

SECTION 13

State Agency Comments and Responses

13.1 State Agency

The following comment letters were received from state agencies on the West Basin Municipal Water District (West Basin) Ocean Water Desalination Project (Project) Draft Environmental Impact Report (Draft EIR). The comment letters are grouped together and are followed by all responses as indicated in **Table 13-1**.

TABLE 13-1
LIST OF DRAFT EIR COMMENT LETTERS: STATE AGENCY

Letter Code	Commenting Party	Letter Page Number	Response Page Number
CALT	California Department of Transportation	13-3	13-59
CCC	California Coastal Commission	13-4	13-60
CDFW	California Department of Fish and Wildlife	13-19	13-91
CEC	California Energy Commission	13-29	13-102
DTSC	California Department of Toxic Substances Control	13-34	13-106
LARWQCB	Los Angeles Regional Water Quality Control Board	13-35	13-107
NAHC	Native American Heritage Commission	13-46	13-137
SLC	California State Lands Commission	13-51	13-138

This page is intentionally blank.

DEPARTMENT OF TRANSPORTATION
DISTRICT 7- OFFICE OF REGIONAL PLANNING
100 S. MAIN STREET, SUITE 100
LOS ANGELES, CA 90012
PHONE (213) 897-6536
FAX (213) 897-1337
TTY 711
www.dot.ca.gov



*Serious Drought.
Making Conservation
a California Way of Life.*

May 24, 2018

Dr. Zita Yu
West Basin Municipal Water District
17140 South Avalon Blvd
Carson, Ca 90746

RE: Ocean Water Desalination Project
SCH#2015081087
GTS#07-LA-2018-01397ME-DEIR

Dear Dr. Yu:

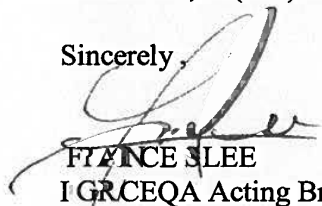
Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The proposed project would provide approximately 11 percent of West Basin’s water demand, relieving pressure on the heavily constrained supply of imported water available to West Basin.

After reviewing the Draft Environmental Impact Report, Caltrans does not expect project approval to result in a direct adverse impact to the existing State transportation facilities.

We concur that an encroachment permit would be required for the desalinated water conveyance components that would be installed within State highway right of way. In addition, the transporting of heavy construction equipment and/or materials which require the use of oversized-transport vehicles on State highways will also require an encroachment permit.

If you have any questions regarding these comments, please contact project coordinator Ms. Miya Edmonson, at (213) 897-6536 and refer to GTS# LA-2018-01397ME

Sincerely,


FRANCE SLEE
IGRCEQA Acting Branch Chief

cc: Scott Morgan, State Clearinghouse

CALT-1

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904-5200
FAX (415) 904-5400
TDD (415) 597-5885



June 22, 2018

Zita Yu, PhD, PE
Ocean Water Desalination Program Manager
West Basin Municipal Water District
17140 South Avalon Blvd., Suite 210
Carson, CA 90746

VIA EMAIL: desaleir@westbasin.org

RE: Comments on Draft Environmental Impact Report ("DEIR") for proposed West Basin desalination facility – SCH #2015081087

Dear Dr. Yu:

Thank you for the opportunity to comment on the above-referenced DEIR. The document evaluates a potential seawater desalination facility that the West Basin Municipal Water District ("West Basin") proposes to build at the El Segundo Generating Station ("ESGS") in the City of El Segundo. It is meant to provide "project-level" CEQA analyses for a proposed local project that would produce about 20 million gallons per day ("MGD") of drinking water, as well as "programmatic-level" CEQA analyses for a possible regional project that might be built later and would provide about 60 MGD. It evaluates two potential locations within the ESGS site for the facilities that are referred to as the preferred North Site and the alternative South Site. The DEIR notes that the regional project, if built, would be an expansion of the local project and would occupy the same site as selected for the local project.

