would be willing to enter into an agreement with Poseidon to permit and implement a Permittee Responsible Mitigation Project ("PRMP") for the Phase 2 project area. The PRMP agreement would address the timing of when the existing oil field facilities would be removed, the design and permitting process for the PRMP, and long-term management of the PRMP. As acknowledged by the landowner, "[i]f an agreement is reached between Synergy and Poseidon, it could provide for the acceleration of the removal and clean-up of the existing oil facilities on the Synergy Oil Field so that restoration could be implemented closer in time to the restoration that would occur in connection with the [Phase 1 mitigation bank]." (See Letter from John McKeown, Synergy Oil & Gas, to James Golden, Poseidon (April 11, 2022), attached hereto as **Exhibit 8**.) This approach would be a win-win for Poseidon and the local community, and would alleviate staff's concerns about site control for the Phase 2 project.

- Therefore, the Commission should reject staff's proposal to limit the number of available credits at the site and instead award Poseidon full credits equal to 58 acres of mitigation. However, for purposes of determining feasible mitigation acreage, Poseidon is not claiming that it requires credits from the South Los Cerritos Phase 2 project. There are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly achieve the credit shortfall identified in the Staff Report. (See Table 1.1.) Nevertheless, to the extent that Poseidon and Commission staff agree that the South Los Cerritos Phase 2 project generates credits, Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

Staff Report Assertion:

- The Staff Report asserts that the Newland Marsh site could possibly provide beneficial mitigation, but there is uncertainty about the site's productivity. (Staff Report, p. 122.) The Staff Report also contends that the funding mechanisms

Huntington Beach Wetlands Conservancy ("HBWC") used to purchase the Newland Marsh site either prohibit the use of the Marsh for project-specific mitigation such as this, or require that any such mitigation proposals go "above and beyond" the conceptual restoration plan that served as the basis for the funding approval. Therefore, to allow use of the site for project-specific mitigation, Poseidon may need to either refund all or part of the state/federal funds used to purchase or revise the currently proposed 30% design plans to incorporate more areas of mitigation. (*Ibid*.) In addition, the Staff Report raises concerns about site control and adaptive management. (*Ibid*.) Given these alleged inadequacies, Commission staff recommended awarding 12 mitigation credits for the Newland Marsh mitigation. (*Id.*, p. 125.)

Poseidon's Response:

- In February 2022, Poseidon submitted a Marine Life Mitigation Plan for Newland Marsh that was prepared in compliance with the Desalination Amendment and the Coastal Commission's precedent for preparation of an MLMP. (WRA, Poseidon Huntington Beach Desalination Marine Life Mitigation Plan – Newland Marsh (Feb. 2022) ("Newland Marsh MLMP"), p. 4.) As described in the MLMP, Newland Marsh is part of the Huntington Beach Wetland complex, which also includes the Talbert Marsh, Brookhurst Marsh, and Magnolia Marsh. (*Id.*, p. 7.) The Newland Marsh is the only component of the Huntington Beach Wetland Complex that is not presently restored to tidal action. (*Ibid.*) The property was acquired by the HBWC in 2021 with funding from the California Wildlife Conservation Board, US Fish and Wildlife Service, and the State Coastal Conservancy. The HBWC has had a successful track record of restoring nearby wetlands over the past 20 years. (*Id*., p. 5.) HBWC plans to connect Newland Marsh to the same tidal channel that currently serves Brookhurst Marsh and Talbert Marsh. HBWC's original 2019 conceptual restoration plan for Newland Marsh includes restoration activities over approximately 44 acres to expand subtidal habitat, mudflats, and tidal marsh. In February 2022, Moffat and Nichol produced 30% restoration designs at the direction of HBWC which have been incorporated in Poseidon's MLMP. (*Id*., p. 7.) The proposed restoration plan involves introducing muted tidal influence to the marsh by installing culverts in the existing flood control levees, enlarging existing channels, and creating new channels. The current plan contemplates only muted tidal action such that higher high tides would not be conveyed through the culverts. (*Id*., p. 8.)

- The proposed muted tidal flow will allow Newland Marsh to be converted to intertidal salt marsh, which provides critical habitat for special status species. (*Id.*, p. 10.) Additionally, a significant design feature of the restoration design for Newland Marsh includes a series of transitional habitat islands that are ideal for high-quality sensitive avian habitat as well as habitat adaptation to sea level rise over time. (*Id.*, p. 11.) Given the

experience established at the nearby Brookhurst Marsh, it is expected that restoration of Newland Marsh, even to a muted tidal condition, would be beneficial to fish populations within the estuary and the nearby coastal zone. (*Id*., p. 12.)

- With respect to funding, Poseidon is aware of HBWC's funding mechanisms used to purchase the Newland Marsh site and to fund the 30% Design Plans and certain, limited other activities, and Poseidon is prepared to refund part or all of the state/federal funds used to purchase the site and advance the restoration design plans if required to do so in order to obtain mitigation credits from the Newland Marsh restoration project.

- With respect to site control, there is no evidence or legal basis supporting the Staff Report's proposed discount factor. Restoration sites used for mitigation are frequently not owned or controlled by the applicant and therefore should not be used to reduce the availability of credits. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 5-6.) Here, the HBWC is a non-profit corporation that was established "with the goal to acquire, restore, and protect the coastal wetlands of Huntington Beach."[46] Under HBWC's stewardship, the Huntington Beach Wetlands Complex has undergone substantial restoration over the past 20 years.[47] As acknowledged in the Staff Report, HBWC submitted a letter to Commission staff indicating its intent to work with Poseidon to restore the site. (See Letter from HBWC to James Golden (April 18, 2022).) Like Poseidon, HBWC is committed to restoring and protecting Newland Marsh with the goal of "creating, preserving, and promoting the habitats of local wildlife."[48] Staff merely speculate that because HBWC will maintain site control, the Newland Marsh project would not provide appropriate or enduring mitigation.

- For all these reasons, the Commission should not apply the discount factors proposed in the Staff Report and instead award the Newland Marsh project full mitigation credit. However, for purposes of determining feasible mitigation acreage, Poseidon does not require additional credits from the Newland Marsh project. There are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly achieve the credit shortfall identified in the Staff Report. (See Table 1.1.) Therefore, Poseidon is willing to accept the Staff Report's recommended 12 credits for the Newland Marsh project. Nevertheless, to the extent that the Newland Marsh project generates additional credits,

[46] HBWC, Who We Are, available at http://www.hbwetlands.org/#&panel1-1.

[47] *Ibid.*

[48] *Ibid.*

Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

Staff Report Assertion:

- The Staff Report asserts that the Pond 20 site's distance from the Project and source water makes it unsuitable to provide mitigation benefits to offset the Project's impacts. (Staff Report, p. 123.)

Poseidon's Response

- As an initial matter, staff has arbitrarily cut off the geographic reach of the Pond 20 mitigation credits less than 10 miles south of the project site. (Staff Report, pp. 122-23.) Staff provides no justification for doing so and unnecessarily limits the number of credits it claims could be available for this mitigation project.

- Even without any mitigation credits from the Pond 20 site, Poseidon will be able to secure sufficient mitigation credits to offset the Project's impacts on marine life. There are substantial additional credits available from the other mitigation proposals, as discussed herein, that feasibly achieve the credit shortfall identified in the Staff Report. (See Table 1.1.) Therefore, Poseidon does not need a determination that Pond 20 provides feasible mitigation for the Project. Nevertheless, to the extent Poseidon is able to purchase mitigation credits from the Pond 20 Mitigation Bank—for example, if the Bank Enabling Instrument allows credits to be issued for impacts in Huntington Beach—Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

Staff Report Assertion:

- The Staff Report contends that Poseidon's proposed marine life mitigation credits are incorrectly calculated. Staff proposes alternative mitigation credits for each of the proposed mitigation projects and believes that it will result in a mitigation shortfall over the lifetime of the Project. (Staff Report, p. 125.)

Poseidon's Response:

- For the reasons described above, Poseidon disagrees with Staff's calculated mitigation credits for the Project. Poseidon's proposed mitigation credit breakdown is attached hereto as **Exhibit 9**. It demonstrates that by the end of the operating life of the Project, Poseidon will accrue a positive balance of 1,653.4 mitigation credit-acres, over and above what is needed to fully mitigate the Project's impacts. These calculations are summarized below in Table 1-1.

Table 1-1: Summary of Potential Marine Life Mitigation Credits

Project Name:	**Poseidon's Proposed Credits (Rounded):**	**CCC Staff Recommended Credits:**	**Poseidon's Revised Proposal:**
Bolsa Chica dredging	28	15	15[1 *]
Other Bolsa Chica	31	43.8	43.8[2*]
Newland Marsh	20	12	12[3*]
S. Los Cerritos, Phase 1	20	0	0[4*]
Upper Los Cerritos, Phase 1	21	19	19[5*]
Palos Verdes Reef[9]	41	TBD	TBD
Pond 20	65	0	0[6*]
S. Los Cerritos, Phase 2 (& Functional Uplift to Phase 1 Acreage)	45	27.5	27.5[7*]
Upper Los Cerritos, Phase 2	58	24	44.8[8*]
Total:	**329**	**~141.3**	**~162.1**

1. Poseidon proposes that the Commission find feasible that the Project could achieve 15 marine life mitigation credits for the Bolsa Chica dredging as recommended by the Staff Report.
2. Poseidon proposes that the Commission find feasible that the Project could achieve 43.8 marine life mitigation credits for other Bolsa Chica activities as recommended by the Staff Report.
3. Poseidon proposes that the Commission find feasible that the Project could achieve 12 marine life mitigation credits for Newland Marsh as recommended by the Staff Report.
4. Poseidon proposes that the available credits that South Los Cerritos, Phase 1 could provide wetlands mitigation credits as opposed to marine Life mitigation credits, as recommended by the Staff Report.
5. Poseidon proposes that the Commission find feasible that the Project could achieve 19 marine life mitigation credits for Upper Los Cerritos Phase 1 as recommended by the Staff Report.
6. Because there are substantial additional credits available from the other mitigation proposals, Poseidon does not need a determination that Pond 20 is feasible mitigation for the Project.
7. Poseidon proposes that the Commission find feasible that the Project could achieve 27.5 marine life mitigation credits for South Los Cerritos Phases 1 & 2 as recommended by the Staff Report.

8. Poseidon proposes that the Commission find feasible the Project could achieve 44.8 marine life mitigation credits for Upper Los Cerritos Phase 2. This calculation reflects Staff's recommendation that rehabilitation credits receive a 50% reduction due to allegedly having a lower net productive value than establishment credits. However, Poseidon's proposal does not apply the Staff Report's additional "uncertainty factor" discount. Applying Staff's rehabilitation factor, without the uncertainty discount, the total available credits = 44.8 credits.
9. This chart does not depict any credits for the Palos Verdes Reef project. To the extent that the Reef Project generates credits in the future, Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.
*To the extent that any of the above projects ultimately generate more credits than currently proposed, Poseidon may request that the Commission approve those credits as part of Poseidon's overall mitigation package.

- Poseidon's revisions to Staff's recommended credits reflect the following key corrections or clarifications to Staff's Mitigation Scenario Shortfall, which is attached as Exhibit 14 to the Staff Report:
  - Updating the timing assumptions for when mitigation projects will meet their respective performance standards to reflect Poseidon's current estimates;
  - Maintaining credits for mitigation at Bolsa Chica until such time as the perimeter levee would be overtopped by sea level rise under a Medium-High Risk Aversion Scenario based on analysis by Moffatt & Nichol;[49]
  - Awarding Poseidon's calculated credits for Upper Los Cerritos Phase 2 in accordance with Table 1-1 above, and in light of Poseidon's and the landowner's desire to implement a permittee responsible project that could accelerate the implementation of the mitigation; and
  - Revising the credit calculation downward for South Los Cerritos Phase 1 to remove credits for acreage now proposed to be utilized for wetland mitigation instead of marine life mitigation.
- With these revisions and implementation of the feasible mitigation projects that Poseidon has proposed, Poseidon will be able to eliminate the credit deficit that is expected to result from the first few years of the Project's operations. Accordingly, Project impacts would be fully

[49] The Staff Report admits that if Bolsa Chica is able to adapt to changing conditions, it is possible that Poseidon could maintain credits for more years than estimated by Staff and could potentially eliminate the credit deficit before the end of the 50-year project life. (Staff Report, p. 127.)

mitigated over its lifetime, in compliance with applicable Coastal Act and LCP policies for marine life mitigation.[50]

4. Acidification Effects

Staff Report Assertion:

- The Staff Report asserts that Poseidon's 2010 SEIR identified its expected ambient source water pH to range from about 8.0 to 8.2, and anticipated that the facility's discharge would have a pH of approximately 7.3. Although this would fall within the Ocean Plan's 6.0 to 9.0 allowable pH range, it would exceed the Ocean Plan's limit of no more than 0.2 pH units difference from ambient pH levels. As further evidence that this will present an issue, Commission staff asserts that the pH of Poseidon's effluent at the Carlsbad Desalination Facility often differs from the pH of the source waters by more than 0.2 pH units. (Staff Report, p. 129.)

  Poseidon's Response:

  - The Ocean Plan provides a specific pH range of 6.0 to 9.0, within which all effluent discharges to ocean water must fall. (2021 Regional Board Order, p. F-22.) Additionally, the Ocean Plan requires that effluent remain within 0.2 units of the pH of the receiving water, as measured at the edge of the BMZ. (Ocean Plan, App. I [defining the BMZ as "the area where salinity may exceed 2.0 parts per thousand above natural background salinity . . . "].) The Regional Board Order, mirroring this language, requires that the Project's discharge fall within the allowable range of 6.0 to 9.0 pH units at all times and that the pH not differ by more than 0.2 pH units from the receiving water at the edge of the 100-meter BMZ. (2021 Regional Board Order, pp. 10, 17.) The discharge's difference from the receiving water is measured at the edge of the BMZ, rather than at the point of discharge, as asserted by staff. (Ocean Plan, p. 15; Staff Report, p. 129.) Poseidon is required under the Regional Board Order to conduct quarterly monitoring of effluent pH to ensure that it does not differ from the receiving water by more than 0.2 units. (Regional Board Staff Report, p. 18; Regional Board Response to Comments, pp. 317-18.)

  - The Project was specifically designed to include a brine diffuser in order to minimize the discharge's effect on source water and marine life, including those of the effluent's pH levels. (2017 Final SEIR, p. II-137.) The Scripps Institution of Oceanography has extensively evaluated the effects of the Project on the chemistry of the receiving ocean water, using

[50] With respect to assertions in the Staff Report that Poseidon's proposed mitigation package is too unwieldy to implement (Staff Report, pp. 127-128), Poseidon anticipates retaining a dedicated team of expert biologists and engineers to oversee development, operation, and monitoring of the mitigation projects, thereby ensuring that the projects are carried out consistent with Poseidon's proposal.

a worst-case scenario for water discharge. (Scripps Institution of Oceanography, Receiving Water Chemistry and Quality Report, p. 4 (Oct. 2004).) The receiving water pH is 8.2, which is typical of most coastal ocean surface waters. (*Id.*, p. 8.) The anticipated discharge pH would be approximately 7.3, which falls within the Ocean Plan's 6.0 to 9.0 allowable range. (*Id.*, p. 7.) This discharge will be diluted throughout the BMZ, which extends 328 feet (100 meters) radially in all directions from the diffuser. (Ocean Plan, p. 15; Regional Board Response to Comments, p. 316.) Staff presents no evidence showing that the Project will not be able to comply with the requirements of the Ocean Plan or that the Project will contribute to ocean acidification. Further, should the Project fail to comply with the requirements of the Ocean Plan, Poseidon would be subject to enforcement action by the Regional Board in the form of administrative or civil liabilities, criminal penalties, or other enforcement remedies. (Regional Board Response to Comments, p. 318.)

- Moreover, the Carlsbad desalination facility shows no such acidification impacts. The Carlsbad desalination facility's Receiving Water Monitoring Report for 2020 indicated that the facility had "[n]o lasting effects on receiving water quality" and that the source water's parameters, including pH, were "consistently within the range of values observed at receiving water stations monitored throughout the area."[51] (Miller Marine Science & Consulting, Receiving Water Monitoring Report 2020 Monitoring Year (July 1, 2021) p. 25, Appendix 1 [demonstrating consistent pH data within the allowable range], attached hereto as **Exhibit 10**.)

5. Placement of Fill in Coastal Waters

Staff Report Assertion:

- The Staff Report contends that there is insufficient evidence to find that there is no feasible, less environmentally damaging alternative to placing fill in the ocean related to the intake and discharge for the Project. Additional information regarding feasible alternatives, or lack thereof, would be required if the project were to be approved in the future. (Staff Report, p. 130.)

Poseidon's Response:

- Coastal Act section 30233 provides that dredging and filling of coastal waters "shall be permitted [for coastal-dependent industrial facilities] . . . where there is no feasible less environmentally damaging alternative, and

[51] The pH requirements for the Carlsbad facility are the same as those for the Project. However, the method of discharge is different, as the Carlsbad facility uses flow augmentation. Because flow augmentation does not achieve the same rapid mixing in the receiving water that a diffuser does, the Carlsbad facility was granted a larger zone of initial dilution of 656 feet.

where feasible mitigation measures have been provided to minimize adverse environmental effects."

- The Commission's authority under section 30233 is limited to review of alternatives to those Project components within the Commission's jurisdiction that involve filling or dredging, rather than wholesale alternatives to the entire Project. (See Pub. Resources Code, §§ 30233, 21002.1, subd. (d).) Staff only identifies wholesale alternative projects. Not only are these outside the scope of the Commission's authority to consider, but they are not feasible alternatives to the Project. (See Section L.2 *infra*.)

- Further, the Commission has sufficient information to make all the required findings that the Project complies with section 30233. Here, the Project requires dredge and fill in order to modify the existing intake and outfall structures in order to comply with the Desalination Amendment. (See 2017 Draft SEIR, pp. 2-23 to 2-29.) "Installation of the wedgewire screens and diffusers requires . . . anchoring, dredging, [and] riprap reconfiguration." (*Id*., p. 2-23.) There can be no dispute that the intake and outfall components are coastal-dependent industrial facilities because they must be located on or adjacent to the ocean to function. (See Pub. Resources Code, § 30101.)

  - The 2017 Draft SEIR thoroughly analyzed the potential environmental impacts of the Project's dredge and fill activities, finding that potential impacts would be less than significant with mitigation, assuming that vibratory pile driving is utilized. (See, e.g., 2017 Draft SEIR, pp. 4-31, 4-33 to 4-34, 4-36; State Lands Commission CEQA Findings, p. D-7.) For instance, the 2017 Draft SEIR explained that "[a]nchor placement, dredging, and riprap reconfiguration could crush benthic organisms or result in short-term, temporary displacement. Fish would likely avoid the area during construction and return after activities are completed. Injury or mortality to fish is not expected and displacement would be temporary. Impacts would be less than significant." (2017 Draft SEIR, p. 4-36.) In addition, pursuant to Applicant Proposed Measure No. 6, Poseidon is required to provide an Anchoring, Riprap Reconfiguration, and Dredging Plan for review and approval by SLC staff, which would identify and map all areas of kelp, seagrasses, and hard substrate found within the work area that will be avoided, and identify the procedures that Poseidon will implement to remedy any disturbance that may inadvertently occurred within those areas due to construction activities. (*Id.*, pp. 4-11, 4-36.)

- The Regional Board fully evaluated potential impacts from dredging and filling activities associated with the modified diffuser design. Based on substantial evidence in the record, including the Addendum, the Regional Board determined that "the modified diffuser will not result in new or substantially greater significant environmental effects when compared to the impacts disclosed for the 2017 duckbill diffuser analyzed in the 2017 FSEIR." (2020 Regional Board Addendum, p. 15.) Therefore, no additional mitigation is required. (See *ibid*.) Because the dredging associated with the modifications to the intake and outfall infrastructure would result in less than significant environmental impacts with mitigation if vibratory pile driving is utilized, no additional mitigation is required.

- Special Condition 29 requires that Poseidon utilize vibratory pile driving, or, if vibratory pile driving is infeasible due to site-specific geotechnical conditions, Poseidon must obtain Executive Director approval for impact pile driving and identify measures that demonstrate to the satisfaction of the Executive Director that the noise impact from impact pile driving at the proposed location will not exceed the comparable noise impacts from vibratory pile driving at a distance of 1,000 meters from the pile driving location. Accordingly, consideration of additional less environmentally damaging alternatives is not necessary, as potential adverse impacts have already been minimized.

- No additional information regarding feasible alternatives to the Project is required because the Commission's authority under Section 30233 is limited to *review of alternatives to those Project components within the Commission's jurisdiction that involve filling or dredging*, rather than wholesale alternatives to the entire Project. (See Pub. Resources Code, §§ 30233, 21002.1, subd. (d) [emphasis added].)

6. <u>Impacts from Intake Maintenance</u>

<u>Staff Report Assertion</u>:

- The Staff Report asserts that power plants with the type of intake pipe utilized by the Project typically prevent marine growth by using chlorine treatments or remove marine growth using heat treatments. The Staff Report contends that with the loss of AES's existing treatment, Poseidon will need to develop an alternative method for cleaning the interior of its intake pipeline, and suggests that a Special Condition to address intake pipe cleaning should be required. (Staff Report, pp. 131-134.)

<u>Poseidon's Response</u>:

- The existing Huntington Beach intake pipe has an interior diameter of 14 feet and was built to serve the AES power generating station, meaning the available flow capacity is significantly greater than what would be required for the Project. (Project Biofouling Response (Apr. 12, 2022) pp. 1, 3.) This capacity provides a large margin to accommodate potential marine growth on the interior of the pipe. (*Ibid.*)

- As part of the evaluation process of the existing intake system, Poseidon performed an inspection of the intake and discharge pipes. Poseidon reviewed AES's maintenance records and interviewed AES personnel regarding the maintenance procedures for the pipes during the timeframe of the inspection. (*Id.*, p. 3.) With respect to the discharge pipe, AES previously dosed its cooling water with chlorine on a monthly basis and discharged the -residual cooling water via the discharge pipe to control biofouling. (*Ibid.*) By contrast, the intake pipe was never exposed to residual chlorine, but was exposed to warm water at the end of regular heat treatments of the onshore piping system. (*Ibid.*) Inspection of the pipes revealed that, despite the differences in maintenance procedures, both the intake and discharge pipe interiors appeared identical in the coverage and thickness of marine growth. (*Ibid.*) Given the 13-month gap between the last chlorine treatment of the discharge pipe and the inspection, and the 4-month gap between the last heat treatment of the intake pipe and the inspection, the observed three inches of marine growth in each pipe represents the normal, steady-state thickness in the absence of maintenance procedures. (*Ibid.*) Three inches of marine growth would not be significant enough to have any negative impacts on the Project's intake flow or discharge. (*Id.*, p. 4.)

- GHD has calculated that the intake pipe could accommodate as much as 25 inches of marine growth on the pipe interior without there being any effect on facility operations, which is more than eight times thicker than the growth observed during the Condition Assessment. (*Ibid.*)

- For these reasons, Poseidon has determined that the only necessary maintenance procedure for the interior of the intake pipe would be to conduct video inspections, which would have no coastal resource impacts. (*Ibid.*) Accordingly, it is not necessary to propose a Special Condition to address intake pipe cleaning.

<u>Staff Report Assertion</u>:

- The Staff Report contends that Poseidon has confirmed a biofouling issue at its Carlsbad facility, which experienced marine growth of approximately six inches on the interior of its intake pipe following the cessation of treated once-through cooling water flows. (Staff Report, p. 133.)

<u>Poseidon's Response</u>:

- The Carlsbad facility's seawater intake system is not analogous to the Project's intake system. For example, the Project's intake pipe has a much larger diameter and resultant lower flow velocity than the Carlsbad facility's proposed intake pipes, meaning that substantially more marine growth can occur in the Project's intake pipe without affecting facility operations. (Project Biofouling Response., pp. 1-2.) The Carlsbad facility is also located in the Agua Hedionda Lagoon, which is a shallow, nutrient-rich environment. (*Id.*, p. 1.) The intake pipe for the Project, on the other hand, is located in a deeper, less nutrient-rich marine environment offshore, which is not conducive to excessive marine growth. (*Ibid.*) As a result, the marine growth within the Project's intake pipe is expected to be less than that for the Carlsbad facility.

- Even if the amount of marine growth on the intake pipe interior were to reach six inches, this would not impact the Project's operations. As discussed above, GHD has calculated that the intake pipe could accommodate as much as 25 inches of marine growth on the pipe interior without having any effect on facility operations. (Project Biofouling Response (Apr. 12, 2022) pp. 1, 3.)