CCC-1

We have provided some general comments below, followed by comments on specific sections of the DEIR. Overall, we recommend the DEIR be revised to incorporate our comments and several modified analyses and then re-circulated for additional public review and comment.

GENERAL COMMENTS

- 1) The DEIR should fully address the proposed project's non-conformity with the City of El Segundo's Local Coastal Program: The DEIR notes in several places that the project would not conform to provisions of the City of El Segundo Local Coastal Program ("LCP"), but also asserts that West Basin is exempt from these LCP requirements, per Government Code Section 53091, which exempts water projects proposed by local agencies from local building ordinances. Please note that the Section 53091 exemption does not apply to certified Local Coastal Programs ("LCPs"), as these are not local ordinances, but are a

CCC-2

1 See, for example, Section 3.8 – Permits, Approvals, and Regulatory Requirements (at Table 3-11), Section 5.0 – Environmental Analysis (at page 5-3), Section 5.3 (page 5.3-7), Section 5.9 (page 5.9-24), Section 5.10 – Land Use and Planning (at pages 5.10-29 and 5.10-34), Section 5.12 – Noise (at page 5.12-3), and Section 5.16 – Utilities and Service Systems (at page 5.16-4).

delegated state authority. Therefore, project construction and operation cannot occur until and unless the City amends its LCP in a manner that allows the project to conform to the LCP and also approves a local coastal development permit (“CDP”) for the proposed project. Please note, too, that the City must obtain Coastal Commission certification of any proposed LCP amendment before such amendment is effective to approve a CDP. Additionally, a CDP issued by a local government must include a finding that the approved development is consistent with the LCP as certified by the Coastal Commission. For this proposed project, any City action on that CDP application may be appealed to the Coastal Commission, pursuant to Coastal Act Section 30603(a).²

CCC-2

We recommend the DEIR be revised to fully evaluate the several areas of LCP non-conformity. Until the City amends its LCP, and pursuant to the document’s cited CEQA significance thresholds and criteria, we also recommend the revised DEIR identify these areas of non-conformity as “significant adverse environmental impacts.”³

- 2) **The DEIR should clarify the proposed project’s expected operating life and revise the analyses to encompass the expected operating life:** The DEIR does not consistently identify the project’s expected operating life and its analyses appear to be based on different expected operating periods. For example, the document’s Section 3.3 – Project Objectives states that the facility is meant to increase water reliability over the next 30 years and its analyses of greenhouse gas emissions appear to be based on a 30-year operating life, but its analyses of coastal hazards (in Section 5.9 and Appendix 5A) refers to project operations for about 80 years – until the year 2100. It is also not clear whether the various described operating periods apply to the proposed local project or the regional project. We recommend the document be revised to clarify the expected operating periods of both projects and that these operating periods be consistently applied throughout the relevant analyses. Additionally, because the proposed facility would be considered a major public works project and is described in the DEIR as a critical infrastructure project, we recommend the coastal hazards analyses extend out 100 years, pursuant to the latest state and Coastal Commission guidance.⁴

CCC-3

- 3) **The DEIR should base its site selection criteria on factors other than the presence of existing intakes:** The state’s 2015 Ocean Plan Amendment (“OPA”), which is applicable to new desalination facilities such as this proposed project, requires the use of subsurface intakes where feasible. The DEIR describes West Basin’s analyses of potential subsurface intake locations that led to a conclusion that these intake designs were infeasible at or near

CCC-4

² Section 30603(a) states, in relevant part: “After certification of its local coastal program, an action taken by a local government on a coastal development permit application may be appealed to the commission for only the following types of developments: ... (5) Any development which constitutes a major public works project or a major energy facility.”

³ The DEIR’s Section 5.10.3’s significance thresholds and criteria state that the proposed project would have a significant adverse environmental impact if it would “conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Project (including but not limited to the General Plan, Specific Plan, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating the environmental effect.”