G. Wetlands and Environmentally Sensitive Habitat Areas (Staff Report, pp. 135-159)

1. Direct Wetland Impacts

Staff Report Assertion

- The Staff Report contends that there were approximately 3.5 acres of historic wetlands within the Project site that were removed at some point in the past by property owner AES. (Staff Report, pp. 139-142.) The Staff Report recommends imposing a Special Condition that would require Poseidon provide at least 14 acres of coastal wetland habitat at up to two nearby locations to mitigate for the loss of the historic wetlands. (*Id.* at 143-144, 159.)

Poseidon's Response:

- Although Poseidon has disagreed with the Staff Report's historic wetland determination,[52] and disputes its conclusion that Poseidon must mitigate for impacts to wetlands resulting from AES's prior unpermitted

[52] As discussed in the City's 2010 Final SEIR, the Project site did not contain wetlands when AES removed vegetation from the storage tank area. The previously disturbed vegetation did not constitute wetlands because the site does not provide wetland hydrology and hydric soils, and the vegetation was not growing as hydrophytes. (See 2010 Draft SEIR, p. 4.9-2; 2010 Final SEIR, pp. 11-19, 12-586 to 12-587; Glen Lukos Associates, Technical Memorandum on Coastal Commission Staff Report W19a & 20a (November 2013).) The California Energy Commission's ("CEC") 2014 and 2017 analyses and approvals of AES's Huntington Beach Generating Station's Energy Project confirmed the SEIR's findings. (CEC, Huntington Beach Energy Project Amendment Commission Decision #12-AFC-02C (May 2017), p. 5.1-9.)

activities,[53] Poseidon will provide mitigation to ensure that the Project is consistent with all Coastal Act and LCP Policies related to the protection of wetlands.

- The Staff Report recommends that Poseidon mitigate for impacts to historic wetlands at a 4:1 ratio, and Poseidon has agreed to do so. (Staff Report, pp. 143-144; see Special Condition 11.) As recommended in the Staff Report, Poseidon proposes to provide 14 acres of coastal wetland habitat similar to wetland habitat found in the vicinity of the approved development. (See Staff Report, p. 144; Special Condition 11.) The Staff Report specifically identified the Newland Marsh and South Los Cerritos Phase 1 sites as potential sites that are suitably located for mitigating the Project's alleged direct impacts to onsite wetlands. (Staff Report, pp. 143-144.) Poseidon agrees that these sites could individually, or in combination with one another, fully mitigate for any impacts to onsite wetlands.[54] Indeed, staff's preferred location at South Los Cerritos Phase 1 would provide the opportunity for roughly 20 to 23.4 acres of onshore mitigation, which is more than sufficient to fully mitigate for the Project's alleged 14 acres of impacts to former onsite wetlands. (See Staff Report, Exhibit 13.)

- Based on staff's recommendation, Poseidon proposes Special Condition 11, which would require Poseidon to submit a Wetland Mitigation Plan for the Commission's review and approval prior to CDP issuance. (See Special Condition 11.) Through this condition, Poseidon will satisfy potentially relevant Coastal Act or LCP Policies regarding the Project's alleged impacts to former onsite wetlands.

2. Buffer Zone

Staff Report Assertion:

- The Staff Report contends that the Project's proposed development would occur within 100 feet of wetlands and ESHA and, therefore, the Project violates LCP Policy C 7.1.4. (Staff Report, pp. 156-158.)

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[53] As Poseidon explained in its November 11, 2013 Response to the Commission's 2013 Staff Report, the Commission does not have legal authority to require that Poseidon mitigate for these impacts. (See November 11, 2013 Response to Staff Report, pp. 66-67.) Nevertheless, Poseidon voluntarily commits to provide sufficient mitigation that will fully resolve any alleged LCP inconsistencies related to the alleged removal of former onsite wetlands.

[54] Poseidon also identified wetland mitigation opportunities in at South Los Cerritos Phase 2. (See Staff Report, Exhibit 13, p. 4.) The Staff Report dismisses this site on the basis that the restored areas would be transitional wetlands (e.g., wetlands above tidal influence). (Staff Report, pp. 143-144.) The Commission, however, has previously awarded wetland mitigation credit for transitional wetlands, and should not impose limits on the use of transitional wetlands for mitigation here. (See WRA, Response to Coastal Commission Staff Report A-5-HNB-10-225/9-21-0488 for the Surfside Desalination facility (May 9, 2022), pp. 6-7.)

Poseidon's Response:

- The Triangle Area was not identified as wetlands in the 2010 SEIR, however, the Staff Report describes the area as including approximately 0.5 acres of wetlands. (Staff Report, p. 145.) While Poseidon has disputed staff's wetland determination concerning the Triangle Area and its potential habitat value,[55] for purposes of its buffer analysis and its analysis of the Project's indirect impacts on wetlands and ESHA, Poseidon presumes that the Triangle Area is a wetland as a worst case scenario.

    - As acknowledged in the Staff Report, all other potentially relevant wetlands and ESHA are several hundred feet from the Project site. (Staff Report, p. 145.) The Huntington Beach Wetlands (also called Magnolia Marsh) is the closest ESHA to the proposed Project site that is designated by the City's LCP. (See City LCP Coastal Element, p. IV-C-75.) The Project is located more than 800 feet from Magnolia Marsh. (Staff Report, p. 145.) With adherence to construction standards administered by the City and upon implementation of mitigation measures imposed through the City's 2010 SEIR, the Project's impacts to special-status species or sensitive habitats in the Huntington Beach Wetlands would not be significant. (2010 Draft SEIR, p. 4.9-2.) Therefore, the Project includes a sufficient buffer between its proposed development and the Huntington Beach Wetlands area.

    - Even assuming that the Triangle Area is a wetland, the Project includes a sufficient buffer that is consistent with LCP Policy C 7.1.4 and that will avoid any potential impacts to nearby wetlands and ESHA.

- Based on recommendations from staff, Poseidon proposed revisions to its site plan to increase the buffer between the Project and the Triangle Area.

    - ***First,*** as shown in the revised plans submitted on April 14, 2022, all Project structures would be set back over 100 feet from the Triangle Area.[56] As described below, the only operational component of the Project within 100 feet of the Triangle Area will be an access road on the Project's side of the existing berm that separates the Project site from the Triangle area and that Poseidon is now proposing to retain in place. Poseidon proposes Special Condition 7 to require that the access road be used solely for emergency use or maintenance activities that cannot be conducted

[55] See, e.g., Poseidon's response to the Commission's 2013 Staff Report, pp. 68-71.

[56] Because the extent of the potential wetland area is unknown, Poseidon has conservatively measured 100 feet from the existing fence line for purposes of identifying the 100-foot buffer.

by any other means of access. Poseidon would also be required to identify bollards or other physical methods to restrict access to these uses. Accordingly, once the facility is operational, there will be no regular activity that occurs within 100 feet of the existing fence line or the Triangle Area.

- ***Second,*** all Project facilities would be physically separated from the Triangle Area by an existing 60-foot wide earthen containment berm. The top of the berm is approximately eight feet above the proposed Project's grading elevation, and 14 feet above the top of the Triangle Area. The berm would function as a physical barrier between the Project site and the Triangle Area, providing a buffer from noise, light and views between the Project Site and the area.[57]

- ***Third***, Poseidon proposes Special Condition 3.c, requiring that, prior to commencement of construction, Poseidon submit to the Executive Director documentation from the California Department of Fish and Wildlife ("CDFW") demonstrating that it has reviewed the Project's buffer zone between nearby wetlands and determined that the buffer is sufficiently wide to ensure that the most sensitive species will not be significantly disturbed

- These modifications and Special Conditions will ensure that the Project complies with LCP Policy C 7.1.4., which requires that "new development contiguous to wetlands or environmentally sensitive habitat areas include buffer zones." Although buffer zones must generally be a minimum of 100 feet from wetlands and ESHA, a buffer near wetlands or ESHA of less than 100 feet may be permitted under certain circumstances. (LCP Policy C 7.1.4.) For those limited portions of the Project that are less than 100 feet from the Triangle Area, the proposed Project's buffer zone satisfies all the factors that permit a less than 100-foot setback under LCP Policy C 7.1.4. With the separation provided by the existing containment berm, the buffer protects the functional relationship between the wetland and adjacent upland, will protect against any erosion from the Project site, and uses existing features to provide protection to the wetland. (See LCP Policy C 7.1.4.)

    - Specifically, pursuant to LCP Policy C 7.1.4(a), the buffer is sufficiently wide to protect the functional relationship between wetland and adjacent upland. As stated above, no direct development impacts will occur in the Triangle Area. Currently, the exterior berm separates the tank sites from the Triangle Area

[57] In its 2021 CDP application, Poseidon proposed removing all berms on the Project site. In response to Staff's concerns, Poseidon has revised its proposal and will retain the eastern berm to provide a physical buffer between the Project development and the Triangle Area. (Staff Report, p. 157.)

and effectively cuts off any functional relationship between the Triangle Area and the tank sites.

- Pursuant to LCP Policy C 7.1.4(b), the 60-foot wide containment berm is sufficient to ensure that the most sensitive species will not be disturbed significantly by the proposed development.[58] Whatever species may utilize the Triangle Area are currently doing so in light of the ongoing operations of the Huntington Beach Energy Facility. The long-term operations of the Project within the footprint of an existing industrial use will not materially change this existing condition. As described above, mitigation measures such as noise, vibration, and lighting attenuation measures will ensure the minimization of cumulative impacts to the area or species utilization.

- Pursuant to LCP Policy C 7.1.4(c), the buffer is sufficiently wide to allow for interception of any additional material eroded as a result of the proposed development. The exterior berm that currently separates the site from the Triangle Area will effectively avoid and intercept potential runoff or erosion impacts to the Triangle Area During grading activities. Further, water quality control measures will be implemented in accordance with State regulations, and other construction site measures will be implemented to avoid erosion or runoff from affecting the Triangle Area. Upon completion of construction, the Project's drainage management plan will manage any site runoff away from the Triangle Area during Project operations, and the Project site as-developed, will not be a source of erosion.

- Pursuant to LCP Policy C 7.1.4(d), the Project will use the existing containment berm to create buffering, which will provide sufficient protection for the adjacent Triangle Area.

- Based on the above factors, the proposed Project's buffer zone is consistent with LCP Policy C 7.1.4. Moreover, as noted above, to ensure compliance with this LCP policy, Poseidon has proposed Special Condition 3.c requiring review of the proposed Project's buffer zone by CDFW prior to construction.

3. Indirect Impacts to Offsite Wetlands And ESHA

[58] Analysis from 2013 indicates that the Triangle Area does not exhibit potential for use of any sort by the burrowing owl, western snowy plover, salt marsh skipper, California brown pelican, light-footed clapper rail, California least tern, Dorothy's El Segundo dune weevil or the California brackish water snail, and provides only marginal foraging habitat for the Belding's savannah sparrow due to the presence of pickleweed. (See Poseidon's response to the 2013 Commission Staff Report, p. 70; *id*., Attachment 9 [Glenn Lukos Associates memorandum].)

Staff Report Assertion:

- The Staff Report claims that the project would indirectly impact nearby wetlands and environmentally sensitive habitat areas ("ESHA") due to noise, vibration, and lighting during project construction and operation. (Staff Report, pp. 144-157.) The Staff Report argues that the proposed Project therefore does not conform to LCP Policies related to wetlands and ESHA protection. (*Id.*, pp. 157-160.)

  Poseidon's Response:

  - Contrary to the Staff Report's contentions, the proposed Project complies with applicable Coastal Act and LCP policies concerning indirect impacts to wetlands and ESHA. (See Coastal Act Section 30240; LCP Policies C 6.1.4, C 7.1.2, C 7.1.3.) The Project has been located and designed to prevent impacts to any nearby wetlands and ESHA, such as the Huntington Beach Wetlands and the adjacent Triangle Area. The Staff Report ignores numerous mitigation measures already imposed on the Project through the City's 2010 SEIR.

  - As discussed in the previous section, the Project will be separated from potential wetlands in the Triangle Area by significant setbacks and an existing containment berm. These physical barriers will filter out noise during project construction and operations, and will reduce light and glare from any new sources of artificial light. (Dudek Memo, pp. 4-9.)

  - Additionally, the mitigation measures contained in the City's 2010 SEIR and Poseidon's proposed Special Conditions will ensure that the Project does not have any adverse impacts on sensitive or avian species during Project construction and operations due to noise or lighting. (2010 Draft SEIR, pp. 4.9-60 to 4.9-62; 2010 Final SEIR, p. 12-633; Dudek Memo, pp. 4-9.)

    - Construction Noise: With respect to construction noise and vibration, Mitigation Measures CON-40 through CON-48 require Poseidon to perform focused preconstruction surveys to identify sensitive biological resources within nearby wetlands and ESHA areas. (2010 Draft SEIR, pp. 4.9-60 to 4.9-62; 2010 Final SEIR, pp., 12-626, 12-633.) Based on information from the preconstruction surveys, construction limits will be well defined and a biological monitor will be present to ensure that no inadvertent impacts to biological resources occur. (2010 Final SEIR, p., 12-633.) Restrictions on construction activities may be required in the vicinity of active nests of sensitive species until the nest is no longer active as determined by a qualified biologist. (*Id.*, p. 12-626.) In many circumstances, a 300- to 500-foot buffer zone will be designated around an active nest to minimize disturbance to the active nest. (*Ibid.*) Once the nest is no longer in use for the

season, construction can proceed within the buffer zone. (*Ibid.*) In areas anticipated to contain certain sensitive or avian species, construction noise shall be limited to 60 decibels adjusted at the nest location during breeding season and near nest locations. (2010 Draft SEIR, pp. 4.9-60 to 4.9-61.) In addition, Poseidon proposes Special Condition 13, which would further reduce noise impacts and provide further protection for nesting birds. (Dudek Memo, p. 9.)

- Operational Noise: Project components that would be noise generating will be enclosed within structures reducing the potential for an increase in noise levels that would impact sensitive wildlife. (2010 Final SEIR, p. 12-656; Dudek Memo, pp. 11-15.) Mitigation Measure NOI-1 requires that outdoor pumps are located within enclosed structures with adequate setback and screening, as necessary to achieve acceptable noise levels in accordance with the City Noise Ordinance standards, which require noise attenuation that would also be protective of wildlife within areas that support sensitive species in the project vicinity. (2010 Final SEIR, p. 12-656.) As demonstrated in the Dudek Memo, taking into account ambient noise conditions, the Project's operational noise would be less than 60 dBA Leq at the Triangle Area, and would have a less than significant noise impact. (Dudek Memo, pp. 11-15.)

- With adherence to noise standards required by the City and upon implementation of required mitigation measures and proposed Special Conditions, noise impacts to special status species, sensitive habitats or the Triangle Area would be less than significant. (2010 Draft SEIR, p. 12-626; Dudek Memo, pp. 5-15.)

    - These conditions satisfy several of the measures recommended by the Staff Report which are consistent with the approaches taken by the City and the Commission in other nearby projects. (See Staff Report, pp. 152 [recommending sound levels within 100 feet of active nests not exceed 65 DBA], 158 [same].)

- Additionally, to address resolve staff's concerns regarding Project noise, Poseidon proposes Special Conditions 9 and 13, and 14 in line with Staff's recommendations.

    - Special Condition 13 would limit noise generated by construction to 60 dBA Leq(h) at any active nesting site within 500 feet of the Project site for various special status species, require a nesting bird survey be conducted for construction during breeding season, and if any active nests are found, require the preparation of a noise report with potential

alternative methods of construction should construction noise exceed 60 dBA Leq(h) at the active nesting sites.

- Special Condition 13 also requires additional feasible noise mitigation measures, such as a temporary sound wall and blanketing, to ensure that noise from Project construction will not exceed 60 dBA at the Triangle Area and therefore will not significantly impact the Triangle Area. (Dudek Memo, pp. 8-9.)

- In turn, Special Condition 9 would require that the Project's Construction Plan incorporate provisions to implement the sound mitigation measures required pursuant to Special Condition 13. Thus, as a condition of its permit, Poseidon will be required to develop a sound mitigation plan that satisfies Coastal Commission requirements. (Pub. Resources Code, § 30240; LCP Policies C 7.1.2 to C 7.1.3.)

- Special Condition 14 further provides that, prior to commencement of construction, Poseidon shall submit, for review of the Executive Director, an Avian Species Protection Plan, prepared by a qualified biologist(s), which details the Permittee's plan and schedule for preconstruction avian surveys and monitoring surveys as required by Special Condition 13 and applicable mitigation measures in the 2010 and 2017 SEIRs.

- Implementation of Poseidon's Special Conditions would ensure that the Project does not result in significant adverse noise impacts to avian or special status species in wetlands or ESHA.

- Project Lighting: Outdoor lighting will be directed away from the sky and wetlands so as to prevent impacts to sensitive and avian species in any nearby wetlands and ESHA. (2010 Draft SEIR, p. 4.7-17; see also Dudek CEQA Equivalent Analysis (2021), pp. 14-15; Dudek Memo, p. 4.) In addition, the berm would function as a physical barrier between the Project site and the Triangle Area, providing a buffer from light between the Project Site and any potential sensitive and avian species within the Triangle Area. (Dudek Memo, p. 4.) Due to these mitigating conditions, the Project will not result in significant lighting impacts to the Triangle Area. (*Ibid*.)

  - The Staff Report indicates that, in order to address impacts from artificial night lighting, the Commission could impose a special condition requiring Poseidon to develop a lighting plan. (Staff Report, p. 156.) Poseidon accepts this recommendation

and proposes Special Condition 18, which would require Poseidon to submit a Lighting Plan to the Executive Director for review and approval showing that the Project's exterior lighting is limited to the minimum necessary for safety purposes and that all lighting is sited and designed to limit the amount of light or glare visible from adjacent wetlands or ESHA. Special Condition 18 also incorporates Staff's recommendation that the Lighting Plan ensures the use of the latest artificial night lighting fixtures and illumination technology to reduce the sky glow, glare, and light trespass from its facility, and other measures such as those consistent with the standards of the Illuminating Engineering Society of North America (IESNA) that provide best design practice minimums for areas with particularly sensitive natural resources.

Staff Report Assertion:

- The Staff Report recommends that Poseidon maintain noise levels below 60 dBA at all times to avoid long-term adverse noise effects to sensitive and avian species in the Triangle Area. (Staff Report, p. 150.)

  Poseidon's Response:

  - Noise samples from April 2020 indicate that the Triangle Area experiences periodic noises above 60 dBA, which is greater than the standard that the Staff Report suggests should be applied to project construction and operation. (Dudek Memo, p. 6.) At similar Project sites, like the nearby AES Huntington Beach Energy Project ("HBEP"), the Commission has recommended an allowable noise threshold of up to 65 dBA within 100 feet of active nests. (California Coastal Commission, Letter Re: Coastal Commission's 30413(d) Report for the Proposed AES Southland, LLC HBEP AFC (July 14, 2014), Docket No. 12-AFC-02, p. 16; see also Dudek, Memorandum re: Noise and Vibration – Conditions 11 and 12 (November 11, 2013), p. 3.)

  - Nevertheless, as described above, Poseidon will implement sufficient noise attenuation measures to ensure that noise from Project construction will not exceed 60 dBA at the Triangle Area and therefore will not significantly impact the Triangle Are. (See Special Conditions 9, 13, 14; Dudek Memo, pp. 5-9.)

Staff Report Assertion:

- The Staff Report suggests that the removal of storage tanks on the Project site could eliminate noise attenuation benefits that they provide for the HBEP operations. (Staff Report, p. 150.) The Staff Report also states that cumulative

noise from the desalination plant and power plant construction could create a significant adverse impact at adjacent wetlands/ESHA. (*Id*., pp. 150-151.)

Poseidon's Response:

- Regarding noise from power plant operations, Staff cite a preliminary isopleths map from January 2013—prior to the HBEP re-design—estimating what anticipated HBEP sound level contours would be when both HBEP Block 1 and Block 2 are in full operation. (Staff Report, Exhibit 19.) Contrary to Staff's assertion on page 151, the figure does not show "existing sound contours." In fact, AES explained that "[i]t is not technically feasible to provide an accurate model that would generate iso-dB or sound contours of existing noise levels." Further, when submitting this isopleth map to the California Energy Commission ("CEC") in 2013, AES explained:

  > Given that the final engineering design has not been completed, these detailed noise contours are necessarily preliminary in nature. The equipment selection, equipment noise characteristics, and noise control measures will almost certainly change in some aspects as the design is finalized. However, the current model input is believed to represent the most likely scenario that can be envisioned at this time and the project sound levels identified in Table DR PYLE 6-1 should be considered as reasonably achievable. The shape of the contours and the facility noise level at any particular location is subject to some minor changes from those shown in Figure DR PYLE 6-1 as final detailed facility design and precise equipment selection progresses and design margin is considered.

- As Staff acknowledge, subsequent to 2013, AES modified the HBEP design. As licensed in 2014, the HBEP would have consisted of two independently operating, three-on-one, combined cycle has turbine power blocks. On April 1, 2017, the CEC approved a Post-Certification Amendment to include one combined-cycle, 2-on-1 power block and two simple-cycle turbines, and modified the site layout such that the estimated contours in Exhibit 19 no longer reflect as-built conditions. In addition, Exhibit 19 fails to account for two 50-foot high sound walls constructed to shield HBEP's power generating equipment.[59] Therefore, there is no

[59] See Staff Report, pp. 152-153 (acknowledging site plan changes and sound wall); see also CEC, Docket No. 12-AFC-02C, Revised Final Decision (CEC-800-2017-002-CMF-REV), p. 6.5-2 (describing the addition of two 50-foot-tall sound/acoustical walls on the northeast portion of the HBEP site).

evidence that the tanks currently provide any noise attenuation benefits under the site's as-built configuration, and Staff's citation to Exhibit 19 is a red herring.

- Staff's claim that cumulative construction noise could result in significant adverse noise impacts is also unwarranted. The HBEP is constructed and operating. Thus, the Staff Report's preliminary maps are now obsolete. The Commission should instead rely on Poseidon's submitted baseline measurements that reflect the current ambient noise environment in the Triangle Area with AES in place and operating. Further, Staff cite only the Preliminary Staff Assessment for the HBEP; the Final Staff Assessment concludes that potential cumulative effects from overlapping construction would be minimized or avoided with implementation of identified Conditions of Certification and Poseidon's mitigation measures.[60] The CEC revisited this determination in October 2016 as part of its assessment of the HBEP's site plan changes and concluded that "the cumulative noise impact of the adjacent Poseidon project and the amended HBEP would be less than significant as well."[61]

- In addition, the CEC also determined that there would be no increase in operational noise for the amended HBEP when compared to the previously-licensed HBEP, and that vibration due to operation of the amended HBEP would be "undetectable by any likely receptor."[62]

Staff Report Assertion:

- The Staff Report argues that pile driving could result in noise and vibration that would be harmful to special-status species. (Staff Report, pp. 149, 153-154.)

Poseidon's Response:

- As discussed in the Dudek Memo, Poseidon will not conduct impact pile driving activities. Foundation piles would be cast auger or screw piles. Sheet piles would be installed via vibratory methods, not pile driving. Impacts from pile installation via these methods would be less than significant. (Dudek Memo, pp. 9-11.)

4. Construction Dewatering

Staff Report Assertion:

[60] CEC, Docket No. 12-AFC-02, Final Staff Assessment (CEC-700-2013-002-FSA), pp. 4.2-46, 4.6-17.

[61] CEC, Docket No. 12-AFC-02C, Final Staff Assessment, Part 1 for the Petition to Amend the Huntington Beach Energy Project Decision (CEC-700-2016-003-FSA-PT1), p. 4.6-4.

[62] *Id*., p. 4.2-7.

- The Staff Report contends that the Project's proposed construction dewatering may adversely affect nearby ESHA or wetlands unless Poseidon implements specific dewatering techniques that avoid or minimize the expected impacts. (Staff Report, pp. 146-147.)[63]

Poseidon's Response:

- The Project is designed to prevent dewatering of any nearby wetlands and ESHA. The Project's dewatering system will be designed so that it will lower the groundwater level in the area to be excavated, but not in surrounding areas. (2010 Draft SEIR, pp. 4.9-7 to 4.9-8; see also Dudek 2021 CEQA Equivalent Analysis, p. 39.) Excavation dewatering will be completed using one or more of the following three methods for dewatering: (1) perimeter well points with sloped excavation walls; (2) slurry wall construction with submersible well pumps inside the excavation; or (3) solid sheeting construction with submersible well pumps inside the excavation. (*Id.*, pp. 4.9-7 to 4.9-8.) All three types of site dewatering have been successfully used on many projects along the California coast. (*Id.*, p. 4.9-8.)

- As further assurance that the Project's limited construction dewatering will not adversely affect adjacent wetlands and ESHA, the Project includes a monitoring well system that will be installed along the perimeter of the site, including at the fence line between the Project site and the Triangle Area. The monitoring well system will be operated for the duration of the construction period in order to confirm that groundwater levels in adjacent wetlands are not influenced by the dewatering operations. (2010 Draft SEIR, pp. 4.9-7 to 4.9-8.) Based on actual monitoring well results, the Project may implement slurry or sheet pile cutoff walls to limit the radius of influence from dewatering to the site boundaries. (*Ibid.*) Both methods are feasible, have been used in Huntington Beach, and can avoid dewatering from extending beyond the site boundaries, including into nearby wetlands. (*Ibid*.)

- Nevertheless, to resolve any concerns regarding construction dewatering, and consistent with Commission staff's recommendation, Poseidon proposes Special Condition 12, which would require Poseidon to submit, for Executive Director review, a Geotechnical Investigation Plan to identify the expected volumes of dewatering needed during construction,

[63] The Staff Report asserts that Poseidon "plans to remove the top approximately 30 feet or more of soil from its project footprint and then replace it with some combination of compacted fill, stone columns, or other structural supports." (Staff Report, p. 146.) Thirty feet was identified as the ***maximum*** excavation depth in the 2010 SEIR. (See 2010 SEIR, Appendix C, p. C-3.) Current construction designs do ***not*** anticipate excavating the project footprint to a depth of 30 feet; rather, any necessary excavation would be limited an approximately five-foot area around buildings, and would not extend more than 14-16 feet in depth. While foundation piles will extend deeper, no dewatering would be required for their installation.

and the extent of drawdown expected from that dewatering. It also shall identify any measures needed to ensure that dewatering does not adversely affect environmentally sensitive habitat areas and wetlands adjacent to the project site, such as sheetpiles or temporal measures, pursuant to specified standards. Monitoring wells or piezometers shall be installed at the Project site perimeter and along the fence line between the Project site and the Triangle Area to monitor the amount of drawdown that occurs during construction dewatering activities. If drawdown exceeds depths and durations established as the limits of natural variability, Poseidon shall immediately cease construction dewatering activities and must either reduce its groundwater pumping rate or utilize another method to safely dewater that is identified in the approved Geotechnical Investigation Plan that ensures the limits of natural variability in the groundwater beneath identified wetlands, including any wetlands identified in the Triangle Area, are not exceeded.

- With implementation of Special Condition 12, the Project includes sufficient measures to prevent dewatering of adjacent wetlands and ESHA in conformity with relevant Coastal Act and LCP Policies related to wetland and ESHA protection. (See Coastal Act § 30240; LCP Policies C 6.1.4, C 7.1.2 C 7.1.3.)

H. Energy Use and Greenhouse Gas Emissions (Staff Report, pp. 160-165)

1. Greenhouse Gas Emissions

Staff Report Assertion:

- The Staff Report contends that Poseidon's facility operations would result in significant, cumulative adverse effects due to its indirect greenhouse gas ("GHG") emissions. The Staff Report therefore proposes that the Commission impose a Special Condition requiring Poseidon to develop renewable power for the facility's electricity or, alternatively, amend certain provisions in its GHG Plan. (Staff Report, pp. 162, 165.)

Poseidon's Response:

- Under Coastal Act section 30414(a) described below, the Commission lacks the authority to impose additional GHG mitigation measures on the Project. However, because Poseidon recognizes the importance of combatting climate change and in response to Commission staff's concerns, Poseidon is committed to strengthening its GHG Plan in two important ways.

  - First, Poseidon will only use carbon offsets or renewable energy credits ("RECs"), sourced from California, if 100% renewable power is not available for purchase through Orange County Power Authority ("OCPA"), Southern California Edison ("SCE"), or another provider.

(See proposed Special Condition 22.) By powering the facility with 100% renewable energy, Poseidon would eliminate 95% of the Project's annual GHG emissions. (See Energy Minimization and GHG Reduction Plan ["GHG Plan"] (Feb. 27, 2017), pp. 5-6.)

- Second, Poseidon will remove the contingency plan identified in the GHG Plan submitted with this CDP application (See Special Condition 22.) The contingency plan would have allowed Poseidon to make a payment of $10 per metric ton of carbon equivalent in-lieu of purchasing carbon offsets or RECs for a limited period of time while certain market conditions occur. Without the contingency plan, Poseidon would purchase carbon offsets or RECs in accordance with the GHG Plan regardless of market conditions. This would eliminate what the Staff Report calls a "price cap" on Poseidon's GHG plan.

- Coastal Act section 30414(a) specifically limits the Commission's authority with respect to GHG emissions as follows:

> The State Air Resources Board and air pollution control districts. . . are the principal public agencies responsible for the establishment of ambient air quality and emission standards and air pollution control programs. The provisions of [the Coastal Act] do not authorize the commission . . . to establish any ambient air quality standard or emission standard, air pollution control program or facility, or to modify any ambient air quality standard, emission standard, or air pollution control program or facility which has been established by the state board or by an air pollution control district.

- Section 30414(a) places greater limitations on the Commission's ability to regulate and impose conditions related to GHG emissions than government agencies are generally provided under the California Environmental Quality Act ("CEQA"). In light of section 30414(a)'s limitations, the Commission only may ensure that "new development shall be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development." (Pub. Resources Code, § 30253(3).) The Commission's only other potential authority under the Coastal Act related to GHG emissions is to require that new development take measures to "minimize energy consumption and vehicle miles traveled." (See Pub. Resources Code, § 30253(d).) Accordingly, the Commission should accept Poseidon's voluntary GHG Plan,[64] which exceeds what State climate

[64] Poseidon's GHG Plan is similar to the one the Coastal Commission approved as part of Poseidon's Carlsbad desalination facility, with one important improvement. As the Staff Report observes, Poseidon will not take credit for emissions reductions expected as a result of the Project reducing water imports from Northern to Southern

change policy requires and includes measures to minimize energy consumption and vehicle miles traveled.

- The Staff Report's proposal to add a special condition requiring Poseidon either to develop renewable energy to power the desalination facility or amend its GHG Plan violates Coastal Act Sections 30253(3) and 30414(a) because it would impose emissions standards beyond the requirements imposed by the California Air Resources Board ("CARB") and South Coast Air Quality Management District ("SCAQMD"). AB 32, codified at Health and Safety Code Section 38500 *et seq*., sets statewide GHG emissions limits. AB 32 establishes an air pollution control program that explicitly grants the California Air Resources Board ("CARB") the authority to regulate and control GHG emissions, and to protect coastal resources from GHG emissions-related impacts. Specifically, AB 32 states:

- Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include . . . a rise in sea levels resulting in displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment . . . . ***The State Air Resources Board is the state agency charged with monitoring and regulating sources of emissions of greenhouse gases that cause global warming in order to reduce emissions of greenhouse gases***. (Health & Safety Code, §§ 38501(a), 38510 (emphasis added)).

- CARB has not promulgated GHG emissions standards with which the Project must comply because CARB has not adopted requirements applicable to desalination facilities or energy used for water supplies in its 2008 Scoping Plan, October 2013 First Update to the Scoping Plan, or California's 2017 Climate Change Scoping Plan.[65,66] Similarly,

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California. (Staff Report, p. 163.) Nevertheless, the fact remains that the Project could displace 56,000 acre-feet per year of imported water, eliminating the GHG emissions associated with pumping, treating, and distributing that imported water to customers in Orange County. (See 2010 SEIR, p. 4.12-30.)

[65] See Health & Safety Code §§ 38500 *et seq*.; CARB, Climate Change Scoping Plan (December 2008), available at https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents; CARB, Climate Change Scoping Plan First Update – Discussion Draft for Public Review and Comment (October 2013), available at https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf; CARB, California's 2017 Climate Change Scoping Plan (2017), available at https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Poseidon requests that the Commission incorporate those documents into the administrative record as if set forth herein.

[66] The closest requirements contemplated in CARB's current scoping plan are those described in the Department of Water Resources' Climate Action Plan, which require the State Water Project to increase its use of renewable energy. CARB, California's 2017 Climate Change Scoping Plan (2017), p. 95, available at https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf.

SCAQMD has not promulgated GHG mitigation standards or adopted requirements applicable to desalination facilities or energy used for water.[67] While CARB works with other relevant state agencies to implement the law and help direct state efforts on the reduction of GHG emissions, CARB has not delegated authority to the Commission to assist it in implementing GHG emissions-based standards or mitigation.[68] Therefore, no existing regulatory program requires Poseidon to offset its GHG emissions as requested by the Commission. By developing conditions with which Poseidon must comply to reduce or offset its indirect emissions, the Commission is in effect either establishing its own air regulatory program to limit indirect GHG emissions, or modifying the existing air regulatory program imposed by AB 32 that does not apply to the Project's indirect GHG emissions. As discussed above, the Legislature specifically limited the Commission's authority to regulate air emissions and prohibits the Commission from establishing or modifying such a program. (Pub. Resources Code, § 30414(a)).

- To the extent that CARB ultimately adopts regulations applicable to the Project, CARB's rulemaking process will require public review and comment of the proposed regulations and require CARB to adopt certain findings that, among other things, the regulations are "cost-effective," "feasible" and "equitable." (Health & Safety Code, § 38562; Government Code, § 11340-11365.) Therefore, adopting GHG mitigation requirements requested by Commission staff that are beyond the requirements of Poseidon's voluntary GHG Plan, misapplies principles to the Project that are applicable to CARB's regulatory authority, usurps CARB's rulemaking authority, deprives Poseidon the protections afforded by the rulemaking process, and imposes an emissions requirement that CARB has not adopted or determined satisfies the findings required under the Health & Safety Code.

- Thus, the Commission does not have the authority to impose additional GHG emissions standards or mitigation requirements on the Project because its authority is limited to assuring compliance with CARB requirements, and Staff's contrary position is not supported by law.

- Further, Poseidon has long acknowledged that the consumption of energy required to produce desalinated water results in indirect GHG emissions, which generally contribute to global climate change. Poseidon takes climate change issues seriously, and for that reason proposed to reduce or offset all of the Project's direct and indirect construction and operational

[67] See SCAQMD, Air Quality Management Plan (2016), available at http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15.

[68] CARB, Who Is Implementing AB 32? (2022), available at https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006.

GHG emissions. (See 2017 SEIR, p. 4-127 [describing Applicant Proposed Measure 7].) This commitment would "bring to zero" the total amount of direct and indirect GHG emissions from the Project.

- The Staff Report contends that the Project's operations "would result in significant indirect GHG emissions." (Staff Report, p. 162.) ***This statement is incorrect***. While the electricity utilized by the Project may result in GHG emissions that exceed the SCAQMD significance threshold of 10,000 MTCO2E/yr for industrial projects, the 2010 SEIR, 2017 SEIR, and Regional Board Addendum confirmed that ***with the implementation of Poseidon's GHG Plan, the Project's GHG impacts would be less than significant*** and the Project "would have no GHG emission impact on the environment." (2010 Draft SEIR, pp. 4.12-31 to 4.12-33; 2017 Final SEIR, pp. 4-125 to 4-129.)

- In furtherance of its commitment to reduce the Project's GHG emissions, on February 23, 2022, Poseidon entered a memorandum of understanding ("MOU") with Orange County Power Authority ("OCPA") that guarantees Poseidon will work with OCPA to purchase 100% renewable energy sources to power the Project. (Poseidon-OCPA MOU (Feb. 23, 2022)). If Poseidon is able to power the facility with 100% renewable energy, the Project will avoid indirect emissions associated with the Project's electricity use, which constitute 95% of the Project's GHG emissions. (See Energy Minimization and GHG Reduction Plan ["GHG Plan"] (Feb. 24, 2017), pp. 5-6.)

- In the event that Poseidon cannot procure 100% renewable energy for the Project, the GHG Plan approved by the SLC requires Poseidon to purchase carbon offsets or RECs to offset fully the Project's remaining GHG emissions. (GHG Plan, pp. 4, 14.) Poseidon is therefore committed to constructing and operating a 100% carbon-neutral Project with zero GHG impacts.

Staff Report Assertion:

- The Staff Report contends that Poseidon's MOU with OCPA does not include commitments or assurances that the facility would use renewable electricity sources. The Staff Report suggests that the Project will therefore continue to rely on fossil fuel generated electricity and try to obtain offsets rather than reduce its GHG emissions. (Staff Report, p. 162.) Staff contends that in order to bring the Project into compliance with LCP policies regarding GHG-related impacts, the Commission should impose a Special Condition that requires Poseidon to directly reduce its expected emissions by developing renewable energy sources to provide electricity for its facility. (*Id.*, p. 165.)

Poseidon's Response:

- The Staff Report fails to acknowledge the renewable energy conditions already contained in Poseidon's amended lease approved by the SLC in 2017. During the SLC's deliberations concerning the Project's lease amendment, the SLC requested that Poseidon further explore the potential to procure renewable power. (SLC Oct. 19, 2017 Transcript, pp. 321-326.) This requirement has been made a condition of Poseidon's amended lease. (See Amendment #2 of Lease No. PRC 1980.1, ¶ 9.) Under Special Condition 9 of the amended lease, Poseidon has committed to "maximize[ing] the use of renewable energy by way of a long-term renewable energy power purchase agreement, through programs offered by [SCE] or otherwise available." (*Ibid.*) The amended lease also requires Poseidon to comply with the Project's 2017 GHG Plan, which in turn requires that "energy efficiency measures and on-site use of renewable resources [] be given the highest priority." (*Ibid*.)

- It is unclear whether the Staff Report simply overlooked these conditions or whether staff recommends imposing more stringent requirements. Assuming that staff intended to impose more stringent renewable energy requirements, staff's recommendation would exceed the Commission's relevant authority under the Coastal Act and LCP provisions. The Staff Report claims that various Coastal Act policies related to public access and recreation, marine resource and water quality, environmentally sensitive habitat areas, and coastal hazards "provide [the Commission] authority to take steps to reduce climate change and adapt to the effects of global warming." (Staff Report, p. 160.) However, none of these provisions directly concern GHG emissions and, as explained above, the Coastal Act affirmatively limits the Commission's authority to impose GHG-related standards and mitigation.

- Even if the Coastal Act did not prohibit the Commission from establishing its own GHG standards and programs, the only other potentially relevant policy described in the Staff Report is LCP Goal C 1.1, which requires that "adverse impacts associated with coastal zone development *are mitigated or minimized to the greatest extent feasible.*" (LCP Goal C 1.1.) Coastal Act Section 30108 defines feasible to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Resources Code, § 30108.) Poseidon's GHG Plan and SLC lease requirements already meet this standard because they require Poseidon to offset all direct and indirect construction and post-construction GHG emissions, and to purchase renewable energy when available.

- Nevertheless, Poseidon proposes Special Condition 22, which would incorporate these conditions into Poseidon's CDP. Consistent with the Staff Report's recommendation, Special Condition 22 would require Poseidon to directly reduce its emissions by purchasing renewable power

through Orange County Power Authority ("OCPA"), Southern California Edison ("SCE"), or through another provider and which provides that Poseidon may only use carbon offsets or RECs to mitigate its GHG impacts if renewable power is not available.

Staff Report Assertion:

- The Staff Report claims that the Project still could result in significant adverse effects on the environment because the GHG Plan includes a contingency plan provision that staff argues could result in Poseidon falling far short of "net carbon neutral" status. (Staff Report, pp. 164-165.)

Poseidon's Response:

- This claim is based on a misunderstanding of the GHG Plan's contingency provisions. Contrary to the Staff Report's contention, the contingency plan is intended to address potential market volatility and does not create a cap on the price of credits that Poseidon is required to purchase. The provision permits Poseidon to deposit money into an escrow account equal to $10 per metric ton of carbon dioxide equivalent ("MTCO2e"), index-linked for inflation, for each ton of GHGs that Poseidon has not previously offset in the event that the ***City of Huntington Beach's Planning Director*** determines that (i) offset credits in an amount necessary to mitigate the Project's indirect GHG emissions are not reasonably available; (ii) the "market price" for carbon offsets or RECs is not reasonably discernable; (iii) the market for offsets/RECs is suffering from significant market disruptions or instability; or (iv) the market price has escalated to a level that renders the purchase of offsets/RECs economically infeasible to the Project. (GHG Plan, pp. 17-18.) Thus, the City of Huntington Beach, not Poseidon, will define whether offsets are "reasonably available" and there is nothing in the GHG Plan which equates this to offsets being less than $10 per MTCO2e.

- Further, an in-lieu payment equal to $10 per MTCO2e would not result in substantial under-mitigation as the Staff Report claims. The average price for most voluntary credit transactions in 2019-2021 were less than $10 per MTCO2e. (Ecosystem Marketplace, Markets in Motion: State of the Voluntary Carbon Markets in 2021, Installment 1, p. 14.) In 2021, the global average price per MTCO2e was $3.13. (*Id.*, p. 5.) The Staff Report's contention that offsets are currently valued at $30 or $60 is based on prices from CARB's cap-and-trade allowance program that are not applicable to the Project (which is not a direct emitter of GHG emissions). Voluntary credits, which Poseidon may purchase to offset the Project's GHG emissions, are significantly less expensive than compliance credits

and allowances which form the basis of staff's recommendation.[69] Given that, on average, voluntary credits are significantly less than $10 per metric ton, the GHG Plan as approved by the SLC will not result in significant under-mitigation as staff contends.

- The approved GHG Plan's contingency plan also does not excuse Poseidon from fulfilling its obligation to reduce or offset 100% of the Project's direct and indirect GHG emissions. The contingency plan would be applicable and remain in effect *for a limited period of time* based on the City's determination that the conditions giving rise to the contingency remain in effect. (GHG Plan, p. 18.) When the contingency period approved by the City ends, if the carbon offset projects implemented through the contingency plan result in Poseidon having a positive balance of GHG emissions for the contingency period, then Poseidon shall have three years from the end of the contingency period to purchase offsets or RECs to cover that balance and provide the City, Coastal Commission, and SLC with documentation substantiating any such purchases. (*Ibid*.) Thus, contrary to staff's contentions, the contingency plan would not result in Poseidon falling short of "net carbon neutral" status over the life of the Project.

- Finally, for the reasons explained above, the Commission does not have the authority to require Poseidon to remove the contingency plan from the Project. The Contingency Plan ensures that Poseidon will not be forced to purchase credits during a limited period of time when the City determines it is economically infeasible to do so. If the Commission has any authority to impose GHG mitigation measures pursuant to LCP Goal C 1.1, as the Staff Report claims, such authority is necessarily limited by the provision's language which requires the Commission to minimize adverse impacts to the environment "*to the greatest extent feasible.*" (LCP Goal, C 1.1.) There is no basis for the Commission to impose a condition that would require Poseidon to purchase offsets without taking into account potential economic, environmental, social, and technological constraints that might make their purchase infeasible during limited periods of significant market disruption or instability. (Pub. Resources Code, § 30108.)

- Nonetheless, as proposed in Special Condition 22, Poseidon will remove the contingency plan from its GHG Plan. Special Condition 22 would require that, prior to commencement of construction, Poseidon must submit a revised GHG Plan to the Executive Director for review and approval that removes the existing contingency plan. In accordance with

[69] See, e.g., Ecosystem Marketplace, Voluntary Carbon Markets Top $1 Billion in 2021 with Newly Reported Trades (Nov. 10, 2021), available at https://www.ecosystemmarketplace.com/articles/voluntary-carbon-markets-top-1-billion-in-2021-with-newly-reported-trades-special-ecosystem-marketplace-cop26-bulletin/ (reporting average credit prices for voluntary credits of less than $10 per tonne).

Special Condition 9 of Poseidon's amended lease from the SLC, Poseidon will notify the SLC of the modification in writing no more than thirty days after such modification is imposed.

Staff Report Assertion:

- The Staff Report suggests that carbon offsets may not be "as effective as expected in creating actual emission reductions." (Staff Report, p. 164.)

  Poseidon's Response:

  - To ensure that the Project will actually have net-zero emissions, the GHG Plan approved by the SLC includes rigorous procedures for quantifying and verifying the Project's GHG reductions such that the Project's offsets represent actual, real, and permanent GHG reductions. These procedures include the following:

    - The Project's indirect GHG emissions will be calculated using CARB, The Climate Registry ("TCR") or California Climate Action Registry ("CAR") methodologies.

    - Carbon offsets that Poseidon would purchase to implement the GHG Plan, except for RECs, will be purchased through/from CARB, CAR, or a California Air Pollution Control District ("APCD") or Air Quality Management District ("AQMD"). If sufficient offsets are not available from such projects, Poseidon must acquire offsets from a Third-Party Provider approved by the City Planning Director upon Poseidon's showing that the Third-Party Provider adheres to substantially similar principles and evaluation criteria for high quality offsets as TCR, CAR, CARB, a California APCD/AQMD or any Third-Party Provider previously approved by the City's Planning Director or the City Council.

    - Poseidon must submit an annual GHG Report providing an accounting summary and documentation verifying that offsets obtained for the Project have been independently verified and reviewed by CAR, CARB, a California ACPD/AQMD or a Third-Party Provider.

    - In the event that the Annual GHG Report indicates that Poseidon has a positive balance of net GHG emissions for a particular year, Poseidon must purchase offsets or RECs to cover the balance and provide the City, the Commission, and the SLC with documentation substantiating any such purchases.

    - Together, these measures guarantee that any credits purchased to offset Project emissions would represent true, actual, and permanent carbon reductions. (GHG Plan, pp. 6, 14-17.)

- In sum, Poseidon is committed to constructing and operating a 100% carbon-neutral Project that will result in zero GHG impacts. Poseidon's proposed Special Condition 22 will ensure that the Project minimizes its energy use and associated GHG emissions by requiring Poseidon to purchase 100% renewable energy for the Project provided it is available. Poseidon's proposed Special Condition 22 also ensures that the GHG Plan will be revised to remove the existing contingency plan, thereby resolving fully Commission staff's concern that the GHG Plan establishes a cap on offset purchases that could prevent the Project from being net carbon neutral.

2. Energy Use

Staff Report Assertion:

- The Staff Report contends that the Project will use substantial amounts of electricity and that the energy intensity of seawater desalination is substantially higher than other common methods of water production. (Staff Report, pp. 160, 162, 165.) Based on these contentions, the Staff Report claims that the Project is inconsistent with LCP Policy 8.3.1, which encourages energy conservation, and with Coastal Act and LCP Policies related to mitigating and minimizing energy use and GHG-impacts. (e.g., Pub. Resources Code, §§ 30250, 30230, LCP Policies 6.1.1, 6.1.3; *id.*, p. 165.)

Poseidon's Response:

- While the Coastal Act does not confer authority on the Commission to impose GHG emissions standards or require that all development projects be "carbon-neutral," the Coastal Act requires that new development "minimize energy consumption and vehicle miles traveled." (Pub. Resources Code, § 30253(d).) The Project complies with this requirement as described below.

- The Staff Report incorrectly claims that Poseidon must also comply with LCP Policy 8.3.1 to "promote the use of solar energy and encourage energy conservation." This policy specifically applies to "Energy Facilities." (City of Huntington Beach General Plan, Coastal Element, p. IV-C-131.) As the Staff Report itself states, "Poseidon's project is not an energy facility." (Staff Report, p. 194.) Therefore, LCP Policy 8.3.1 does not apply to the Project. Even if this LCP Policy did apply, the Project satisfies its requirements as demonstrated below.

- As for the other Coastal Act and LCP Policies cited in the Staff Report, they do not directly concern energy use. (See Staff Report, pp. 160, 165; Pub. Resources Code, §§ 30220, 30211, 30230, 30231, 30240, 30253(1), 30253(2), 30253(4), 30270, 30250; LCP Policies 6.1.1, 6.1.3.) Rather, the policies implement the general rule embodied by LCP Goal C 1.1., to "ensure that adverse impacts associated with coastal zone development are *mitigated or minimized to the greatest extent feasible*." As explained

above, the Project's lease amendment requirements, GHG Plan, and proposed Special Conditions ensure that the Project's GHG impacts are mitigated or minimized to the greatest extent feasible. As described below, these measures and Project conditions also ensure that the Project minimizes and mitigates the Project's energy consumption and any associated impacts to the maximum extent feasible. The Staff Report suggests that in order to "minimize and mitigate" impacts associated with the Project, the Commission must consider other water source alternatives that are less energy-intensive than the Project, like conservation projects, recycled water projects, or State Water Project water. The plain language of the policies cited by Staff, however, does not mention alternatives analysis at all.