⁴ The current primary guidance documents are the California Ocean Protection Council’s April 2017 *Rising Seas in California: An Update on Sea-Level Rise Science* and the 2018 *State Sea-Level Rise Guidance*.

the proposed project site.⁵ In alternatively proposing the use of a screened open intake, the document's analyses rely heavily on the presence of existing power plant intakes at both ESGS and the Redondo Beach Generating Station.⁶ Because these intakes were built several decades ago, well before we had our current level of understanding about their substantial adverse effects on marine life, it is not likely that they are located at the "best available" site feasible to minimize the intake and mortality of marine life, as required by the state's OPA.

CCC-4

Importantly, it is not clear that the existing intake and discharge structures at ESGS will be available as described for the proposed project. As detailed in the City of El Segundo's May 22, 2018 Proposed Negative Determination for Project No. EA-196 (CEQA Clearinghouse No. 2018051046), the power plant owner plans to block and decommission the intake and discharge structures that West Basin is proposing to use. This proposed decommissioning involves placing 20-foot thick concrete plugs at the landward end of these pipes, which would prevent ocean water from reaching the forebay from where West Basin plans to pump seawater to its proposed facility and would prevent the desalination facility's effluent from discharging to the ocean (see also our comments on Sections 3.4 and 3.5 below). Additionally, the presence of these concrete plugs would presumably alter the DEIR's feasibility and alternatives analyses, so we recommend those sections of the document be revised to reflect the presence of these plugs.

CCC-5

As stated in our October 2015 comment letter on West Basin's Notice of Preparation for this DEIR, we again recommend that the DEIR modify its siting criteria so as not to be based on the presence or absence of existing intake structures, but to instead be based on identifying the "best available site for minimizing the intake and mortality of marine life." Along with a more comprehensive assessment of potential subsurface intake locations and designs, this analysis may include consideration of other open intake alternatives, such as extending the existing power plant intakes to deeper water locations where entrainment rates could be lower than the current intake locations.

CCC-6

- 4) **The DEIR should fully describe the project's need for shoreline protection and the effects of that shoreline protection on coastal resources, including public access and recreation:** The Coastal Act and the City's LCP limit the construction of new shoreline protection devices meant to protect newly-proposed development. The DEIR's project description and several of its analyses note that the facility will need some unspecified type of shoreline protection; however, it does not fully describe what would be needed and it does not adequately evaluate the severity of sea level rise, increased storm energy, and coastal erosion that the facility is expected to be subject to over its operating life. We recommend these aspects of the DEIR be fully revised to comprehensively assess these issues (see also our comments below on Section 5.9 regarding coastal flooding, sea level rise, and other coastal hazards).

CCC-7

⁵ However, these analyses do not appear adequate to determine whether the proposed project would conform to the OPA – see comments below on Section 5.11 – Marine Biological Resources.

⁶ See, for example, the analyses in Section 7.0 – Alternatives Analysis.

COMMENTS ON SPECIFIC SECTIONS OF THE DEIR

SECTION 2 – INTRODUCTION AND PROJECT BACKGROUND

Section 2.10, Project Development Background

This section describes a number of studies West Basin has conducted over the past decade, including a 2014 impingement/entrainment study at its demonstration facility, a 2013 high-salinity sensitivity study, a 2013 brine diffuser impact study, 2007 and 2011 subsurface intake evaluations, etc. Please note that the above-referenced 2015 OPA applicable to proposed desalination facilities, which the document states in Section 2.8 is incorporated by reference, may result in some of these studies needing to be updated or modified. For example, the DEIR states that the West Basin’s recent entrainment report showed that a screened open intake at a full-scale facility would have very minor impacts to fish and invertebrate populations and would significantly reduce or eliminate entrainment impacts. This description is not consistent with the OPA’s provision that establishes a one percent reduction in entrainment for screened intakes as compared to unscreened intakes. Additionally, the OPA and its accompanying documentation evaluates entrainment effects as productivity losses, not as population changes, and identifies the extent of those losses by calculating an “Area of Production Foregone” (“APF”), which West Basin’s report did not include. We recommend this section of the DEIR be revised to be modified to be consistent with the findings and requirements of the OPA (also see our comments on Section 5.11 – Marine Biological Resources).