- Further, the provision is clear that the Commission is only permitted to require alternative mitigation or minimization measures that are *feasible.* As explained below, none of the Staff Report's proffered alternatives are feasible as defined under the Coastal Act and CEQA.

- As noted above, the Project conforms to relevant Coastal Act and LCP Policies related to energy use impacts because the conditions imposed as part of Poseidon's amended lease from the SLC, including Poseidon's compliance with its GHG Plan, contain multiple strategies to "minimize energy consumption," "promote the use of solar energy," "encourage energy conservation," and "ensure that adverse impacts associated with coastal zone development [energy use] are mitigated or minimized to the greatest extent feasible." (Pub. Resources Code, § 30253(d); LCP Policy 8.3.1; LCP Goal C 1.1.) These strategies include:

  - Employ a state-of-the-art energy recovery system to allow recovery and reuse of 32.1% of the energy associated with the reverse osmosis process;

  - Install high efficiency motors on the pumps to maximize energy savings;

  - Implement green building designs inspired by LEED principles to reduce the Project's energy consumption;

  - Explore the installation of a rooftop photovoltaic ("PV") system for solar power generation as one element of the Project's green building design;

  - Install bicycle racks, shower rooms and changing facilities, as well as preferred parking for low-emitting and fuel-efficient vehicles, to encourage the use of alternative forms of transportation and minimize vehicle miles traveled;

- Maximize the use of renewable energy by way of a long-term renewable energy power purchase agreement, through programs offered by SCE or are otherwise available;

- Use all reasonable efforts to engage with SCE to implement a demand side management program that materially reduces the Project's impact on carbon energy production, including time of day tariffs that recognize the true cost of carbon-based power production, and to enter into an interruptible power supply program to minimize power use to the maximum extent possible during system emergencies;

- Optimize operations utilizing the onsite product water storage tank and other operational methods to maximize the shift of energy use away from time periods of high GHG-generating energy production; and

- Continue to research and implement energy saving technology changes within the facility and throughout the term of the facility share economic savings from those changes with water purchase customers. (See GHG Plan, pp. 8-14; Amendment #2 of Lease No. PRC 1980.1, ¶ 9.)

- The Staff Report contends that the energy intensity of seawater desalination is substantially higher than other common methods of water production, such as water conservation, recycling, and the State Water Project. (Staff Report, pp. 162, 165.) However, conservation, recycling, and SWP imports are not feasible alternatives to the Project based on OCWD's goal to replace imported water supplies with drought-proof desalinated seawater supplies to increase their water supply portfolio resiliency, and therefore are not required under potentially relevant Coastal Act and LCP Policies requiring development to minimize and mitigate energy use impacts to the maximum extent feasible. (See, e.g., LCP Goal C 1.1.)

    - Multiple agencies have considered the use of alternative water sources to minimize the Project's impacts and have confirmed that the Staff Report's proffered alternatives are not feasible and/or would result in greater environmental impacts.

    - The City's 2010 SEIR thoroughly analyzed alternatives to the proposed Project, including: (1) increased conservation efforts; (2) increased use of imported water supplies; (3) increased use of groundwater supplies; (4) construction of additional local water supply projects; and (5) construction of seawater desalination projects elsewhere in Orange County. The City rejected each of these alternatives because they could not provide a "local source"

that is "sustainable and independent of climactic conditions (in other words, 'drought proof')" or "sustainable and independent of the availability of imported supplies or local groundwater," and would not meet the project objectives of "reducing the salt imbalance of current imported water supplies or minimizing demands on the imported water system." (2010 Draft SEIR, p. 6-7.)

- The SLC carefully re-evaluated the issue in 2017 as part of its review of the Project. The SLC determined that the Project's water was still needed over arguments that alternative water sources could meet Orange County's water supply needs. During a public meeting concerning the Project, State Controller Betty T. Yee asked OCWD whether OCWD's "analysis with respect to these various water sources [included] the expansion of the [county's] recycling effort" and whether OCWD "*fully considered all these alternatives before really looking at the water that would be produced by Poseidon*." OCWD confirmed, "Yes, we certainly have" and that OCWD was "all in" on expanding its groundwater replenishment system. OCWD stated that the Project was still needed however, due to drought, declining snowmelt, and declining Santa Ana River base flows. OCWD explained that the County's recycling efforts depend on the Santa Ana River base flow, and emphasized that "the base flow continues to decline because of drought . . . And that's something that's somewhat alarming to us. So we need to continue to look for and develop new water sources to offset that." (*California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 35, 65 [certified for partial publication].)

- Similarly, as part of its review of the Project in 2021, the Regional Board rejected arguments that alternative water sources such as conservation and recycled water could meet Orange County's water supply needs. The Regional Board acknowledged that "water conservation is an important aspect of reducing the overall water demand in our region. However, the water demands in the future cannot be met only by water conservation. The water agencies' planning documents indicate the need for new sources of reliable water supplies in the future and demand project[ion]s rely on water conservation practices." (Regional Board Responses to Comments (July 21, 2020), p. 116.)

- Further, the Regional Board explained that "OCWD and MWDOC, as the relevant water planning agencies, have taken into account water conservation actions in developing their water portfolios." (*Id*., p. 122.) In addition, OCWD has stated that the proposed Groundwater Replenishment System ("GWRS") expansion does

not obviate the need for desalination. "OCWD included the GWRS expansion in its assessment of its water supply needs and stated that ***the desalinated water is needed to increase water supply reliability***." (*Id.*, p. 239 [emphasis added].)

- Finally, with respect to the State Water Project, Poseidon anticipates that the Project will use about the same amount of electricity as is required to pump water (on a volumetric basis) from the Bay Delta through the State Water Project to San Diego. Moreover, the need to replace imported supplies is one of the driving forces behind the Project's development. OCWD and MWDOC have determined that in order to add needed reliability, climate resiliency, and flexibility to Orange County's water supply portfolio, new, locally controlled and drought proof water sources, like the Project, are needed to replace existing imported supplies. (2021 Regional Board Order, Att. G2, p. 7; June 26, 2020 Letter from OCWD to the Regional Board; MWDOC, 2018 OC Reliability Study.)

- Further, the Staff Report's broad generalizations comparing the energy intensity of seawater desalination and other water sources do not mean that the Project's numerous energy-saving and conservation strategies are insufficient to satisfy Coastal Act section 30253(d). (See Staff Report, pp. 162, 165.)

  - The Commission previously approved Poseidon's Carlsbad desalination facility, despite the fact that desalination can be more energy intensive than other water sources. Here, the Project includes even more energy savings and conservation measures than the Commission-approved Carlsbad facility,[70] and thus further "minimize[s] energy consumption and vehicle miles traveled" as required by Coastal Act section 30253(d).

- In conclusion, the Project's ample energy efficiency measures and conservation strategies will "minimize[s] energy consumption and vehicle miles traveled" as required by Coastal Act section 30253(d) and any other potentially relevant Coastal Act and LCP Policies related to the Project's energy use. Accordingly, the Commission should reject the Staff Report's contention that the Project fails to comply with these requirements and instead find that the Project is consistent with all relevant Coastal Act and LCP Policies.

I. Groundwater Quality (Staff Report, pp. 166-173)

[70] See Carlsbad Project Revised Findings, CDP No. E-06-013 (May 22, 2008), p. 95, available at https://documents.coastal.ca.gov/reports/2008/6/Th17a-6-2008.pdf.

Staff Report Assertion:

- The Staff Report claims that Orange County Water District ("OCWD") is currently considering groundwater injection of anywhere from 30-100% of the desalinated water. (Staff Report, p. 166.) Injection would be subject to the Water Quality Control Plan for the Santa Ana River Basin ("Basin Plan"), which requires that new development prevent groundwater quality degradation. (*Id.*, p. 167.) Staff notes that the Santa Ana Regional Water Quality Control Board ("Regional Board") has not yet determined whether injecting desalinated water into the Basin would meet Basin Plan requirements, and that such a proposal would be subject to further Regional Board review and approval. (*Id.,* p. 168.)

Poseidon's Response:

- OCWD has not yet decided how it will use the desalinated water from the Project. As the Regional Board explained—and staff correctly notes—"[i]f OCWD decides to use the water to recharge the groundwater basin, OCWD will need to obtain a permit from the Santa Ana Water Board for the injection." (Regional Board Responses to Comments (July 21, 2020), p. 27; Staff Report, p. 168.) At that time, the Regional Board would assess the potential impacts to groundwater quality of the water injection. (*Ibid*.; see also Transcript of July 30, 2020, Regional Board Hearing, p. 34.) In addition, as OCWD notes, "[o]nce a distribution plan is finalized, OCWD would assess potential water quality impacts such as boron and chlorides to individual Producers."[71]

1. The 2016 OCWD Study

Staff Report Assertion:

- Staff suggests that the Project could degrade groundwater quality based on a 2016 OCWD study.[72] (Staff Report, p. 168.) The 2016 OCWD study found that desalinated water would have higher total dissolved solids ("TDS"), sodium, and chloride concentrations than water produced by OCWD's Groundwater Replenishment System ("GWRS"), as well as higher boron concentrations than water provided by the Metropolitan Water District ("MWD"). (*Id*., pp. 168-169.) As a result, the 2016 OCWD study concluded that injecting 50 mgd of desalinated water could result in 38% more TDS, 136% more sodium, 396% more chloride, and 3% more boron than injecting 100 mgd of GWRS water. (*Id*., p. 169.) According to Commission staff, "[t]his increased chemical burden would represent anywhere from several dozen tons up to about 20,000 tons per year of

[71] See OCWD Responses to Comments on Proposed Poseidon Resources Huntington Beach Ocean Desalination Project Term Sheet (July 2018), p. 365, available at https://www.ocwd.com/media/6827/bod_20180718.pdf.

[72] See Trussell Technologies, Inc., Technical Memorandum: Review of Proposed Water Quality Requirements for the Huntington Beach Desalter (April 13, 2016).

these constituents being introduced to the groundwater basin, resulting in degradation of basin water quality." (*Ibid*.)

Poseidon's Response:

- The Staff Report takes the 2016 OCWD study out of context. The 2016 OCWD study concluded that injecting only desalinated water to the Basin in a scenario in which the GWRS has shut down could result in 38% more TDS, 136% more sodium, 396% more chloride, and 3% more boron when compared to a scenario in which OCWD injects only GWRS water. (See 2016 OCWD Study, pp. 103-106.) When desalinated water and other supplies – including GWRS – are blended before injection, the TDS, sodium, chloride, and boron loading significantly decrease. (See *id*., p. 104 [Table 6-12, summarizing concentrations of constituents under different scenarios].) For instance, where desalinated water is only a quarter of the water supplies injected, loads are essentially halved. (*Ibid*.)

- In fact, as explained in the 2010 SEIR, the Project would produce "product water with ***lower TDS levels than currently delivered to Orange County purveyors by MWD***, and the estimated ***water quality levels for TDS, chloride, and sodium comply with the narrative water quality objectives in the Basin Plan***." (2010 Draft SEIR, p. 4.11-12 [emphasis added].)[73] Thus, the City of Huntington Beach determined that impacts related to water quality and water quality standards would not be significant. (*Id*., p. 4.11-13.)

    - Notably, for TDS, the Project "would not increase, ***but rather would lower the total dissolved solids (TDS) concentration in the water supply within the project service area***." (2010 Final SEIR, p. 12-671 [emphasis added].) "[L]ower TDS levels in desalinated seawater also provide benefits to the region's use of recycled water due to the reduction of water softeners." (*Ibid*.)

- Regarding boron, even if OCWD decides to inject desalinated water into the groundwater basin and boron treatment is determined to be necessary, OCWD has multiple feasible options to treat the water further. For example, OCWD could blend desalinated water with other water sources before injection to dilute boron concentrations.[74] OCWD also could treat

[73] OCWD recently confirmed that the Project would result in "[l]ower total dissolved solids concentration compared to imported water supplies being replaced." (See OCWD, Huntington Beach Ocean Desalination Project Presentation (March 13, 2020), p. 4, attached as **Exhibit 11**.)

[74] The blending of desalinated water with other supplies, such as recycled water will not result in significant impacts to water quality related to boron. As the City explained in 2010, "[t]he use of desalinated seawater will not significantly change the impacts to recycled water irrigation that is currently experienced without using desalinated supplies." (City of Huntington Beach, Findings of Fact (Aug. 2010) ("2010 Findings"), p. 68 [addressing concern that desalinated water has slightly higher concentrations of boron than recycled water].) In fact, "[i]t is expected

the water at a point before groundwater injection. Whether boron treatment is ultimately necessary, or how OCWD chooses to implement treatment methods and the location of treatment is speculative.

- Moreover, claims regarding the existence of boron in desalinated water and potential impacts to groundwater are not new. The City of Huntington Beach analyzed this issue back in 2010 and explained that the Project will be designed to reduce boron concentrations to levels that comply with regional groundwater protective levels. (2010 Final SEIR, p. 12-694.) Indeed, the Project "will achieve removal levels significantly higher than regulatory requirements and other types of water treatment facilities." (*Ibid*.) "The treatment plant design will produce a high-quality finished water with respect to boron, TDS, and hardness concentrations that is expected to have no significant impact that differs in ways that are materially different from current water supplies." (*Id.,* p. 12-694.)

- Further, the City explained that after reverse osmosis, the product water's boron level is approximately 0.6 mg/l, "which is ***below the [California Department of Public Health] action level. Impacts to the product water quality are less than significant***." (2010 Findings, p. 63 [emphasis added].) The Regional Board confirmed that any product water will be required to meet safe drinking water standards regulated by the California Division of Drinking Water. (Transcript of July 30, 2020, Regional Board Hearing, p. 33.) Thus, both the City and Regional Board determined that boron levels in the resulting product water would be below safe drinking water standards.

- Notably, as the Staff Report admits, the 2016 OCWD study did not attempt to determine whether injecting desalinated water could conform to the Basin Plan. (Staff Report, p. 169.)

  - In fact, the Project's anticipated TDS, chloride, sodium, and boron levels would comply with current Basin Plan water quality objectives. TDS concentrations in desalinated product water would average 300-350 mg/L (2010 Draft SEIR, p. 4.11-13), which is below the Basin Plan's recommended 500 mg/L limit for drinking water and 700 mg/L limit for irrigation uses.[75] The estimated chloride level in desalinated product water is 180 mg/L

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that the current use of [water] softener will decrease with the introduction of desalinated water and that resulting water quality and economic benefits of softer water will accrue to the region." (*Ibid*.)

[75] See Basin Plan, Chapter 4 – Water Quality Objectives (updated June 2019), p. 4-22, available at https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/2019/New/Chapter_4_June_2019.pdf.

(2010 Draft SEIR, p. 4.11-14), below the Basin Plan's 500 mg/L limit for potable and groundwater. (Basin Plan, p. 4-22.) The estimated sodium level in desalinated product water is 120 mg/L (2010 Draft SEIR, p. 4.11-15), below the Basin Plan's 180 mg/L limit for groundwater. (Basin Plan, p. 4-25.) Finally, the estimated boron level in desalinated product water of 0.6 mg/L, below the Basin Plan's 0.75 mg/l limit for groundwater. (Basin Plan, p. 4-21.)

- Therefore, the 2016 OCWD study on which staff relies does not support the conclusion that injecting desalinated water would render the Project inconsistent with the Basin Plan.

- Moreover, Poseidon has proposed Special Condition 25, which requires it to submit to the Commission documentation showing that the Regional Board has determined that the proposed injection meets the Basin Plan requirements before injection of any water from the Project into the Basin may occur. Implementation of this Special Condition will ensure Basin Plan compliance prior to injection.

Staff Report Assertion:

- Staff asserts that higher TDS loading from desalinated water could significantly extend the time it would take to lower TDS levels in the Basin to meet Basin Plan objectives. (Staff Report, p. 170.)

Poseidon's Response:

- Staff cites no evidence that injecting desalinated water would significantly extend the time it takes to lower TDS levels in the Basin. OCWD has not decided how it would use the desalinated water, what quantity it would inject if it pursues that option, and what treatment methods may be available to reduce TDS levels before injection. As explained above, the 2010 SEIR concluded that the Project's estimated TDS levels would comply with Basin Plan requirements. (2010 Draft SEIR, p. 4.11-12.)

- Further, any proposal to inject desalinated product water into the Basin would require Regional Board review and approval. (See Regional Board Responses to Comments (July 21, 2020), p. 27.) At that time, the Regional Board would assess compliance with Basin Plan requirements. (*Id*., p. 28.) To that end, Poseidon has proposed Special Condition 25 requiring it submit documentation to the Commission confirming that the Regional Board found that Project water complies with Basin Plan requirements before any desalinated product water is injected into the Basin.

Staff Report Assertion:

- According to Commission staff, the 2016 OCWD study identified product water requirements that OCWD could include in an eventual Water Purchase Agreement with Poseidon to reduce expected groundwater degradation from the desalinated water. (Staff Report, p. 170.)

Poseidon's Response:

- The 2016 OCWD study did provide recommendations for OCWD to consider in negotiating a Water Purchase Agreement with Poseidon. (See 2016 OCWD Study, pp. 107-112.) Nothing about the Commission's approval of the Project forecloses the ability of OCWD to negotiate such terms with Poseidon in the future. Regardless, Poseidon has proposed Special Condition 25 requiring it to demonstrate compliance with Basin Plan requirements before any desalinated product water is injected into the Basin.

2. The Irvine Ranch Water District's Groundwater Claims

Staff Report Assertion:

- Staff also cites studies performed by the Irvine Ranch Water District ("IRWD") that purport to show that injecting desalinated water into the Basin would increase boron, TDS, and chloride levels. (Staff Report, pp. 170-171.)

Poseidon's Response:

- As explained above, the City considered this issue in 2010 and concluded based on substantial evidence that the Project would produce "product water with ***lower TDS levels than currently delivered to Orange County purveyors by MWD***, and the estimated ***water quality levels for TDS, chloride, and sodium comply with the narrative water quality objectives in the Basin Plan***." (2010 Draft SEIR, p. 4.11-12 [emphasis added].) As a result, the City appropriately determined that impacts related to water quality and water quality standards would not be significant. (*Id*., p. 4.11-13.) Therefore, substantial evidence in the record contradicts the conclusions reached in IRWD's studies.

- Further, as the Regional Board explained in response to IRWD's very same claims during the Regional Board proceedings on the Project in 2021, OCWD will need to obtain Regional Board approval if OCWD decides to use the desalinated water to recharge the Basin. (See Regional Board Responses to Comments (July 21, 2020), p. 27.) At that time, the Regional Board would assess potential impacts to groundwater quality. (*Ibid*.; Transcript of July 30, 2020, Regional Board Hearing, p. 34.) Pursuant to Poseidon's proposed Special Condition 25, Poseidon will be required to provide confirmation from the Regional Board that desalinated

water complies with Basin Plan requirements prior to injection, which will ensure compliance with applicable LCP Policies, such as Policy C 6.1.1.

3. Potential Water Treatment Methods & Alternative Uses of the Product Water

Staff Report Assertion:

- The Staff Report suggests that Poseidon has ignored potential treatment methods identified by OCWD and IRWD to avoid or reduce the potential for groundwater degradation. (Staff Report, p. 171 ["Poseidon stated in its July 2021 CDP application that it would not be proposing any changes to its treatment methods to address these concerns."].)

  Poseidon's Response:

  - As explained above, and as the Staff Report recognizes (Staff Report, pp. 172-173), OCWD has not determined how it will use the desalinated water. Nor is it certain that additional treatment of the Project's product water would be necessary to comply with the Basin Plan. If OCWD decides to inject Project water into the groundwater basin and that it is determined that further treatment is required, OCWD has multiple feasible options to consider, including its own treatment of water prior to injection. (See Staff Report, p. 172.) These options and their environmental impacts will be studied if OCWD decides to change how the water will be distributed or used from what was studied in the 2010 SEIR.

  - Moreover, additional treatment methods are unnecessary at this time because the City of Huntington Beach already concluded that "[t]he facility would be capable of meeting all drinking water standards through multiple treatment processes, which include flocculation and coagulation, pretreatment filters, cartridge filters, RO membranes, and product water conditioning and disinfection facilities." (2010 Draft SEIR, p. 4.11-13.) Circumstances concerning the Project's product water have not changed since the City's evaluation in 2010; therefore, evaluation of additional treatment methods is not required and would be speculative. (Pub. Resources Code, § 21166; CEQA Guidelines, § 15162, subd. (a).) As a responsible agency and in the absence of changed circumstances, the scope of Commission's authority is much more limited here. (Pub. Resources Code, § 21002.1(d); CEQA Guidelines, §§ 15042, 15096(g)(1).)

  - Nonetheless, Poseidon has proposed the Special Condition described above to address staff's concerns about potential groundwater quality impacts. Poseidon's proposed Special Condition 25 will confirm compliance with the Basin Plan prior to any injection of the Project water into the groundwater Basin.

- **Staff Report Assertion:**

- The Staff Report claims that "OCWD studied other potential effects of using Poseidon water for injection into the basin or for direct delivery to member agencies." (Staff Report, p. 172.) According to staff, OCWD determined that these options could require "additional injection wells, changes to OCWD's management of its seawater intrusion barriers meant to protect the groundwater basin, or other structural or management changes, any of which could require additional modifications to Poseidon's operations or to the Basin Plan." (*Ibid*.)

Poseidon's Response:

- Staff's assertion only underscores the speculative nature of potential groundwater impacts from possible injection. During the Regional Board's proceedings on the Project, OCWD confirmed it has not made a final decision on how it would use Project water and that no such decision would be made until the Project is fully permitted.[76] As the Regional Board explained, "[i]f OCWD decides to use the desalinated water to recharge the groundwater basin, they will need to obtain a permit from the Santa Ana Water Board for the injection. The Board will consider the water quality impacts of recharge at that time and impose appropriate requirements to protect water quality." (Regional Board Responses to Comments (July 21, 2020), p. 28.) Regardless of OCWD's ultimate decision, Poseidon's proposed Special Condition 25 ensures that injection will not occur until the Regional Board has confirmed that injection would comply with Basin Plan requirements.

4. LCP Consistency

Staff Report Assertion:

- The Staff Report contends that, although the Project "would increase the chemical loading of the Orange County groundwater basin, making it harder for the basin to achieve its water quality objective, it appears that Poseidon's water might, strictly speaking, conform to the Basin Plan's and LCP Policy C 6.1.1's requirements to prevent groundwater degradation by meeting the Plan's water quality objectives." (Staff Report, p. 172.) However, staff claims that it does not have enough information to find that the Project is consistent with the LCP because it is uncertain how the water would be used, the volume of water to be injected (if any), and the potential resulting impacts to groundwater quality. (*Ibid*.)

Poseidon's Response:

[76] See OCWD Letter to Regional Board, re: Huntington Beach Ocean Desalination Project (June 26, 2020), attached as **Exhibit 12**.

- There is nothing in the record to suggest that, if OCWD were to inject desalinated water into the Basin, it would violate the Basin Plan's water quality objectives or the City's LCP policies. To the contrary, the City already determined that TDS, chloride, and sodium levels in the Project's product water would comply with the Basin Plan's water quality objectives. (2010 Draft SEIR, p. 4.11-12.) Moreover, the Regional Board—the state agency charged with ensuring compliance with water quality objectives and the Basin Plan—would be required to review and approve any proposal by OCWD to inject water into the Basin. (See Regional Board Responses to Comments (July 21, 2020), p. 27.) Further, with Poseidon's proposed Special Condition 25, evidence would be submitted to the Commission confirming the Regional Board's determination that the desalinated product water complies with Basin Plan requirements before it is injected into the Basin in the event OCWD decides to use the desalinated water for groundwater recharge. Therefore, the Project as conditioned complies with the LCP's provisions prohibiting degradation of groundwater quality, such as LCP Policy C 6.1.1.

Staff Report Assertion:

- The Staff Report declines to identify a condition addressing potential groundwater quality issues because it could require unknown Project changes and potential impacts have not been considered. (Staff Report, p. 173.)

Poseidon's Response:

- Although the record demonstrates that the Project is consistent with applicable LCP policies regarding groundwater protection, Poseidon nevertheless has proposed a Special Condition that requires Poseidon to submit documentation from the Regional Board showing that the proposed injection of Project water would meet Basin Plan requirements before it is injected into the Basin.

J. Public Access and Recreation (Staff Report, pp. 174-177)

Staff Report Contention:

- The Staff Report concludes that the Project, as proposed, would result in minor reductions in public access to the shoreline and at most *de minimis* reduced opportunities for recreational fishing. (Staff Report, pp. 174-177.) Staff asserts that while the Commission could impose Special Conditions that would avoid, minimize, or mitigate these effects, they would not allow the Project to be fully consistent with other, unrelated Coastal Act and LCP policies. (*Id.*, p. 177.)

Poseidon Response:

- The Project is significantly set back from the active shoreline (approximately 2,000 feet, and inland from Pacific Coast Highway), so the Project will not impede operation, use, or access to the shoreline.

- As explained below, Project construction, with implementation of a Traffic Management Plan required by the 2010 SEIR, will not have significant impacts on traffic in the area surrounding the Project and therefore will not affect public access to the shoreline. (See 2010 Draft SEIR, pp. 4.9-44, 7-1 to 7-2.) Further, Commission staff presents no evidence to demonstrate that Project components buried beneath the beach will be exposed during the life of the Project, such that public access to the beach would be impeded. (See Section E, *supra*.) As such, there is not substantial evidence to demonstrate that the Project would reduce public access to the shoreline, and the Project is thus consistent with Coastal Act and LCP policies regarding public access and recreation.

1. Public Access to the Shoreline

Staff Report Assertion:

- The Staff Report acknowledges that traffic related to construction of the desalination plant would have *de minimis* impacts on traffic in the area and therefore would not impede access to the shoreline. (Staff Report, pp. 174-175.) Staff then claims, without any additional analysis, that Project pipeline construction in the Coastal Zone—which may be carried out by OCWD—"would disrupt traffic along several nearby streets used to access the shoreline." (*Id.*, p. 175.)

Poseidon's Response:

- As described in the 2010 SEIR, construction of the Project may cause short-term traffic impacts. (2010 Draft SEIR, p. 4.9-44.) With respect to pipeline construction, the 2010 SEIR concluded that pipeline construction would require temporary disruption along public streets. (*Ibid.*) However, the 2010 SEIR modeled worst case impacts to roads that will experience haul route traffic associated with pipeline construction, as measured by average daily trips, and found that the maximum daily trip increase would be 2.1%, which would be experienced on Santa Ana Avenue. (*Id.*, p. 4.9-45.) As noted in the 2010 SEIR, this increase is not considered to be substantial and as such, increases in traffic associated with pipeline construction are not anticipated to result in decreases to Level of Service on any affected roadways below a current acceptable Level of Service. (*Ibid.*)

- Further, in accordance with the City's standard Conditions of Approval, a Traffic Management Plan, subject to specific performance criteria set forth in the 2010 SEIR, will be prepared to reduce any short-term traffic

impacts to less than significant levels. (2010 Draft SEIR, pp. 4.9-44, 7-1 to 7-2.) Pursuant to Poseidon's proposed Special Condition 23, Poseidon will be required to submit the City-approved Traffic Management Plan for Executive Director review before beginning construction.

- Additionally, the Project's distribution pipeline alignment has not changed from the proposal analyzed in the 2010 SEIR. (See 2017 Draft SEIR, pp. II-16 to II-17, II-40, 3-9 to 3-10; 2021 Regional Board Order, Att. F, p. F-18.) If, in the future, the alignment is changed from that analyzed in the 2010 SEIR, Poseidon or OCWD would be required to analyze the impacts of such changes on public access and recreation and obtain Commission approval for any changes that might occur within the Coastal Zone.

- Accordingly, Project construction will not interfere with the public's right to access the shoreline.

Staff Report Assertion:

- Staff claims that pipeline construction may now take longer to accomplish than the 500-600 days calculated in the 2010 SEIR in order to address potential liquefaction, increased groundwater elevations, and purportedly needed dewatering. (Staff Report, p. 175.) Staff speculates that these additional pipeline construction activities "may also cause increased disruption to public access, as they may require wider trenching" and may require "a larger construction footprint to allow room for additional equipment, wider or deeper trenches, additional dewatering methods, etc." (*Ibid.*)

Poseidon's Response:

- Staff's assertion that the Project will require revised pipeline construction activities to address potential liquefaction and increased groundwater levels, and that these hypothetical construction activities would increase impacts to traffic in a manner that affects public access, amounts to pure conjecture. There is no evidence in the record to support these claims.

- With respect to claims that pipeline construction will require additional dewatering, as stated in the SEIR, trenching for pipeline construction would be approximately 9 to 10 feet deep. (2010 Draft SEIR, p. 4.9-10.) Potholing performed in January 2006 by Badger Daylighting Company showed that the groundwater level at the intersection of Hamilton and Magnolia, during the lowest groundwater table and dry weather conditions, was 14.5 feet below the street surface. (2013 Poseidon Response to Staff Report, p. 56.) In addition, groundwater levels measured at MW-16 and MW-17, along the proposed pipeline route, are approximately 7 to 8.4 feet below street level. (See Sept. 2021 Interim Groundwater Monitoring Report, Ascon Landfill Site, Project Navigator,

Ltd., Table 3.)[77] As stated in the 2010 SEIR, if groundwater is encountered during pipeline construction, only minor dewatering operations would be necessary. (2010 Draft SEIR, p. 4.9-10.) A simpler trench sump pump dewatering method alternatively could be used during pipeline installation. (See 2013 Poseidon Response to Staff Report, p. 56.)

Staff Report Assertion:

- Staff notes that approximately 1,300 linear feet of the proposed distribution pipeline route runs adjacent to the Ascon Landfill, which is currently subject to remediation overseen by the California Department of Toxic Substances Control ("DTSC"). (Staff Report, pp. 32-33, 35.) Staff alleges that the above-described hypothetical modifications to the pipeline construction methods could mobilize contaminants present at the Landfill, and could require imposition of protective measures to ensure worker and public safety. (*Id.*, pp. 36-37.)

Poseidon's Response:

- Staff ignores that the 2010 SEIR explicitly examined potential impacts associated with constructing and operating the pipeline distribution system inside and outside of the Coastal Zone and concluded that "[n]o known areas of hazardous materials exist along the proposed alignments." (2010 Draft SEIR, p. 4.8-16.) Monitoring data gathered from the vicinity of the Ascon Landfill determined "do not indicate migration of contaminated groundwater form the landfill site, such as on Hamilton Street where segments of the offsite pipelines are proposed." (*Id.*, p. 4.8-3.)

- Staff cites a September 2021 Interim Groundwater Monitoring Report, prepared for the Ascon Landfill and submitted to DTSC, as evidence that monitoring wells installed along the proposed pipeline route "show detectible levels of volatile organic compounds ('VOCs') and semi-volatile organic compounds ('SVOCs') that may have mobilized from within the landfill boundary." (See Staff Report, p. 36, fn. 16.) Staff admits that concentrations of VOCs and SVOCs in the wells are "relatively low," but the Staff Report then asserts that the monitoring results "suggest that Poseidon's excavation and dewatering activities could result in mobilization of contaminants from the adjacent Landfill." (*Id.*, p. 36.) In reality, the monitoring well data cited by staff do not indicate the presence of ***any*** VOCs in the most recent groundwater samples, and concentrations of SVOCs are below the Maximum Contaminant Level ("MCL") established by the U.S. EPA for drinking water. (See Sept. 2021 Interim Groundwater Monitoring Report, Ascon Landfill Site, Project Navigator, Ltd., pp. 5, 7, Tables 4 and 5.) Further, the Interim Groundwater Monitoring Report at no point discusses a concern that

[77] The September 2021 Interim Groundwater Monitoring Report for the Ascon Landfill is available at: https://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=30490018&doc_id=60512095.

contaminants could mobilize from the Landfill site, and DTSC's Envirostor summary for the Ascon Landfill states groundwater contamination is limited to the site boundary.[78] Staff's claims that groundwater data indicates that pipeline construction could cause mobilization of contaminants from the Ascon Landfill are simply unsupported in the record.

- Nonetheless, as required by the 2010 SEIR, Poseidon will implement a number of mitigation measures to prevent mobilization of hazardous substances between the Project pipeline and the Ascon Landfill. (2010 Draft SEIR, p. 4.8-3.) It is Poseidon's intent to construct the pipeline route on property adjacent to the Ascon Landfill during the driest weather conditions available. (2013 Poseidon Response to Staff Report, p. 56.) However, if dewatering is needed, the operations would meet all applicable federal, state and local criteria for treatment of groundwater contaminants, such that any impacts from dewatering operations would be less than significant. (*Ibid.*) Groundwater that may need to be pumped from the pipeline construction trench would be continually monitored for pollutants and, if detected, would be treated prior to discharge to the sanitary sewer system or storm water facilities. (*Ibid.*)

- Finally, pursuant to proposed Special Condition 10, and as proposed by staff, Poseidon will coordinate with DTSC to ensure that pipeline construction does not interfere with cleanup of the Ascon Landfill. (See Staff Report, p. 37.)

Staff Report Assertion:

- The Staff Report asserts that a number of conditions have changed since certification of the 2010 SEIR that affect traffic and public access. (Staff Report, p. 175.) Specifically, staff cites to the 2021 CDP application to claim that a different set of projects are now expected to occur simultaneously with Project construction, resulting in different cumulative impacts to traffic and public access. (*Ibid.*) Staff notes that the 2021 CDP application indicates that changes in such impacts would be minor, but does not provide an additional traffic analysis; staff claims that recent EIRs for projects in the vicinity of the Project indicate higher average traffic volumes than used in the 2010 SEIR, requiring renewed analysis. (*Id.*, pp. 175-176.)

Poseidon's Response:

- The updated CEQA equivalence review and cumulative impacts analysis attached to Poseidon's CDP application provides a current list of cumulative projects in the vicinity of the Project, and assesses any

[78] The DTSC Envirostor page for the Ascon Landfill is available at: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=30490018.

potential for increases to cumulative traffic impacts from the Project as proposed in the CDP application. (2021 CDP Application, Att. 8, pp. 45-48, 53.) Based upon updated projections of truck trips associated with Project construction, and the most up-to-date list of cumulative projects, that analysis determined that the Project as proposed would not cause any increases to cumulative traffic impacts beyond what was analyzed in the 2010 SEIR. (*Id.*, p. 53.)

- With respect to projects that will be approved later in time to the Project, those projects will be required to incorporate Poseidon's Project into their cumulative traffic baseline. (See 2013 Poseidon Response to Staff Report, p. 115, fn. 404.) The responsibility to mitigate cumulative traffic impacts that would be caused by projects that are subsequently proposed rests with those projects—and not the previously approved project. Under CEQA, when considering cumulative impacts, the environmental documents of projects currently under review are required to consider past, present, and reasonably foreseeable future projects at the time that the environmental review process commences. (Cal. Code Regs., tit. 14, § 15130, subd. (b).) Accordingly, the baseline for the cumulative impacts analyses conducted in the environmental reviews of future projects in the Project vicinity will require review and mitigation of those projects' traffic impacts in combination with Poseidon's traffic impacts, to the extent that the projects' combined impacts result in a cumulative impact. Therefore, those future projects would be required under CEQA to propose sufficient mitigation for any cumulative impacts that would occur from contemporaneous construction. Burdening Poseidon with the responsibility to mitigate traffic impacts from all concurrent and foreseeable projects after the conclusion of the Project's environmental review in 2010 would contradict long-standing CEQA policy favoring finality in the environmental review process. (See, e.g., Pub. Resources. Code, § 21166; Cal. Code Regs., tit. 14, § 15162, subd. (c).)

- Further, staff ignores that the two streets that staff cites as having higher average daily trips than assessed in the 2010 SEIR—Magnolia Street and Hamilton Avenue—will not be used for the Project's haul route, such that construction of the desalination plant will not impact traffic on those streets. (See, e.g., 2010 Draft SEIR, p. 4.9-38.)

- Notably, staff points to the 2019 EIR for the Magnolia Tank Farm Project, which is sited near the Project site, as evidence that average daily trips in the vicinity of the Project have increased since the 2010 SEIR's analysis. (Staff Report, pp. 175-176.) Staff ignores that the City determined that construction of the Magnolia Tank Farm Project, which requires 1,095 daily trips, would have no significant impacts on traffic in Huntington Beach – which is substantially more than the 225 daily construction

worker trips required for the Project.[79] (Compare Magnolia Tank Farm Project EIR, pp. 4.14-15, 4.14-29, 4.14-35 with 2010 Draft SEIR, p. 4.9-37.) The Project's 28 daily operational trips are similarly miniscule compared to the 5,526 daily operational trips generated by the Magnolia Tank Farm Project. (Compare 2010 Draft SEIR, p. 4.4-14 with Magnolia Tank Farm Project EIR, p. 4.14-11.)

- Finally, Poseidon agrees with staff that any construction-related impacts to traffic and access to the shoreline could be mitigated through an appropriate Traffic Management Plan, which Poseidon is required to implement pursuant to the 2010 SEIR. (2010 Draft SEIR, pp. 4.9-44, 7-1 to 7-2.) As stated above, pursuant to proposed Special Condition 23, Poseidon would be required to submit for Executive Director review a Traffic Management Plan approved by the City that will include all measures necessary to ensure Project-related traffic does not result in a decreased Level of Service on roadways within the Coastal Zone that provide public access to the shoreline.

2. <u>Public Recreation – Recreational Fishing</u>

- The Staff Report is correct that the Project would cause, at most, *de minimis* impacts on fish populations and recreational fishing due to installation and operation of Project intake screens and diffusers. (Staff Report, pp. 176-177.)

  - As described in the 2017 SEIR, with the addition of wedgewire screens, no impingement of marine life will occur. (2017 SEIR, p. 4-58.) Further, the Project's operations will only impact a fraction of the larvae in the water column and will not substantially reduce populations of affected species or affect the ability of such species to sustain their populations. (2017 Draft SEIR, pp. 4-55 to 4-63; 2017 Final SEIR, pp. 11-34 to 11-36.) Further, the Project's approved marine life mitigation projects will restore and create new fish habitat, helping sustain fish populations.

3. <u>Public Recreation – Future Exposure of Project Structures on the Beach</u>

<u>Staff Report Assertion</u>:

[79] The EIR for the Magnolia Tank Farm Project is available at: https://www.huntingtonbeachca.gov/government/departments/planning/major/files/Draft-EIR.pdf. The Magnolia Tank Farm Project is located within an area subject to the City's LCP. (See Magnolia Tank Farm Project EIR, p. 4.9-1.) The City certified the EIR for the Magnolia Tank Farm and approved that project on January 19, 2021. (See Notice of Determination, City of Huntington Beach (Jan. 19, 2021), available at: https://www.huntingtonbeachca.gov/government/departments/planning/major/files/Notice-of-Determination-January-19-2021.pdf.) It does not appear that the City's issuance of a CDP for the Magnolia Tank Farm Project was appealed to the Commission.

- Staff asserts that the Project would reduce public access to the shoreline and recreation on the beach due to the erosion-related exposure of intake and discharge pipelines running "several feet" beneath the beach. (Staff Report, p. 177.)

  Poseidon's Response:

  - As explained in Section E, *supra*, staff provides no evidence to support the assertion that coastal erosion is likely to expose the Project intake and discharge pipelines, thereby affecting public access. In reality, extreme coastal erosion would likely result in deeper burial of the infrastructure—not exposure. (GHD Technical Memorandum, pp. 1-2.)

  - Further, staff is correct that any exposure of intake and discharge pipeline, driven by erosion caused by sea-level rise, could be addressed via implementation of a Special Condition. (Staff Report, p. 177.) Accordingly, as part of Poseidon's proposed Special Condition 23, Poseidon would be required to conduct a visual assessment of the sand levels over the existing intake and outfall infrastructure access ports on the sandy beach twice per year, to ensure that Project components are not at risk of exposure due to coastal erosion. Further, Poseidon would be required to submit annual reports to the Executive Director identifying sand conditions over the past 12 months and whether corrective actions may be needed to avoid potential exposure and disruption to public access. If such corrective action is required, Poseidon will submit an application to amend its CDP, less the Executive Director determines that an amendment is not required.

K. Environmental Justice (Staff Report, pp. 178-191)

- A fundamental flaw in the Staff Report is the failure to appreciate ***California's record-breaking drought conditions that have lasted for three consecutive years***, ***which disproportionately and adversely impacts environmental justice communities throughout the State.*** This context is necessary to provide a complete picture of the potential environmental justice considerations associated with the Project. Extreme drought is testing the State's water supplies and resiliency like never before. Southern California is in desperate need of water, and if climate change impacts continue as Commission staff acknowledge in the Staff Report, the need for new drought resilient water supplies will only grow. California's current water conditions underscore the need for local drought proof water supplies, such as the desalinated water the Project would provide. In fact, Governor Newsom has urged the Commission to approve the Project because "[w]e need more tools in the damn took kit . . . What more evidence do you need

that you need to have more tools in the tool kit than what we've experienced? Seven out of the last 10 years have been severe drought."[80]

- There are two regional water supply agencies in Orange County: the Municipal Water District of Orange County ("MWDOC") and Orange County Water District ("OCWD"). MWDOC is a regional water wholesaler and resource planning agency. MWDOC manages Orange County's imported water supply, with the exception of water imported directly by the cities of Anaheim, Fullerton, and Santa Ana.[81] MWDOC provides imported water supplied by the Metropolitan Water District of Southern California ("MWD" or "Metropolitan") in Orange County to 28 retail water agencies. MWDOC is a member agency of Metropolitan, which is a "consortium of 26 cities and water agencies that provides supplemental water supplies to parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino and Ventura Counties … [with] two main sources of supply . . . the Colorado River and Sacramento-San Joaquin Bay-Delta."[82] OCWD manages the Santa Ana River, Orange County Groundwater Basin, and the Groundwater Replenishment System and imports MWD water through MWDOC. OCWD manages water supply for use by retail water districts, but it does not directly serve water to consumers or retailers. Nineteen municipal water departments and special water districts comprise the member agencies of OCWD.[83]

- MWD's 2020 Integrated Water Resources Plan Needs Assessment characterizes the "uncertain" future of Southern California's water supplies as follows:

> Higher temperatures in the Southwest have led to a dramatic reduction in Colorado River runoff this century. Variable weather in Northern California and stressed ecosystems have resulted in unprecedented low imports from the State Water Project (SWP). Likewise, in Southern California itself, less stormwater is percolating into groundwater basins, both from too much rain at times or not enough.[84]

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[80] Mercury News, Desalination project should be approved by California Coastal Commission, Gov. Gavin Newsom says (Apr. 29, 2022), available at https://www.mercurynews.com/2022/04/29/desalination-project-should-be-approved-by-california-coastal-commission-gov-gavin-newsom-says/.

[81] 2021 Regional Board Order, p. 8.

[82] *Id.*

[83] *Id.*

[84] MWD, 2020 IRP Regional Needs Assessment (April 2022), p. 1, available at https://www.mwdh2o.com/planning-for-tomorrow/how-we-plan/integrated-resource-plan/.

- Following several drought declarations for various regions in the State since April 2021, on October 19, 2021, Governor Gavin Newsom declared a state of emergency applying to all California counties due to worsening drought conditions.[85] The October 2021 Proclamation called on Californians to re-double their efforts to reduce water use by 15 percent and for local and regional water agencies to implement their Water Shortage Contingency Plans ("WSCPs") "at a level appropriate to local conditions that takes into account the possibility of a third consecutive dry year."[86]

    - These drought declarations often disproportionately impact people of color. For instance, environmental justice communities were disproportionately affected by Governor Brown's order calling for mandatory water reduction throughout the State in 2015.[87] "The research . . . shows that the emergency water restrictions implemented under Governor Jerry Brown's Executive Order . . . did not adversely affect communities with more-burdened populations (as measured by higher [Customer Effort] Scores), but did show ***high-confidence disproportionate negative consequences for Hispanic (and Other) populations even holding constant other factors such as income***." (Emphasis added [low-income and minority communities are less able to mitigate the impacts of water cutbacks through other means, are more likely to experience other water stressors, such as impaired water bodies and groundwater threats, and often end up with disproportionately lower water allowances].)

- On March 18, 2022, the California Department of Water Resources ("DWR") reduced the State Water Project ("SWP") allocation for 2022 from 15 to only five percent of contract amounts.[88] Such allocations for 2020 and 2021 were 20 and five percent, respectively.[89] The last three

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[85] Governor Gavin Newsom, Proclamation of a State of Emergency (October 19, 2021), available at https://www.gov.ca.gov/wp-content/uploads/2021/10/10.19.21-Drought-SOE-1.pdf.

[86] *Id.*, ¶ 8.

[87] See Kristoffer Wikstrom et al., *Environmental Inequities and Water Policy During a Drought: Burdened Communities, Minority Residents, and Cutback Assignments*, 36 Rev. of Pol'y Res. 4 (2018), available at https://onlinelibrary.wiley.com/doi/full/10.1111/ropr.12301.

[88] DWR, Notice to State Water Project Contractors (March 18, 2022), p. 1, available at https://resources.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/SWP-Water-Contractors/Files/22-03-2022-SWP-Allocation-Decrease-5-Percent-031822.pdf.

[89] MWD, April 26, 2020, Agenda Packet, p. 12, available at https://mwdh2o.legistar.com/View.ashx?M=PA&ID=955190&GUID=160A197C-697F-4B0C-AB4D-A35981E00CF4.

years marks the lowest three-year combined deliveries of allocated water in the history of the SWP.[90]

- On March 28, 2022, due to continuing and worsening drought conditions, including a record-breaking dry period in January and February, Governor Newsom issued Executive Order N-7-22, specifically requiring all urban water suppliers to implement, at a minimum, the response actions identified in their WSCPs for a shortage level of 20 percent (Level 2).[91] Executive Order N-7-22 also encouraged urban water suppliers to conserve more than the minimum required and to voluntarily activate more stringent local requirements based on a shortage level of up to 30 percent (Level 3).

- As a result of three consecutive years of low allocations of SWP water, on April 27, 2022, MWD (whose service area includes parts of Orange, Los Angeles, San Diego, Riverside, San Bernardino and Ventura counties), declared a water shortage emergency and adopted a framework for a water conservation program "to dramatically reduce water use in communities most affected by the state's historic drought."[92] The water shortage emergency requires water agencies dependent on SWP deliveries to cut water use immediately by implementing one-day-a-week watering restrictions.[93] MWD specifically found that insufficient supply exists this year to meet normal demand in the "SWP Dependent Area,"[94] necessitating the implementation of these restrictions. The SWP Dependent Area is the current portion of MWD's service area that can only receive the MWD's supplies from the SWP system – such areas, which do not include Orange County, have limited or no access to water supplies from the Colorado River.[95] Although MWD's action does not immediately affect Orange County, it underscores the need to develop alternative drought resilient water supplies that have the ability to provide a steady water supply when imported supplies from the SWP or the Colorado River are unavailable. As MWD explains, Southern California imports more than half of the water it uses.[96] MWD "bring[s] this water to

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[90] *Ibid.*

[91] Executive Order N-7-22, ¶ 3.

[92] See MWD, Metropolitan Cuts Outdoor Watering To One Day a Week for Six Million Southern Californians, available at https://www.mwdh2o.com/newsroom-press-releases/metropolitan-cuts-outdoor-watering-to-one-day-a-week-for-six-million-southern-californians/.

[93] *Ibid.*

[94] MWD, April 26, 2020, Agenda Packet, p. 3.

[95] *Id.*, p. 12; MWD Service Area (April 26, 2022) [depicting SWP Dependent Area], available at https://www.mwdh2o.com/media/22777/swp-dependent-area-map.pdf.

[96] See MWD, Our Foundation: Securing Our Imported Supplies, available at https://www.mwdh2o.com/planning-for-tomorrow/securing-our-imported-supplies/.

the region from two sources: the Sacramento and San Joaquin rivers, via the State Water Project, and the Colorado River, via the Colorado River Aqueduct." (*Ibid*.)