CCC-8

SECTION 3 – PROJECT DESCRIPTION

Section 3.4 Project Components

The document states that the seawater would be pumped from an intake vault at the landward end of the seawater intake formerly used by ESGS Units 3 & 4 and that the project’s effluent would be pumped to the discharge pipeline formerly used by those units. As noted in our General Comments above, we understand that the power plant owner plans to block and decommission these intake and discharge structures by placing concrete plugs at the landward end of these pipes.⁷ We recommend the revised DEIR include a description of any additional components West Basin will need to include as part of the project to remove these concrete structures, re-route flows around them, or implement other measures necessary to allow the use of these structures.

CCC-9

This section of the document also does not provide any description or details of the “coastal hazard protection” structure that is later mentioned in Section 5.9 – Hydrology and Water Quality. We recommend a revised version of this section of the document include a full description of this project component.

CCC-10

⁷ ESGS originally had two sets of intakes and outfalls, one that previously served the power plant’s Units 1 and 2 and another that previously served Units 3 and 4. The Units 1 and 2 intake and outfall were decommissioned several years ago and plugged with concrete at the landward end. The power plant owner recently proposed a similar decommissioning and plugging project for the Units 3 and 4 structures. See City of El Segundo Environmental Assessment No. EA-1196 and Local Coastal Development Permit No. CDP 17-01.

Section 3.5 – Project Construction

The project description does not fully describe West Basin’s proposed construction activities or the known and potential adverse effects of those activities. As noted above, we understand that the ESGS owner plans to plug and decommission the intake and outfall structures that West Basin plans to use. It is not clear how much additional work will be needed for West Basin to remove the concrete plugs or to clear the intake and discharge structures of any sand that may accumulate within. It is also not clear whether the offshore risers on the Units 3 and 4 structures will remain, will need to be modified, or will be removed as part of the proposed project. We recommend the DEIR be revised to identify what additional construction-related activities will occur with these project components and what potential adverse impacts may result.

CCC-11

Laydown/Staging Area: The document also does not adequately describe the offsite laydown/staging area mentioned on pages 3-19 & 20. It states that construction at the ESGS South Site would require an offsite laydown/staging location of at least three acres, but does not identify what known or potential sites might serve as this offsite laydown/staging area. We recommend the DEIR be revised to identify the sites being considered for this laydown/staging area and that it evaluate the known and potential impacts associated with using these sites – e.g., additional traffic, noise, dust, etc., potential habitat-related issues, etc.

CCC-12

Groundwater: Finally, the DEIR states that demolition and construction will require groundwater control, though it does not identify the anticipated hourly, daily, and total volumes of groundwater that will need to be pumped, what toxic or hazardous substances may be mobilized through that pumping, or what mitigation measures West Basin will implement to minimize any adverse effects resulting from this pumping (these are also not included in the dewatering discussion in Section 5.9 – Hydrology and Water Quality). We recommend these descriptions be added to a revised DEIR.

CCC-13

Effects of Construction on Public Access: Both the proposed North and South sites are adjacent to an existing public bikeway that provides access to the shoreline. We recommend a revised DEIR include a description of what measures West Basin will implement to ensure continued maximum access is provided during construction, including a description of the expected length of any closures and any alternative accessways that would be provided during the closure periods.

CCC-14

Section 3.8, Table 3-11 – Permits, Approvals, and Regulatory Requirements

This table lists the permits West Basin will need to construct and operate the proposed facility. The list includes a Local Coastal Program (“LCP”) amendment by the City of El Segundo, though the accompanying footnote asserts that West Basin is exempt from such a requirement, per Government Code Section 53091. As stated above in our General Comment #1 above, the Section 53091 exemption does not apply to LCP requirements; therefore, project construction and operation will require both an amendment of the City’s LCP and a CDP from the City.