- Water supplies from the Colorado River – upon which Orange County partially relies – are facing extreme pressures, similar to the SWP. The river's two main storage reservoirs, Lake Mead and Lake Powell, are at historically low levels. In 2020, imported supplies from the Colorado River and the SWP water accounted for approximately 110,000 acre feet, or 26 percent of OCWD's water supply.[97] OCWD projects that demand for imported water will increase to approximately 123,000 acre-feet by 2040.[98]

- Under the Colorado River operation guidelines, normal operations can occur at Lake Mead if the Lake's water surface elevation is at or above 1,075 feet.[99] On August 16, 2021, the US Bureau of Reclamation announced the first-ever water shortage for the lower Colorado River basin due to historic drought and low runoff conditions in the Colorado River Basin. Due to dramatic declining water levels in Lake Mead (reaching below 1,075 feet mean sea level in May 2021), a tier 1 shortage was declared.[100] As such, Arizona, Nevada, and the country of Mexico are required to reduce their use of Colorado River water by 18%, 7%, and 5%, respectively. Lake Mead is the largest reservoir in the United States in terms of water storage capacity and a key source of water for California and the southwestern US. If Lake Mead water levels decline to below 1,045 feet, further use reductions will be imposed on Arizona and Nevada, and California will be forced to reduce its use as well. As a result of these "dangerously low levels of water in Lake Mead," California and other states agreed in December 2021 to drastically reduce the amount of water they take from the Colorado River.[101] "The Colorado River has been chronically overused, and its flows have shrunk dramatically over the last 22 years during a 'megadrought' that research shows has been worsened by global warming." (*Ibid*.) Under the two-year agreement, the three states agreed to conserve an additional 500,000 acre-feet per year that

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[97] OCWD Huntington Beach Ocean Desalination Project Presentation (May 15, 2020), p. 7, attached hereto as **Exhibit 13**.

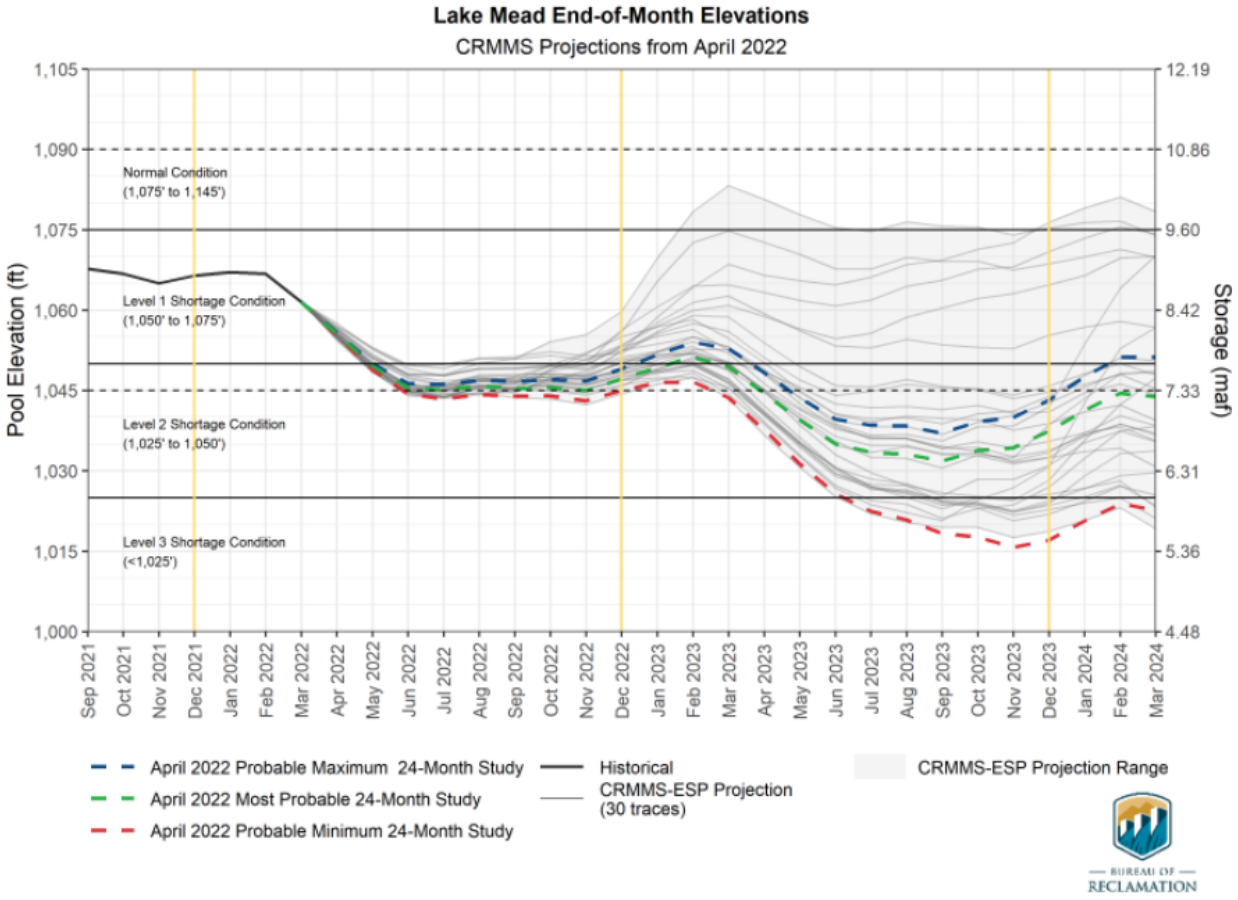
[98] *Id.* p. 8

[99] Interim Guidelines for the Operation of Lake Powell and Lake Mead, §2.A, available at https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.

[100] Bureau of Reclamation, Reclamation announces 2022 operating conditions for Lake Powell and Lake Mead (August 16, 2021), available at https://www.usbr.gov/newsroom/#/news-release/3950.

[101] LA Times, California, Arizona and Nevada agree to take less water form ailing Colorado River (Dec. 15, 2021); available at https://www.latimes.com/world-nation/story/2021-12-15/drought-colorado-river-water-agreement.

would remain in Lake Mead.[102] Despite that agreement, as of May 1, 2022, Lake Mead has declined to an unprecedented level of 1,055 feet.[103] As shown below, according to the Bureau of Reclamation's April 2022 projections of future Colorado River system conditions over the next 24 months, Lake Mead is expected to fall below 1,045 feet this summer under probable minimum conditions and next summer under all most probable scenarios.[104]



- Colorado River conditions also are deteriorating at Lake Powell. On April 8, 2022, the Department of Interior notified Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming that federal water managers are considering an emergency action to hold water back in Lake Powell in order to stabilize the reservoir and prevent it from losing the ability to generate hydropower for the City of Page, Arizona and the Navajo

[102] Bureau of Reclamation, Bipartisan Infrastructure Law provides for new investments on Colorado River (December 15, 2021), available at https://www.usbr.gov/newsroom/#/news-release/4056.

[103] Lake Mead Water Level (May 1, 2022), available at: http://mead.uslakes.info/level.asp.

[104] Bureau of Reclamation, 2-Year Probabilistic Projections (April 2020), available at: https://www.usbr.gov/lc/region/g4000/riverops/crmms-2year-projections.html

Nation.[105] Under the existing operating rules governing the Colorado River, the federal water managers are required to release 7.48 million acre-feet of water from Lake Powell downstream to Lake Mead. However, as a result of drought conditions and low water levels, federal water managers requested to hold back 480,000 acre-feet in Lake Powell.[106] On April 22, 2022, the states agreed to the withholding, but requested that the withholding be done in a way that does not trigger cutbacks to the state allocations at Lake Mead.[107] On May 3, 2022, the Department of Interior announced the release of nearly 1 million acre-feet of water from upstream reservoirs to be held at Lake Powell for hydroelectric generation, while also announcing that 480 thousand acre-feet will be withheld from being released to Lake Mead.[108] The Department of Interior noted that Lake Mead water users are implementing shortage provisions and are also creating additional conservation programs, however, given the ongoing shortfalls at Lake Mead, there is a risk of further cutbacks for Arizona, Nevada and California.

- Although droughts impact all Californians, environmental justice communities often feel the effects most acutely.[109] California's prior drought from 2012 to 2016 disproportionately affected rural farmworkers, communities of color in the Central Valley, and Indigenous communities.[110] Thus, water stress can result in profound environmental justice impacts throughout the State. If the Central Valley were able to use more of its own water, rather than sending it to Southern California, this could lessen the water stress in the Central Valley region and minimize the disproportionate impacts that water stress has on the communities of color and low-income communities living there. Similarly, if Orange County were able to offset imported water supplies with local water supplies such as desalination, this water could be made available to other communities in MWD's

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[105] Department of Interior, Operations Letter to Colorado River Basin States (April 8, 2022), available at: https://www.documentcloud.org/documents/21583992-2022-operations-letter-to-colorado-river-basin-states.

[106] Colorado River states agree to federal request to hold back water in Lake Powell (April 22, 2022), available at https://thenevadaindependent.com/article/colorado-river-states-agree-to-federal-request-to-hold-back-water-in-lake-powell.

[107] Colorado River Basin States, Letter to Department of Interior (April 22, 2022), available at https://www.documentcloud.org/documents/21714090-colorado-river-basin-states-letter-to-the-department-of-interior-42222.

[108] Reclamation's drought response actions will boost Lake Powell (May 3, 2022), available at https://www.usbr.gov/newsroom/#/news-release/4196.

[109] See Laura Feinstein et al., *The Environmental Justice Coalition in Water* (Jan. 2017) (describing generally how "low-income households, people of color, and communities already burdened with environmental pollution suffered the most severe impacts" from California's prior droughts).

[110] See Pria Mahadevan, C*alifornia Drought Emergency Puts the State's Vulnerable Communities at Risk*, Prism (Oct. 27, 2021), p. 1, available at https://prismreports.org/2021/10/27/californias-drought-emergency-puts-the-states-vulnerable-communities-at-risk-again/.

service area that rely almost exclusively on imported water supplies. For example, if OCWD had access to 56,000 acre-feet of water from the Project, then OCWD could reduce its reliance on Colorado River water from MWD through MWDOC.[111] With OCWD's demand on imported water reduced, MWD would have the ability to supply Colorado River Water to other inland communities in Riverside and San Bernardino counties.

- According to Wade Crowfoot, California's secretary for natural resources, California's water emergency clearly shows the climate crisis in action, which "[s]ome would consider [] a wake-up call. I disagree […] The alarm's already gone off."[112] In light of alarming drought conditions and limited water supplies, the Project fills an identified need for a locally controlled, drought-proof water supply. MWD's 2015 long-term Integrated Water Resources Plan ("2015 IRP") includes a local supply production goal of 2.4 million acre-feet by 2040.[113] To reach this goal, the 2015 IRP identifies the need to develop ***460,000 acre-feet of additional local supplies*** produced through existing and future projects.[114] Seawater desalination is included in the local supply production goal and the Project is listed in the 2015 IRP as a project that can help meet this MWD goal.[115] Further, numerous agencies and courts that have considered the Project to-date have confirmed that substantial evidence demonstrates a need for the Project. (See 2010 Draft SEIR, p. 3-80; 2017 Final SEIR, p. 11-19; 2021 Regional Board Order, Att. G.2, p. 7; *California Coastkeeper Alliance v. State Lands Commission* (2021) 64 Cal.App.5th 36.) The current drought and California's deteriorating water conditions greatly underscore the need for local drought proof water supplies, such as the Project. In addition, by providing a local water supply to Orange County and reducing Orange County's reliance on imported water, the Project could free up SWP or Colorado River supplies for other regions of the State, including environmental justice communities.

Staff Report Assertion:

- Staff contends that if OCWD approves a Water Purchase Agreement with Poseidon, the Project would likely impact environmental justice communities in OCWD's service area. (Staff Report, p. 179.) Staff identifies twenty-one

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[111] OCWD Huntington Beach Ocean Desalination Project Presentation (May 15, 2020), p. 9, attached as **Exhibit 13**.

[112] CNN, Officials worry Southern California won't have enough water to get through summer without unprecedented cuts (May 4, 2022), available at https://www.cnn.com/2022/05/04/us/california-drought-water-restrictions-climate/index.html.

[113] MWD, 2015 Integrated Water Resources Plan, p. 4.5, available at https://www.mwdh2o.com/media/15970/integrated-water-resources-plan-update-2015.pdf. The 2020 IRP is not yet complete, so it does not yet fully address the need for local water supplies.

[114] MWD, 2015 Integrated Resources Plan Overview, p. 1, available at https://www.mwdh2o.com/media/18776/wt_irp_overview.pdf.

[115] MWD, 2015 Integrated Water Resources Plan Technical Appendices, pp. 40, 90, available at https://www.mwdh2o.com/media/18034/2015-irp-update-tech-app-web.pdf.

Communities of Concern within OCWD's distribution territory, including cities that it claims could be impacted by the Project.[116] (*Id*., pp. 180-181.)

Poseidon's Response:

- The State Lands Commission evaluated the Project's potential environmental justice impacts in its approval of the 2017 SEIR. As the State Lands Commission explained, "[n]one of the census tracts closest to the [Project] contain a percentage of minority population that is greater than that of either the City or Orange County as a whole." (2017 Draft SEIR, p. 8-5.) "[T]he percentage of minority population living within the census tracts is significantly less than that of Orange County as a whole." (*Ibid*.) In addition, "none of the four census tracts nearest the [Project] contains a greater percentage of low-income population than that within either the City or Orange County as a whole." (*Id*., p. 8-6.) Therefore, the State Lands Commission concluded that none of the communities surrounding the Project contain minority or low-income populations of concern. (*Id*., pp. 8.5 to 8.6; see also SLC Staff Report (Oct. 19, 2017), p. 23.)

    - In fact, as the Staff Report recognizes, "***[m]uch of the housing surrounding the proposed project site consists of large two-story homes,*** and census tracts show ***a predominantly white population*** with a low overall composite CalEnviroScreen score ***and is not a low-income community***." (Staff Report, p. 184 [emphasis added].)

- In order to "find" an environmental justice concern, the Staff Report evaluates cities in OCWD's service area to identify communities of concern. Sixteen of the twenty-one cities staff identifies are located completely outside of the Coastal Zone. (See Staff Report, p. 185.) Staff's evaluation of the Project's potential environmental justice impacts outside of the Coastal Zone exceeds the Commission's jurisdiction. (See *Sierra Club v. Cal. Coastal Com.* (2005) 35 Cal.4th 839, 851-852.) Staff's consideration of environmental justice impacts should be limited to potential impacts within the Coastal Zone, consistent with staff's consideration of other Coastal Act and LCP policies in its Staff Report.

- Staff's approach to environmental justice here is inconsistent with Commission precedent. For example, when considering the Oxnard peaker plant, the Commission looked to the *immediate area* surrounding the project site when assessing construction and operational environmental justice impacts. (See Staff Report No. A-4-OXN-07-096 (Apr. 9, 2009),

[116] Staff identifies the following cities: Garden Grove, Stanton, Westminster, Orange, Villa Park, Tustin, Buena Park, La Palma, Placentia, Yorba Linda, Cypress, Los Alamitos, *Seal Beach, Huntington Beach, Irvine, Newport Beach*, Fountain Valley, *Costa Mesa*, Santa Ana, Anaheim, and Fullerton. (Staff Report, pp. 180-181.) Only those cities in italics are located within the Coastal Zone.

p. 77 ["[A]lthough nearly 80% of the population within the greater City if Oxnard is made up of minority groups . . . , it is more appropriate to consider the specific composition of the communities and populations within the immediate project area"].)

- The closest residential area to the Oxnard project had a population that was at least 80% white, and the nearest residential areas with a minority population greater than 40% were over 1.5 miles southeast of the project site. (*Ibid*.) The Commission concluded that "although the proposed project would not result in adverse impacts to human health or the environment, even under a worst-case scenario in which the closest residential community to the project site were to experience some adverse impact, this impact would not be disproportionately felt by a minority community." (*Ibid*.)

- Further, the Commission found that there are substantially fewer residential areas within a 3-mile radius of the Oxnard plant site that were below the poverty level than there were in Ventura County or the State generally. (*Ibid*.) Less than 6.5% of the population in the Oxnard Shores community was below the poverty level, which was also lower than the average for Ventura County (9.2%) and the State (14.2%) at the time. (*Ibid*.)

- Thus, "[o]verall, the Commission finds that the proposed project would not adversely affect human health or environmental resources within the project area and local community, that the residential area and community within the immediate vicinity of the proposed project is not comprised of a predominantly minority and/or low income population, and that these populations would not be disproportionately impacted." (*Id*., pp. 77-78.)

- Here, similar to the Commission's consideration of the Oxnard peaker plant CDP, the immediate area surrounding the Project site is not either a disadvantaged or overburdened community, as the State Lands Commission's evaluation demonstrates. (2017 Draft SEIR, pp. 8-5 to 8-6.)

- Further, at the present time, it remains uncertain how much the water will cost, how water agencies will use water produced by the Project, and to what extent water agencies would pass costs onto ratepayers after purchasing desalinated water. Thus, at this juncture, the Project's impact on ratepayers is wholly speculative. Nonetheless, as discussed below regarding water costs, OCWD estimates that the Project would increase average monthly water bills by $3-6, but that desalinated water to become cheaper than imported water over time. (2021 Regional Board Order, pp.

F-18 to F-19.) Poseidon does not expect this cost to increase materially as a result of Project modifications.

- In sum, the Staff Report inappropriately focuses its environmental justice analysis on communities wholly outside of the Coastal Zone and the Commission's jurisdiction. The State Lands Commission appropriately determined that none of the communities surround the Project site are environmental justice communities.

- However, if staff plans to assert that the Commission has the authority to consider environmental justice impacts on communities outside of the Coastal Zone – which it does not – then staff's analysis must be expanded to analyze those communities impacted by the ongoing severe drought. Without water from this Project offsetting the need for imported water supplies in Orange County, communities elsewhere in California without access to local supplies will continue to suffer from lack of access to reasonably priced water. As explained above, many of these inland, water-stressed communities are currently disproportionately impacted by environmental and economic stressors. As drought conditions worsen and cutbacks to deliveries from the SWP and Colorado River continue, these communities will continue to suffer disproportionately. Meanwhile, the areas in and around the Coastal Zone and the Project site are among the wealthiest and the whitest in the State.[117]

Staff Report Assertion:

- The Staff Report suggests that the Project will adversely affect nearby communities because the Project will be built in an area concentrated with industrial development and a history of contamination. (Staff Report, pp. 182-184 [citing the Orange County Wastewater Treatment Plant, Ascon landfill, and Magnolia Tank Farm remediation].)

Poseidon's Response:

- The Staff Report glosses over the fact that the site is already industrial and zoned industrial. (See 2010 Draft SEIR, p. 4.1-7 [Figure 4.1-1 Zoning Designations].) Further, the Ascon landfill is currently undergoing cleanup overseen by the California Department of Toxic Substances Control ("DTSC"). (See Staff Report, pp. 35-37.) DTSC approved the installation of a protective cap to cover the site after remediation, and once complete, the site would be planted with vegetation.[118] In addition, the Magnolia Tank Farm, once remediated, will be used for residential, retail, coastal conservation, and parkland. (See Poseidon CDP App., Att. 8, p. 46.) Accordingly, the historic contamination that staff represents to be

[117] See U.S. Census, Huntington Beach, California (last accessed May 2, 2022), available at https://www.census.gov/quickfacts/huntingtonbeachcitycalifornia.

[118] See Ascon Landfill, Final Environmental Impact Report (May 2015), p. 2-18.

adversely affecting nearby communities will be remediated, and the Project will not add industrial development in a manner inconsistent with the City's zoning or historic industrial use of the land. Moreover, as explained above, the immediate area surrounding the Project does not include Communities of Concern. (See 2017 Draft SEIR, pp. 8-5 to 8-6.)

1. Procedural Concerns

Staff Report Assertion:

- Staff claims that it has been challenging to conduct meaningful engagement on the Project's potential environmental justice impacts due to a lack of a final Water Purchase Agreement and uncertainty about where the water might be needed or used. (Staff Report, p. 185.)

Poseidon's Response:

- Staff omits that the public has had ample opportunity to comment on the Project during its nearly twenty-year permitting history. Further, to the extent staff is attempting to conduct outreach to OCWD ratepayers, such an effort is premature. As staff recognizes, it remains uncertain how much the water will cost, how that cost will compare relative to the ongoing rising price of water due to the drought, how water agencies will use water produced by the Project, and to what extent water agencies would pass costs onto ratepayers after purchasing desalinated water. Nevertheless, as proposed in Special Condition 28, Poseidon is committed to conducting outreach to disadvantaged communities while it negotiates a Water Purchase Agreement with OCWD and while it continues with Project development to ensure affected ratepayers and local community members can be engaged and have a voice in the process.

Staff Report Assertion:

- The Staff Report notes that stakeholders felt frustrated with how previous permitting proceedings were conducted and felt that relevant materials were not readily accessible. (Staff Report, pp. 185-186.) In particular, staff requests that Poseidon translate certain materials into Spanish so that Spanish-speaking stakeholders can participate in the proceedings. (*Id*., p. 186.)

Poseidon's Response:

- Poseidon appreciates staff's outreach to all interested parties. As staff requested, Poseidon translated its application and the Staff Report into Spanish, and will provide Spanish translation services at the hearing to ensure that Spanish-speaking stakeholders can participate in the public process.

2. Substantive Concerns

Staff Report Assertion:

- According to the Staff Report, the substantive environmental justice considerations fall into one of three categories: (1) burdens associated with increased water costs; (2) concerns about beach access; and (3) benefits from increased jobs and a more secure water source. (Staff Report, p. 187.)

Poseidon's Response:

- Staff emphasizes the cost of the product water and impacts to ratepayers—which are wholly speculative at this time—and minimizes the importance of creating a drought-proof water supply given current extreme drought conditions. Indeed, the Staff Report devotes only a single paragraph to the Project's benefits of job creation and providing a secure, additional, water source in a time of historic drought. (See Staff Report, p. 191.) As explained elsewhere in this response, the Project will reduce Orange County's need to import water from the Colorado River and other sources. (See 2010 Draft SEIR, p. 3-80; 2017 Draft SEIR, p. 2-3.) Orange County's reduced need for imported water supplies in turn assists economically disadvantaged communities in other parts of the region that rely on imported water supplies and who are not geographically or economically positioned to develop an alternative water supply.

a. Substantive Concerns – Water Costs

Staff Report Assertion:

- Citing Poseidon's estimates, staff notes that the expected additional cost per household of the desalinated water would be $5 to $7 a month. (Staff Report, p. 188.) However, staff claims that this estimate does not include costs for additional infrastructure, mitigation, and construction to meet more stringent building standards. (*Ibid*.) According to staff, the estimates for additional infrastructure costs alone range from about $200-$350 million. (*Ibid*.)

Poseidon's Response:

- During the Regional Board process, OCWD estimated that the Project would result in an initial rate increase of only $3-6 per month per water customer. (See 2021 Regional Board Order, pp. F-18 to F-19.) Poseidon does not expect this cost to increase materially as a result of Project modifications discussed in Section F.3. Nonetheless, as the Regional Board explained in its Human Right to Water Policy findings, OCWD has explained that, "at some point in the future the cost of desalinated water will be ***cheaper*** than imported water, thus affording a cost savings for customers in the future." (See 2021 Regional Board Order, pp. F-18 to F-

19 [emphasis added].) Staff appears to disregard the fundamental fact that Poseidon does not provide water to ratepayers or set the rate for water paid by those customers. Rather, it is water agencies that provide water to their customers, and any rate increases are subject to review and approval by the elected board of directors at a public hearing.

- While the Staff Report expresses concern over the Project's minor increase in water rates, the Commission previously has endorsed much more substantial increases in water rates in other jurisdictions. In fact, in 2019, the Commission approved a water reclamation project in Morro Bay that would result in a $41 increase per month in customer water bills despite potential environmental justice concerns. (See CDP No. 3-19-0463 (2019), pp. 62-63.) The Commission determined that the project would result in the $41 monthly surcharge to Morro Bay residents and thus would disproportionately impact low-income ratepayers. (*Ibid*.) Nevertheless, the Commission found that the project was consistent with the Commission's Environmental Justice Policy and was necessary to provide a safe and reliable water supply to the City of Morro Bay. (*Ibid*.) In comparison, the Project would only result in a $3-6 per month increase if OCWD decides to distribute the desalinated water directly to rate-paying customers. (2021 Regional Board Order, pp. F-18 to F-19.)

- Finally, the Staff Report inappropriately relies on an outdated 2017 study by South Coast Water District ("SCWD") regarding the Doheny desalination plant for the proposition that the Project's water costs are expensive and thus could result in environmental justice impacts. (See Staff Report, p. 188.) In particular, the Staff Report notes that the cost of Doheny water would be only $1,540 per acre-foot, whereas Poseidon's water would be more expensive at $2,100 per acre foot. (*Ibid*.) However, SCWD has done multiple water pricing studies over the years because the scope of the Doheny project keeps changing. For instance, recent estimates of a 2 mgd Doheny plant shows $1,928 per acre-foot. Further, SCWD has employed aggressive assumptions in analyzing water costs, including that 25% of the water would be "free," paid for by grant funding.[119] Therefore, the cost of water from the Doheny and Poseidon desalination plants would be comparable, contrary to staff's suggestion.

Staff Report Assertion:

- Staff claims that the Project would reduce the amount of lower-cost water that OCWD currently purchases through MWD. (Staff Report, p. 188.)

[119] See Doheny Desalination Project, Water Cost Analysis, Summary of Findings (Sept. 2, 2021), attached as **Exhibit 14**.

Poseidon's Response:

- Staff fails to appreciate that imported water from MWD may not be available in the necessary quantities in the future. As explained above, MWD declared a water shortage emergency on April 27, 2022, given the record-breaking drought conditions California is currently experiencing. Although MWD's water restrictions do not yet extend to Orange County, continued water supplies from MWD at current levels are far from certain. Indeed, MWD has historically maintained the need for local water supplies to reduce imported water demand. "Metropolitan supports the development of local projects such as the Huntington Beach Seawater Desalination Project" because it would "help increase local supplies and reduce Southern California's reliance on imported water supplies to meet expected future demands." (Letter from MWD to Governor Newsom (Oct. 2, 2017).)

- Regardless, OCWD projects desalinated water to become cheaper than imported water over time. (See 2021 Regional Board Order, pp. F-18 to F.19 [noting that OCWD projects "in the future the cost of desalinated water will be cheaper than imported water, thus affording a cost savings for customers in the future."].)

Staff Report Assertion:

- Staff suggests that higher water rates would disproportionately impact low-income ratepayers, in part because there are "a very limited number of low-income water rate assistance programs offered by retail water agencies and city water departments." (Staff Report, p. 188.)

Poseidon's Response:

- Poseidon does not control or have influence over the rates that local water agencies charge to their customers, and it remains up to those agencies when and if to consider adopting rate increases. It is premature and speculative to assume that the Project would result in higher rates that disproportionately affect low-income ratepayers. Nonetheless, at least 5 OCWD member agencies offer customer assistance programs to help eligible low-income customers.[120] Moreover, starting in June 2022, the California Department of Community Services and Development will provide a Low Income Household Water Assistance Program to provide financial assistance to low-income Californians to help manage their residential water utility costs.[121] This federal program was established in December 2020 and is designed help low-income households pay down

[120] Survey of OCWD Member Agencies Ratepayer Assistance Programs, attached as **Exhibit 15**.

[121] California Department of Community Services and Development, Low Income Household Water Assistance Program, available at https://csd.ca.gov/waterbill.

their outstanding water bills. California has been allocated $116 million for this program.[122]

Staff Report Assertion:

- Staff cites a 2019 UCLA study that analyzed the potential impacts of a proposed agreement between Poseidon and OCWD for 30 years for the proposition that a more cost-effective approach would involve increased conservation and alternative local water supplies, such as water recycling. (Staff Report, pp. 189-190.)

  Poseidon's Response:

  - As an initial matter, this 2019 UCLA study is not new. The Regional Board considered the study during its proceedings on the Project and confirmed that it does not change the need for the Project. (See Regional Board, Responses to Comments, pp. 344-345.)

  - Likewise, conservation as an approach to fulfill Orange County's water needs is not new and was rejected by the Regional Board. The Regional Board, the agency charged with assessing need for desalinated water under the Desalination Amendment,[123] acknowledged that "water conservation is an important aspect of reducing the overall water demand in our region. However, ***the water demands in the future cannot be met only by water conservation.*** The water agencies' planning documents indicate the need for new sources of reliable water supplies in the future and demand project[ion]s rely on water conservation practices." (Regional Board Responses to Comments (July 21, 2020), p. 116 [emphasis added].) Further, the Regional Board explained that "OCWD and MWDOC, as the relevant water planning agencies, have taken into account water conservation actions in developing their water portfolios." (*Id*., p. 122.)

    - For example, a close review of MWDOC's projections demonstrate that it is not technically feasible or helpful to add an extra 56,000 AFY to the annual conservation that is already occurring and planned for in Orange County. MWDOC's 2018 Reliability Study assumed that water agencies would ask their customers to reduce water use by 10% every 20 years. (2018 Reliability Study, p. 1-6.) MWDOC found that with demand hardening, this was a reasonable working limit. Demand hardening occurs because the successful implementation of water conservation devices (e.g., water efficient plumbing codes, conservation mandates, utility rebates etc.) make it harder to conserve additional water. Thus, as MWDOC's study recognizes, there are limits to

[122] California Department of Community Services and Development, Low Income Household Water Assistance Program Overview, available at https://www.csd.ca.gov/Pages/LIHWAP.aspx.

[123] See Desalination Amendment, Ch. III.M.2.b.(2).

conservation and additional supplies are needed to close Orange County's water supply gaps. Further, there are economic and social costs associated with mandatory conservation, such as costs of replacing landscapes, potential impacts to the economy from businesses leaving the area due to reliability issues, and impacts to quality of life that are difficult to quantify. (*Id.* at Appendix H – Comments on the Draft Study Presentations and Draft Documentation - MWDOC letter to Member Agencies, p. 11.) In addition, as described above, mandatory conservation requirements during droughts have disproportionate impacts on environmental justice communities that are less able to mitigate the impacts of mandatory water cutbacks through other means.[124]

- Moreover, OCWD has stated that the proposed GWRS expansion to increased recycled water supplies does not obviate the need for desalination. "OCWD included the GWRS expansion in its assessment of its water supply needs and stated that ***the desalinated water is needed to increase water supply reliability***." (Regional Board Responses to Comments (July 21, 2020), p. 239 [emphasis added].) Notably, water conservation reduces the amount of water available for water recycling projects, like the GWRS, because less water consumption means less wastewater to recycle.[125]

- Nor is MWD's proposed potable Regional Recycled Water Project in Carson a viable option. The Carson project is far from shovel ready. As MWD's website explains, "[e]nvironmental planning [is] in progress from 2021 to 2024. Once approved, design and construction will follow for an estimated eight years."[126] The Regional Board explained that "the Carson project is still in the planning stages—the project needs to undergo CEQA review and [MWD] needs to approve the project before it goes forward." (Regional Board Responses to Comments (July 21, 2020), p. 239.) Further, the Carson project has not solidified funding,[127] making it unclear at this point how the $3.4 billion project could be financed. Thus, the Carson project will take a *at least a decade* to become operational.

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[124] Kristoffer Wikstrom et al., *Environmental Inequities and Water Policy During a Drought: Burdened Communities, Minority Residents, and Cutback Assignments*, 36 Rev. of Pol'y Res. 4 (2018), available at https://onlinelibrary.wiley.com/doi/full/10.1111/ropr.12301.

[125] Dr. Kurt Schwabe, The Unintended Consequences of Water Conservation (July 18, 2018), available at https://mavensnotebook.com/2018/07/18/the-unintended-consequences-of-water-conservation/.

[126] MWD, *Expanding Local Resources*, available at https://www.mwdh2o.com/planning-for-tomorrow/building-local-supplies/regional-recycled-water-program/.

[127] MWD, *Regional Recycled Water Program Update*, slide 15, available at https://www.mwdh2o.com/media/22575/rrwp_update_mar2022.pdf.

- In addition, as the name suggests, water reuse projects require the availability of source water that comes from resident and business use, which can then be reused. Such projects do not create new sources of potable water; they only recycle water that has already been imported into Orange County or extracted from groundwater to make it potable. Therefore, the source waters for a water reuse project are not entirely drought resilient. Unlike the Project, the Carson reuse project would not provide a new source of climate-resilient water supply.

- Finally, the Carson project is intended to serve primarily Los Angeles County. To that end, "OCWD has [] stated that it does not necessarily see the Carson project as an additional supply because it may not extend to Orange County and the cost of water is uncertain." (Regional Board Responses to Comments, p. 239; see also OCWD Presentation to Regional Board (May 15, 2020), slide 16 ["MWD Carson Regional Recycled Water Project not extended to Orange County"].)

- In sum, neither water conservation nor recycled water projects are enough to fulfill Orange County's long-term water needs and meet reliability goals. The Project remains needed to serve Orange County.

Staff Report Assertion:

- Staff contends that the increased water costs from what was estimated for the Carlsbad desalination plant suggest a similar trend could occur with this Project. (See Staff Report, p. 190.) Staff notes that in 2008, Poseidon estimated that the price of water would be approximately $950 per acre-foot, whereas recent reports from the San Diego County Water Authority estimate that year 2019/2020 costs would be $2,817 per acre foot. (*Ibid*.)

Poseidon's Response:

- The Staff Report ignores the considerations that factor into the Carlsbad facility's cost of water and that factored into the Water Purchase Agreement with the San Diego County Water Authority, which wasn't finalized until December 2012. When Carlsbad started operating in 2015, the cost of water was $2,091 per acre-foot. Accounting for year-over-year average regional inflation, increases in electricity prices, and contractual price adjustments have led to an overall increase in the cost of water as designed under the terms of the Water Purchase Agreement. While it is possible a similar trend could occur with Huntington Beach, that is speculative. Further, a per-acre-foot cost of water does not necessarily translate directly into a cost per water consumer.

b. Substantive Concerns – Beach Access and Subsistence Fishing

Staff Report Assertion:

- The Staff Report represents that environmental justice groups have raised concerns about the Project's impacts to marine life, particularly for substance fishermen. (Staff Report, p. 190.)

Poseidon's Response:

- There is no evidence that the Project would impact recreational fishing. The Project's operations will only impact a fraction of the larvae in the water column and will not substantially reduce populations of affected species or affect the ability of such species to sustain their populations. (2017 Draft SEIR, pp. 4-55 to 4-63; 2017 Final SEIR, pp. 11-34 to 11-36.) Therefore, no significant impacts to fishing opportunities would occur. Further, the Project's approved marine life mitigation projects will restore and create new fish habitat, helping sustain and restore fish populations in the region.

Staff Report Assertion:

- Staff represents that community members have raised concerns about Junior Lifeguards training in close proximity to the Project and the Project's potential impacts to public access. (Staff Report, p. 190.)

Poseidon's Response:

- There is also no evidence that the Project would result in health-related impacts to swimmers or the Junior Lifeguards. The California Ocean Plan identifies water contact recreation as a beneficial use of the Pacific Ocean. The Ocean Plan also establishes a receiving water limitation of a daily maximum of 2.0 parts per thousand above natural salinity at the edge of the BMZ, which is not to exceed 328 feet from the discharge point for desalination plant brine discharge. (Desalination Amendment, Ch. III.M.3.b(2).) Here, the Project's BMZ is anticipated to be 63.2 feet—substantially less than permitted by the Ocean Plan. (2020 Regional Board Addendum, p. 22.) There is also no evidence that the brine, even within the BMZ or directly adjacent to the diffuser, poses any health risk to swimmers or other recreational ocean users. Notably, the Project's brine diffuser is also located 1,500 feet offshore—far from most typical ocean recreational activities. Therefore, the Project is not likely to have any impacts on swimmers or Junior Lifeguards.

c. Substantive Concerns – Jobs and Secure Water Source

Staff Report Assertion:

- Staff claims that although some Project proponents believe the initial costs to ratepayers will be outweighed by the benefits of jobs and a secure water source, "there is no guarantee EJ communities would experience these benefits." (Staff Report, p. 191.)

  Poseidon's Response:

  - Staff's assumption that the Project will not benefit environmental justice communities is wholly unfounded. As described in detail above, the Project will reduce Orange County's need to import water from the Colorado River, and other sources. (See also 2010 SEIR, p. 3-80; 2017 SEIR, p. 2-3.) This benefits all Orange County residents, including communities of concern. Water is a significant societal and economic resource, and the Project will supply billions of gallons of fresh drinking water to Californians. In addition, Orange County's reduced need for imported water in turn benefits inland communities in other parts of the State that need water, have no access to desalinated water, and may be able to receive increased allocations of water that is no longer needed in Orange County.

  - Further, the Project will create approximately 3,000 direct, indirect, and induced jobs during the 48-month construction period. (See Regional Economic Impacts of Huntington Beach Desalination Plant (Apr. 2020), p. 2, attached as **Exhibit 16**.) Construction jobs would be high-paying, and Project construction would generate approximately $70 million in indirect business tax revenue. (*Ibid*.) Economic activity stemming from Project operation would generate approximately $11.4 million in indirect business tax revenue for the region. (*Id*., p. 7.)

    - For instance, the Orange County Hispanic Chamber of Commerce has commented that the Project "would expand the income potential of Hispanic businesses to enhance the quality of life of the Hispanic community, resulting in increased economic activity directly benefiting the local community through job creation and investment in goods and services. The Chamber noted that approximately 3,000 construction jobs would be created, many of which could be filled by Hispanics, stimulating the local economy and enhancing the quality of life."[128]

  - Therefore, the Project will have significant benefits to Orange County residents, including low-income and minority communities, by providing a drought proof water supply and high paying jobs.

L. Coastal-Dependent Industrial Facility Override (Staff Report, pp. 192-202)

[128] State Lands Commission, Staff Report No. 97, Public Trust Findings (Oct. 2017), p. 22.

Staff Report Assertion:

- The Staff Report contends that the Project is inconsistent with Coastal Act or LCP policies regarding "marine life, geologic and coastal hazards, wetlands, and others." (Staff Report, p. 194.)

  Poseidon's Response:

  - As explained throughout this Response, Project is consistent with Coastal Act and LCP policies. (See, e.g., Sections C to G *supra*; see also Poseidon CDP Application, Att. 9 [Coastal Act and LCP Consistency Analysis].) As such, the Commission can approve the Project without relying on Coastal Act Section 30260 or LCP Policy C 8.2.4. Nonetheless, as explained below, the Project satisfies the three prongs of Section 30260 such that the Commission may approve the Project.

Staff Report Assertion:

- The Staff Report claims that the City's LCP only allows overriding LCP inconsistencies for coastal-dependent energy facilities—not "other types of coastal dependent industrial facilities." (Staff Report, p. 194 [citing LCP Policy C8.2.4].) According to staff, because the Project is not an energy facility, the Commission cannot override LCP inconsistencies. (*Ibid*.)

  Poseidon's Response:

  - Staff's claim is neither supported by the LCP nor Commission precedent. First, the Staff Report's strained reading of LCP Policy C8.2.4 is undermined by the LCP itself. LCP Policy C8.2.4 falls under the section of the LCP that is focused on permitting energy facilities; therefore, it is not surprising that the discussion of Section 30260 in this portion of the LCP is focused on energy facilities. A reasonable interpretation of LCP Policy C8.2.4 is that it merely authorizes the City to rely on Coastal Act Section 30260 when considering coastal-dependent energy facilities. It does not limit the City's reliance on Section 30260 to energy facilities, or preclude the application of Section 30260 to other coastal dependent uses.

    - Notably, other sections of the LCP expressly permit the City to rely on "Sections 30260-30264 of the Coastal Act for **coastal dependent and** energy uses." (See, e.g., LCP Policy C7.2.6 allowing the application of Section 30260 in relation to ESHA and wetlands (emphasis added).) Therefore, the LCP expressly recognizes that Section 30260 can be applied to coastal dependent uses that are distinct from energy uses, since the word "and" separates and distinguishes between the two types of uses.

- Further, by citing to Section 30260, and not expressly limiting its application, the LCP incorporates the full text of Section 30260. Section 30260 is not limited to energy facilities. Rather, it applies to "coastal-dependent industrial facilities." (See Pub. Resources Code, § 30260.) In fact, Coastal Zoning Ordinance ("CZO") Section 216.20 explicitly refers to "coastal dependent industrial facilities." (See CZO, § 216.20 ["Prior to coastal dependent industrial facilities being approved," the City must find that alternative locations are infeasible or more environmentally damaging, that locating the development elsewhere would adversely affect the public welfare, and that impacts have been mitigated to the maximum extent feasible].)

- Therefore, reading the LCP policies in harmony demonstrates that the City may rely on Section 30260 when considering coastal-dependent industrial facilities that are not energy facilities.

- Further, where an LCP is ambiguous as to its incorporation of Section 30260, the Commission previously has taken the position that Section 30260 as set forth in the Coastal Act applies in the LCP area. "[I]t is appropriate to use Coastal Act provisions to resolve such ambiguity because provisions of an LCP must be consistent with Coastal Act requirements." (See Commission Response Brief, *Marina Coast Water Dist. v. Cal. Coastal Com.*, Sixth Dist. Court of Appeal, Case No. H042742 (Feb. 19, 2016), p. 27 [citing *McAllister v. Cal. Coastal Com.* (2009) 169 Cal.App.4th 921, 931], attached as **Exhibit 17**.) The Court of Appeal upheld the Commission's approach. (See *Marina Coast Water Dist. v. Cal. Coastal Com*. (2016) 2016 WL 6267909, at *12 ["[T]he Coastal Commission maintains that it may properly consider section 30260 in its interpretation of the LCP and its interpretation is entitled to deference. We agree."].) The Court of Appeal explained that the "fundamental purpose of the Coastal Act is to ensure that state policies prevail over the concerns of local government" because LCPs "are not solely a matter of local law, but embody state policy." (*Id.*, p. *13.) As such, LCPs must conform to and be interpreted consistent with the policies of the Coastal Act – including Section 30260. (*Ibid*.)

- Therefore, under *Marina Coast Water District*, and in light of the plain language of the LCP, the Commission must interpret the City's LCP consistent with Section 30260 and find that the LCP authorizes approval of coastal-dependent industrial facilities where those facilities may be inconsistent with other LCP or Coastal Act policies.

Staff Report Assertion:

- The Staff Report contends that other similar override provisions do not apply, such as City CZO Section 216.08 and LCP Policy C7.2.6.[129] (Staff Report, p. 194.)

Poseidon's Response:

- Poseidon does not dispute that the Project is not on property zoned Coastal Conservation, such that CZO Section 216.08 would apply. Nor does Poseidon contend that LCP Policy C7.2.6 applies, as Poseidon is not proposing the construction of roads. Because the Commission may rely on Section 30260, CZO Section 216.08 and LCP Policy C7.2.6 are irrelevant here.

Staff Report Assertion:

- The Staff Report asserts that even if the Commission could rely on the Coastal Act Section 30260 override, the Project is not a coastal-dependent industrial facility and the three prongs have not been met. (Staff Report, p. 194.)

Poseidon's Response:

- The Commission need not rely on Section 30260 to approve the Project because the Project complies with the City's LCP—the City approved a local CDP in 2010 confirming the Project's consistency with LCP policies—and applicable Coastal Act policies. (See Poseidon CDP Application, Att. 9 [Coastal Act and LCP Consistency Analysis].) Nonetheless, as described below, the Project constitutes a coastal-dependent industrial facility because it must be located next to the sea to function, and the three prongs of Section 30260 have been satisfied.

1. Coastal-Dependent Industrial Facility

Staff Report Assertion:

- The Staff Report acknowledges that the Project is an industrial facility for purposes of Section 30260. (Staff Report, pp. 194-195 [citing Regional Board's determination that the Project would involve the industrial processing of water; the fact that some Project components would be built on currently active industrial sites; and the Court of Appeal's decision in *Marina Coast Water District v. Cal. Coastal Com.*, 2016 WL 6267909].)

Poseidon's Response:

[129] CZO Section 216.08, which governs the development of properties zoned Coastal Conservation, authorizes new or expanded energy and coastal-dependent industrial facilities if Coastal Act Section 30260 is satisfied. LCP Policy C7.2.6 permits the filling of wetlands for the construction of roads appurtenant to energy or coastal-dependent industrial facilities.

- Poseidon agrees that the Project is an industrial facility. (See, e.g., 2021 Regional Board Order, p. A-3 [defining "Desalination Facility" as an "[i]ndustrial facility that processes water to remove salts and other compounds from the source water to produce water that is less saline than the source water"].)

Staff Report Assertion:

- The Staff Report recognizes that the Project's intake and outfall components are coastal-dependent "because they require a site on and adjacent to the sea in order to be able to pull in ocean water for the desalination plant and to send processed brine back to the sea, where it is diffused and mixed back into the ocean water." (Staff Report, p. 195.)

Poseidon's Response:

- Poseidon agrees that the intake and outfall infrastructure are coastal-dependent.

Staff Report Assertion:

- The Staff Report contends that the "land-based desalination facility itself does not require a site on or adjacent to the ocean to function at all," and, thus, is not coastal-dependent. (Staff Report, p. 196.) According to staff, "[m]any desalination facilities are located, or have been proposed, at inland locations where the source water is brackish water, groundwater, reclaimed water, or similar sources other than seawater." (*Ibid*.)

Poseidon's Response:

- Staff ignores that in 2007, Commission staff determined the Carlsbad Desalination Project to be "coastal-dependent" pursuant to Coastal Act Section 30101, which defines a coastal-dependent development or use as that which "requires a site on or adjacent to the sea to be able to function at all."[130] Specifically, the Commission found that "[b]ecause the proposal would be a coastal-dependent industrial facility, the Commission may apply Section 30260 to 'override' [the identified] inconsistencies and nonetheless approve the project if the three tests of Section 30260 can be met." (*Id*., p. 71.)[131]

- Consistent with staff's approach for the Carlsbad Desalination Project, the Project here is a coastal-dependent industrial facility; it is not simply

[130] See Commission Staff Report, E-06-013 (Nov. 2, 2007), pp. 68, 71, available at https://documents.coastal.ca.gov/reports/2007/11/Th7a-11-2007.pdf.

[131] In addition, the San Diego Superior Court upheld the Commission's Section 30260 determinations regarding the Carlsbad Desalination Project. (See May 7, 2009, Statement of Decision, attached hereto as **Exhibit 18**.)

"coastal-related," as staff now contends. (See Staff Report, p. 196.) Seawater desalination facilities fall within the Coastal Act's definition of "coastal-dependent" because they require "a site on, or adjacent to the sea" in order to draw seawater into the plant. (Pub. Resources Code, § 30101.)

- To suggest that the Project is not coastal-dependent because only the intake and outfall components require a coastal site is inconsistent with examples of other industrial facilities identified as coastal-dependent in the Coastal Act. (See *id.*, § 30001.2.) Under staff's reasoning, electric generating facilities, refineries, and liquefied natural gas ("LNG") facilities should not be considered coastal-dependent because these land uses theoretically can be sited outside the Coastal Zone. But that reasoning conflicts with express language in Coastal Act Section 30001.2. Specifically, Section 30001.2 reasons that locating these industrial facilities within the Coastal Zone "may be necessary … in order to ensure that inland as well as coastal resources are preserved and that orderly economic development proceeds within the state."

- Here, the source material of a desalination plant is the ocean water itself. The Project will rely on existing pipeline infrastructure from the AES Huntington Beach Generating Station, which is a coastal-dependent power plant,[132] in order to extract the ocean water and discharge brine. A finding that this Project is not coastal-dependent and thus is able to relocate inland would result in additional environmental impacts from an increase in construction impacts related to installing miles of pipeline, an increase in electric power demands associated with pumping, and an increase in air pollution and other environmental impacts.[133] Consistent with the intent of Coastal Act Section 30001.2, one of the reasons for locating the Project at the site of the existing AES Huntington Beach Generating Station is to enable orderly economic development by utilizing existing, developed infrastructure and avoiding economic and environmental waste of attempting to duplicate that existing infrastructure elsewhere.

- Therefore, just like other ocean-resource dependent industrial facilities like refineries and LNG facilities that are specifically identified in Coastal Act Section 30001.2, the Coastal Act Section 30260 override is available and applicable to the Project – a seawater desalination facility sited to utilize existing infrastructure – to the extent the Project is found to be inconsistent with Coastal Act or LCP policies (which it is not).

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[132] The Commission's *Designation of Coastal Zone Areas Where Construction of An Electric Power Plant Would Prevent Achievement of the Objectives of the California Coastal Act of 1986* (Adopted September 1978; Re-Adopted December 1985) identifies the AES Huntington Beach Generating Station as one of 19 existing coastal power plants.
[133] Further, moving the Project inland would place the Project closer to the NIFZ fault and the APFZ described in Section C above, potentially making the Project more vulnerable to seismic risks.

2. Section 30260 Override

a. Prong #1: Alternative Locations Are Infeasible or More Environmentally Damaging

Staff Report Assertion:

- The Staff Report asserts that the City dismissed alternative sites because they would not address the only unavoidable, significant impact that the City had identified for the Project—short-term air quality impacts from construction. According to staff, the City did not consider alternative sites that would address sea level rise, flooding, or other hazards. (Staff Report, p. 198.) Staff mischaracterizes the scope of the City's analysis.

Poseidon's Response:

- In the 2010 SEIR, the City evaluated locations inside and outside the City and concluded, based on substantial evidence, that alternative locations were infeasible due to land use, project-sizing, technical/engineering, and environmental impact reasons. The City conducted a preliminary investigation of available land 5-acres or larger within a 2-mile radius of the Huntington Beach Generating Station. (2010 Draft SEIR, p. 6-8; see also 2010 Draft SEIR, Appx. Z.) This investigation yielded public parks, wetlands, and a former landfill. However, none of these sites were available or feasible for the development of a desalination facility. (*Ibid*.) The City also identified locations outside City limits, but concluded these locations were infeasible because they would result in *greater* environmental impacts compared to the Project, including "significant aesthetic and/or marine biological impacts" due to the need to create a new ocean intake and outfall. (2010 Draft SEIR, pp. 6-8 to 6-13.)

- Further, in 2015, Dudek conducted a two-part Alternative Sites Analysis for the Project that analyzed fourteen available sites along the entirety of the Orange County coast. (See Dudek, Alternative Sites Analysis (June 11, 2015), attached as **Exhibit 19**.) Dudek first assessed the suitability of alternative sites based on potential impacts to biological and marine sources. (See *id*., p. 1.) After eliminating infeasible locations, Dudek assessed the remaining locations for potential onshore, land-side impacts. (*Ibid*.) Dudek ultimately concluded that the proposed site was the most feasible for siting a 50 MGD desalination plant. (See *id*., pp. 87-91 [describing the conclusions of Dudek's availability and feasibility analyses for all fourteen sites].)

- Staff also ignores that the Regional Board, as part of its Water Code Section 13142.5(b) obligations, evaluated alternative locations for the Project and confirmed the City's conclusions. (See 2021 Regional Board Order, Att. G.1 – Narrowing of Sites.) The Regional Board reviewed

Poseidon's expert submittals and "analyses provided by the Neutral Third Party Reviewer" regarding "nine (9) alternative segments along the Orange County coast . . . , five (5) alternative onshore locations for the desalination treatment facility . . . , and [three (3)] subsurface intake stations." (*Id*., p. G.1-2 [referring to 2015 Dudek Alternative Sites Analysis].) Based on substantial evidence in the record, the Regional Board appropriately determined that the Project's location "***is the best onshore location for the desalination facility and . . . for an offshore seawater surface intake and discharge location***." (*Ibid*. [emphasis added].)

Staff Report Assertion:

- Although the Staff Report acknowledges that the Regional Board considered alternative sites, it claims the Regional Board did not consider alternative sites that might support a smaller facility. (*Ibid*.)

Poseidon's Response:

- The Staff Report neglects to mention that a smaller facility has been repeatedly considered and rejected by other agencies because it would fail to meet Orange County's water supply needs.

- The 2010 SEIR considered a smaller alternative desalination facility to meet Orange County's needs and determined that a 25 mgd facility would not significantly reduce potential environmental impacts as compared to the Project. (2010 Draft SEIR, p. 6-43; see also 2017 Draft SEIR, p. 5-8.) Moreover, the 25 mgd facility would substantially increase the cost of the desalinated water because the smaller alternative would require much of the same infrastructure and capital construction, but would produce much less water. (2010 Draft SEIR, p. 6-43.) Consequently, the City found that the 25 mgd alternative would not achieve the Project objectives to provide a sufficient amount of water that would meet the future water needs projected by Orange County water agencies, and would reduce overall water supply reliability that is sustainable and independent of climactic conditions. (*Ibid.*) Based on these same considerations, the State Lands Commission similarly rejected a reduced facility size alternative in 2017. (2017 Draft SEIR, p. 5-8.)

Staff Report Assertion:

- The Staff Report contends that MWDOC's 2018 Reliability Study identified several alternative water supplies and projects that would be more environmentally friendly and cheaper, as well as provide more water. (Staff Report, pp. 198-199.)

Poseidon's Response:

- As an initial matter, Section 30260's plain language focuses on "alternative locations," ***not alternatives to an entire project***. (See Pub. Resources Code, § 30260 [emphasis added].) The Commission, as a CEQA responsible agency, is limited to considering mitigation and alternatives within its jurisdiction—here, the Coastal Zone. (See, e.g., Pub. Resources Code, § 21002.1, subd. (d); Cal. Code Regs., Tit. 14, Div. 6, Ch. 3 ("CEQA Guidelines"), §§ 15042, 15096, subd. (g)(1) ["When considering alternatives and mitigation measures, a responsible agency is more limited than a lead agency. A responsible agency has responsibility for mitigating or avoiding only the direct or indirect environmental effects of those parts of the project which it decides to carry out, finance, or approve."]; *RiverWatch v. Olivenhain Mun. Water Dist.* (2009) 170 Cal.App.4th 1186, 1207 ["If the responsible agency finds that any alternatives or mitigation measures ***within its powers*** are feasible and would substantially lessen or avoid a significant effect of the project, the responsible agency may not approve the project as proposed, but must adopt the feasible mitigation measures or alternatives."] [emphasis added]; *Sierra Club v. Cal. Coastal Com.* (2005) 35 Cal.4th 839, 860 [holding that neither the Coastal Act nor CEQA allow the Commission to consider impacts of projects located outside the Coastal Zone]; *Schneider v. Cal. Coastal. Com.* (2006) 140 Cal.App.4th 1339, 1347 [concluding that the Coastal Act did not permit the Commission to consider ocean boaters' right to view coastline from the ocean].) As described above, the City of Huntington Beach as the CEQA lead agency in 2010, the State Lands Commission in 2017, and the Regional Board in 2021 all considered alternative locations and rejected them as infeasible.

- In addition, staff misconstrues the findings of the 2018 Reliability Study. The purpose of the 2018 Reliability Study was to assess Orange County's long-term water reliability and the ways in which Orange County may achieve that reliability. As the 2018 Reliability Study explains, "[i]t is **not** the purpose of this study to dictate which projects local water agencies should implement." (2018 Reliability Study, p. 1-5 [emphasis original].)

    - For instance, the 2018 Reliability Study considered increased conservation as a method for increasing Orange County's water reliability. However, a close review of the 2018 Reliability Study and MWDOC's projections demonstrate that it is not technically feasible or helpful to add an extra 56,000 AFY to the annual conservation that is already occurring and planned for in Orange County. (See 2018 Reliability Study, p. 1-6.) Thus, as MWDOC's study recognizes, there are limits to conservation and additional supplies are needed to close Orange County's water supply gaps.

    - The 2018 Reliability Study also identifies South Coast Water District's ("SCWD") proposed Doheny desalination plant, a stormwater capture project in the San Juan Watershed, and

groundwater banking projects. (See 2018 Reliability Study, pp. 5-1 to 5-6.) These are not feasible alternatives. *First,* the Doheny desalination plant would only serve SCWD ratepayers in certain South Orange County cities because SCWD had accounted for Poseidon's Project to serve the greater County.[134] *Second*, the San Juan Watershed project would only supply upwards of 8,000 acre-feet per year once all three phases of the project are complete.[135] This is nowhere near enough water by itself to provide reliability to Orange County. *Third*, groundwater banking also would not provide enough water to the region. The proposed Cadiz Water Bank would provide up to 10,000 acre-feet for the Santa Margarita Water District, and the Strand Ranch Water Bank would provide up to 17,500 acre-feet for Irvine Ranch Water District customers. (2018 Reliability Study, pp. 5-4 to 5-5.) The water banks would not satisfy OCWD's identified need for water for its service territory within Orange County.

- In fact, contrary to the Staff Report's suggestions, the 2018 Reliability Study *supports* the well-documented need for Project water. The 2018 Reliability Study found that the Project would be a "reliable, drought-proof water supply source" that "would provide both system and supply reliability benefits to [Southern Orange County] and OC Basin," making the Project one of several potential projects to meet water supply needs in Orange County. (2018 Reliability Study, p. 5-2.)

- **Conclusion:** In sum, multiple agencies have evaluated the feasibility of both alternative locations for the Project and conservation. All have determined that the currently proposed Project is the least environmentally damaging location feasible. (See 2010 Draft SEIR, pp. 6-1 to 6-46; see also 2017 Draft SEIR, p. 5-5; 2021 Regional Board Order, pp. G.1-68 to G.1-78.) Further, the alternative projects alluded to in the Staff Report cannot satisfy Orange County's identified need for water because, even with their implementation, additional water supplies would be needed and several of the proffered alternatives are not drought-proof and so would provide fewer climate resiliency benefits to OCWD. Thus, the Project satisfies the first prong of Section 30260.

b. Prong #2: Not Permitting the Project Would Adversely Affect the Public Welfare

[134] See SCWD, Draft EIR for Doheny Ocean Desalination Plant, p. 3.0-9.

[135] See San Juan Watershed Project, available at https://sanjuanwatershed.com/about-the-project/eir/phases/#:~:text=The%20San%20Juan%20Watershed%20Project,comprised%20of%20THREE%20unique%20phases.&text=700%20acre%20feet%20per%20year,capture%20and%20filtrate%20storm%20water..

- "Public welfare" is not defined in the Coastal Act, but it generally includes "the economic welfare, public convenience and general prosperity of the community.'" (*Miller v. Bd. of Pub. Works* (1925) 195 Cal. 477, 487.) Under Coastal Act Section 30260, the evaluation of what would adversely affect the public welfare requires a balancing of interests: "[the] protection and preservation of coastal natural resources and the need for some coastal development." (*Gherini v. Cal. Coastal Com.* (1988) 204 Cal.App.3d 699, 708; see also *Marina Coast Water Dist. v. Cal. Coastal Com.* (2016) 2016 WL 6267909, pp. *12, *23.) As described below, not permitting the Project would adversely affect the public welfare.

Staff Report Assertion:

- The Staff Report claims that "since the time of Poseidon's original proposal, there have been significant policy changes, including the phasing out of once-through cooling at coastal power plants," that undermine the benefits of co-locating a desalination facility with an adjacent power plant. (Staff Report, p. 199.) In addition, staff claims there is a greater understanding of the seismic, tsunami, and sea level rise hazards at the Project site, "which offsets any benefits of co-locating at the power plant site." (*Ibid*.)

  Poseidon's Response:

  - In suggesting the Project's siting is outdated, staff wholly ignores that the Project has evolved over time in response to new regulatory requirements, such as the Desalination Amendment, and neglects to mention the robust evaluation that the Regional Board recently performed under Water Code Section 13142.5(b). The Regional Board issued over 100 pages of findings, as well as over 200 pages of supporting analysis, in which it evaluated potential environmental impacts and determined that the Project complies with the requirements of Water Code Section 13142.5(b) that new industrial facilities using seawater for processing use the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life. (See 2021 Regional Board Order, Att. G [Water Code Section 13142.5(b) Determination]; see also *id*., Att. G.1 through G.3.)

  - Moreover, there are significant cost savings and construction and environmental benefits that result from using existing power plant infrastructure because the Project would only require minor changes to the existing infrastructure. (See Poseidon CDP App., Att. 9, p. 21.) Indeed, the Project's location is consistent with LCP policies encouraging the location of coastal-dependent industrial uses within existing industrial sites in order to minimize impacts to habitat and biological resources. (See LCP Policy C 1.1.1 & C 1.1.2.)

- Further, as discussed above in Sections C through E, current information and the best available science confirms that the Project will be resilient to such geologic and coastal hazards during for its design life.

- Therefore, staff's claims that there are no longer any benefits to siting the Project in its proposed location are without merit.

Staff Report Assertion:

- The Staff Report recognizes that desalination will likely have a key role to play in providing a new drought-proof water supply for Southern California, but states that "it is not clear that this proposed project would benefit the surrounding populations in terms of providing more reliable or higher quality water." (Staff Report, p. 199.)

Poseidon's Response:

- Staff's contention is absurd. Substantial evidence in the record demonstrates that the Project would provide a much-needed climate resilient water supply to Orange County. As explained in Section K, California remains in a severe drought for a third year in a row, with major water reservoirs well below average levels.[136] These historically dry conditions will impact planned SWP deliveries, as the Department of Water Resources recently announced that it must reduce SWP allocations to five percent of requested supplies for 2022.[137] Similarly, water supplies from the Colorado River are facing extreme pressure. The river's two main storage reservoirs, Lake Mead and Lake Powell, are at historically low levels. Indeed, on August 16, 2021, the Bureau of Reclamation announced the first-ever water shortage for the lower Colorado River basin due to historic drought and low runoff conditions. Given the alarming and worsening drought conditions and limited available water supplies, the Project satisfies an identified need for local, drought proof water supplies. Further, by providing a local water supply to Orange County and in turn reducing Orange County's reliance on imported water, the Project could free up SWP and/or Colorado River supplies for other communities in the State, including environmental justice communities.

Staff Report Assertion:

- The Staff Report contends that California is considering updating its goals and incentives to reduce per capita water use, which could free up additional water

[136] See, e.g., Cal. Drought Action, available at: https://drought.ca.gov/; see also New York Times, *How Bad Is California's Drought Ahead of Dry Season?* (Mar. 31, 2022), available at: https://www.nytimes.com/2022/03/31/us/california-rain-drought.html.

[137] Cal. Dep't of Water Resources, *Historically Dry Conditions Impact Planned State Water Project Deliveries* (Mar. 18, 2022), available at: https://water.ca.gov/News/News-Releases/2022/March-22/SWP-Allocation-March.

supplies. Thus, staff suggests that the Project would not be necessary. (Staff Report, p. 200.)

Poseidon's Response:

- As explained in detail in Section K, conservation is not enough to meet Orange County's current and future water demand. Although "water conservation is an important aspect of reducing the overall water demand in our region," the Regional Board explained that "the water demands in the future cannot be met only by water conservation. The water agencies' planning documents indicate the need for new sources of reliable water supplies in the future and demand project[ion]s rely on water conservation practices." (Regional Board Responses to Comments (July 21, 2020), p. 116.) Both "OCWD and MWDOC, as the relevant water planning agencies, have taken into account water conservation actions in developing their water portfolios," and nonetheless identified a need for the Project. (*Id*., p. 122.) Accordingly, the region's water needs cannot be satisfied through conservation alone. Further, as explained in Section K, mandatory conservation requirements tend to disproportionately impacts environmental justice communities

Staff Report Assertion:

- The Staff Report disputes the Regional Board's determination of need for the Project, claiming the Regional Board is not a water planning agency and did not determine "that the water was critical or immediately necessary or that it was the only available new water source." (Staff Report, p. 200.) Yet staff acknowledges that "[l]ike the Regional Board, ***the Commission is not a water planning agency, and it is not the Commission's role to decide how much water the region needs or how it should obtain that water***." (*Ibid*. [emphasis added].)

Poseidon's Response:

- The Coastal Act explicitly states that the State Water Resources Control Board and the Regional Water Quality Control Boards have "primary responsibility for the coordination and control of water quality." As such, the Coastal Act prohibits the Commission from "modify[ing], adopt[ing] conditions, or tak[ing] any action in conflict with any determination by the [State Board] or any California regional water quality control board in matters relating to water quality or the administration of water rights. . . ."[138] Indeed, the plain text of Coastal Act section 30412 states that the Commission "***shall not***, except as provided in [circumstances inapplicable here for treatment works plans], ***modify, adopt conditions, or take any action in conflict with any determination by . . . any California regional***

[138] Pub. Resources Code § 30412(b).

***water quality control board in matters relating to water quality*."**
(Emphasis added.)

- The Regional Board, under its statutory authority under the Water Code, thoroughly evaluated Project need in a 21-page analysis, looking to what water agencies have identified in their planning documents. (See 2021 Regional Board Order, Att. G, p. G-15 ["The Santa Ana Water Board finds that the identified need for 56,000 AFY of desalinated water is consistent with the Municipal Water District of Orange County's 2015 Urban Water Management Plan (UWMP), the UWMPs of municipalities in the region, and other relevant planning documents."]; see also *id.*, Att. G.2 [Analysis in Support of Finding 7: Identified Need for Desalinated Water].)
    - In fact, the Regional Board's analysis noted that "[i]n comments on the Desalination Amendment, the California Coastal Commission (CCC) recommended that identified need for water be based upon consistency with urban water management plans, if available." (*Id.*, Att. G.2, p. 5.) Although UWMPs are not the only consideration, the Regional Board did precisely that—looking to UWMPs and other planning documents to confirm need for the desalinated water. (See *id*., p. 10 ["The MWDOC UWMP, the municipal UWMPs, and the other water planning documents appear consistent with the identified need for 56,000 AFY of desalinated water."].)
- Therefore, as the Regional Board confirmed, the water agencies themselves have identified a need for the Project. As staff admits, it is not staff's place to question that need.

<u>Staff Report Assertion</u>:

- The Staff Report claims that denial of the Project "will not adversely affect the public welfare by creating a water shortage or causing public hardship in terms of requiring water cutbacks or creating high rates." (Staff Report, p. 200.)

<u>Poseidon's Response</u>:

- Staff's unsupported claim contradicts substantial evidence that the continuing and worsening drought conditions will lead to water shortages, as well as potential water use restrictions, higher water rates, and drought surcharges. For instance, as explained in Section K, Governor Newsom's October 2021 Proclamation called on Californians to re-double their efforts to reduce water use by 15% and for local and regional water agencies to implement their Water Shortage Contingency Plans

("WSCPs").[139] On March 28, 2022, Governor Newsom issued Executive Order N-7-22, specifically requiring urban water suppliers to implement, at a minimum, the response actions identified in their WSCPs for a shortage level of 20 percent (Level 2).[140] Just last month, on April 27, 2022, MWD declared a water shortage emergency and ordered water agencies dependent on SWP deliveries to immediately cut water use by implementing one-day-a-week watering restrictions. Although MWD's restrictions do not immediately affect Orange County, communities throughout Southern California and the rest of the State, including environmental justice communities, are feeling the very real effects of the State's water shortage. By reducing Orange County's reliance on imported water, the Project could allow water supplies that would otherwise be sent to Orange County for consumption to be sent to other areas, such as inland communities that are more reliant on imported water supplies and do not have access to alternative water sources.

Staff Report Assertion:

- The Staff Report also asserts that denial of the Project will not adversely affect the public welfare because the Project would raise water users' rates, and there are other water projects that could fulfill Orange County's needs. (Staff Report, pp. 200-201.)

  Poseidon's Response:

  - As discussed in great detail in Section K, the Project will not significantly and adversely affect water ratepayers. For example, to the extent OCWD delivers the desalinated water directly to customers, it estimates an initial rate increase of $3-6 per month. (2021 Regional Board Order, pp. F-18 to F.19.) Nonetheless, as OCWD has explained, "at some point in the future the cost of desalinated water will be cheaper than imported water, thus affording a cost savings for customers in the future." (*Ibid*.) Moreover, the initial rate increase projected for the Project is less than 25% of the $41 monthly surcharge the Commission approved for the Morro Bay Water Reclamation Facility, despite potential environmental justice concerns. (See Section K, citing CDP No. 3-19-0463.)

  - Further, as explained above and in Section K, conservation or recycled projects alone cannot satisfy Orange County's needs; the desalinated water is needed. For instance, OCWD has accounted for both conservation and the expansion of its recycled water facility in determining that desalination is needed. (See, e.g., Regional Board Responses to Comments (July 21, 2020), p. 239.) Moreover, MWD's proposed potable Regional Recycled

[139] 2021 Proclamation, ¶ 8.

[140] Executive Order N-7-22, ¶ 3.

Water Project is not planned to serve Orange County and, thus, is not a viable alternative. Regional Board Responses to Comments, p. 239; see also OCWD Presentation to Regional Board (May 15, 2020), slide 16 ["MWD Carson Regional Recycled Water Project not extended to Orange County"]. Accordingly, neither water conservation nor recycled water projects are enough to fulfill Orange County's long-term water needs and reliability goals.

Staff Report Assertion:

- The Staff Report asserts that denial of the Project would benefit the public welfare because it would avoid an infrastructure project from being built in an area subject to coastal hazards and minimize impacts to marine life. (Staff Report, p. 201.)

Poseidon's Response:

- As explained in Sections E and F, as well as below, the Project has been designed and conditioned to minimize coastal hazards and impacts to marine life. Further, staff's stated concerns are *environmental* considerations, not one of public welfare. "Public welfare" generally includes "the economic welfare, public convenience and general prosperity of the community." (*Miller v. Bd. of Pub. Works* (1925) 195 Cal. 477, 487.) These considerations weigh heavily in favor of approving the Project because Orange County needs a drought proof water supply to reduce its reliance on diminishing imported water supplies and make imported water supplies available for other inland areas in the region that do not have alternative water supply options. (See Section K.) Further, the Project will provide approximately 3,000 high-paying construction jobs, which would result in significant economic benefits for the Orange County region. (See Section K.) Thus, denial of the Project would harm the public welfare.

- In sum, staff's claims that Project denial would benefit the public welfare are without merit. Substantial evidence in the record demonstrates that Project denial would significantly adversely affect the public welfare given California's historic drought conditions and Orange County's identified need for the Project. (See also Section K.) As such, the Project satisfies the second prong of Section 30260.

c. Prong #3: Adverse Environmental Impacts Have Been Mitigated to the Maximum Extent Feasible

Staff Report Assertion:

- The Staff Report contends that the Project's adverse impacts have not been mitigated to the maximum extent feasible, and that significantly more mitigation would need to be developed. (Staff Report, p. 201.)

  Poseidon's Response:

  - The Coastal Act requires that impacts be mitigated to the "maximum extent feasible." (See, e.g., 14 Cal. Code Regs., § 13053.5, subd. (a); see also *id.*, §§ 13328.1, 13356, subd. (b)(2), 13540, 13666.4.) As part of their review of the Project, the City imposed 77 mitigation measures,[141] the State Lands Commission imposed an additional 16 mitigation measures,[142] and the Regional Board imposed special conditions in its Order—all to ensure that the Project's potential environmental impacts would be fully mitigated where feasible. In addition, as described above in Section G, Poseidon has proposed an additional 228.71 acres of marine life mitigation, 14 acres of wetland mitigation, and 29 Special Conditions to address concerns raised in the Staff Report, many of which go above and beyond legal requirements. Thus, and as explained in great detail throughout this Response, the Project's impacts have been mitigated to the maximum extent feasible. Accordingly, the Project satisfies the third prong of Section 30260.

- **Conclusion:** The Project is consistent with applicable LCP and Coastal Act policies and, thus, a Section 30260 analysis is unnecessary. Regardless, for the reasons described above, the Project is a coastal-dependent industrial facility and satisfies the three prongs of Section 30260.

M. Violation (Staff Report, p. 203)

Staff Report Assertion

- The Staff Report contends that "[v]iolations of the Coastal Act and/or Huntington Beach LCP exist on the subject property including, but not limited to, unpermitted clearing of vegetation, disking, grading, and draining of surface waters, all resulting in disturbance/destruction of approximately 3.5 acres of wetland habitat." (Staff Report, p. 203.) The Staff Report asserts that Poseidon's pending CDP application does not propose to resolve these alleged violations. (*Ibid*.) According to the Staff Report, Poseidon and/or AES are required to resolve the violations, which will require, among other things, mitigation for interim and any future wetland loss/function and other measures including resolution of liability for penalties. (*Ibid*.)

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[141] See City of Huntington Beach, Mitigation Monitoring and Reporting Program (Aug. 2010).

[142] See State Lands Commission, Mitigation Monitoring and Reporting Program (Oct. 2017). In addition, Poseidon agreed to implement eight Applicant-Proposed Measures.

Poseidon's Response:

- The Commission's enforcement action with AES related to former site activities do not involve Poseidon. The Staff Report cites no authority requiring the Commission to delay its consideration of Poseidon's CDP application while it resolves a separate enforcement action. Nor does the Staff Report cite any authority requiring Poseidon to resolve AES' alleged violations.[143] Therefore, any alleged prior violations of the Coastal Act should not be relevant to this CDP proceeding.

- Although the separate enforcement action does not involve Poseidon, and despite the fact that the City and CEC confirmed that there were no wetlands within the Project footprint,[144] Poseidon has proposed to implement one or more wetlands mitigation projects to fully mitigate impacts to potential historic onsite wetlands. Consistent with the Staff Report's recommendation, Poseidon has proposed to potentially provide 14 acres of wetlands mitigation at the South Los Cerritos site which Commission staff has determined to be an appropriate and suitable site for wetlands mitigation. (See Section G *supra*.) Pursuant to Special Condition **11,** Poseidon will submit a Wetland Mitigation Plan for the Commission's review and approval prior to CDP issuance. The Wetland Mitigation Plan will provide for creation and/or restoration of no less than fourteen 14 acres of coastal wetland habitat similar to wetland habitat found in the vicinity of the approved development. Through implementation of this condition, Poseidon will satisfy all relevant Coastal Act and LCP Policies pertaining to the Project's potential historic wetlands impacts.

[143] See footnote 53, *supra*, and accompanying text.

[144] See footnote 54, *supra*, accompanying text.