CCC-15

SECTION 5.0 – ENVIRONMENTAL ANALYSIS

Section 5.1 – Aesthetics, Light & Glare

The DEIR notes (at pages 5.1-11 and 5.1-15) that offshore construction from vessels and barges at times would take place during evening and night hours; however, it does not provide an evaluation of the effects of night construction lighting on marine resources and does not propose any mitigation measures that would avoid or reduce adverse effects on marine life. We

CCC-16

recommend a revised DEIR include an evaluation of these effects along with a description of feasible mitigation measures to minimize these effects. Please note, too, that the offshore components of the project are in the Commission's retained permit jurisdiction and will therefore require a CDP issued by the Commission.

CCC-16

Section 5.3 – Biological Resources, Terrestrial (and Appendix 6 – West Basin Terrestrial Habitat Analysis)

- **Section 5.3.2, Environmental Setting – Plant Communities and Non-Vegetative Habitat Types:** The document describes (on page 5.3-13) the presence of restored coastal scrub habitat on the southwest corner of the proposed South site and later states (on pages 5.3-29 & 30) that this approximately 2.3-acre area may provide suitable habitat for the federally endangered El Segundo Blue Butterfly. It also contends (on page 5.3-33) that although project construction at the South site would destroy this habitat and would adversely affect any butterfly larvae, pupae, or adults that are present, the project would not result in adverse impacts to the butterfly because this habitat area was restored as part of a previous project.

The DEIR does not make it clear why destruction of habitat used by an endangered species would not result in an adverse effect on that species. Regardless of how it came to be on the site – as extant habitat or as restored habitat – its destruction would likely cause an adverse effect, either directly if individuals are present, or indirectly in the form of a loss of foraging and nursery habitat. This is especially the case for this habitat area because the restoration was meant to specifically benefit this species.⁸ Additionally, and as noted elsewhere in the document (on page 5.3-30), the Coastal Act's definition of environmentally sensitive habitat areas ("ESHAs") includes "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and developments." Therefore, and regardless of how this restored coastal scrub habitat area was created, it may include characteristics that would result in it being considered ESHA.⁹

CCC-17

In addition to proposed mitigation measure BIO-9 (which would result in a butterfly survey one year prior to ground disturbing activities), we recommend West Basin describe in a revised DEIR the measures it could implement to avoid adverse effects to this habitat area – e.g., modifying the project footprint to avoid the restored coastal scrub. We also recommend that West Basin conduct surveys during this summer's emergence period to determine whether the site might be currently occupied by the butterfly, and to include those survey results in a revised DEIR. We also recommend that you request a site visit by a Coastal Commission ecologist to assist in an ESHA determination.

Section 5.7 – Greenhouse Gas Emissions

The DEIR states that West Basin is committing to operate its facility as "net zero" or "net carbon neutral," which it describes as having no net increase in GHG emissions above those that are generated by an equal amount of imported water. Those terms, however, appear to be

CCC-18

⁸ See California Energy Commission proceedings for Application for Certification 00-AFC-14 – El Segundo Redevelopment Project: <http://www.energy.ca.gov/sitingcases/elsegundo/index.html>

⁹ As a related comment, we also note that Section 2.3 of the DEIR's *Appendix 6 – Terrestrial Habitat Assessment* states that there are "no ESHAs in the El Segundo Coastal Zone." We recommend this be changed to state that there are "no currently mapped ESHAs in the El Segundo Coastal Zone."

misnomers, as the proposed facility would still result in an overall increase in GHG emissions.¹⁰ For example, as shown in Table 5.7-3, West Basin’s proposed Local Project would currently be expected to result in about 26,023 metric tonnes of CO₂ equivalents when producing 20 million gallons per day of water during a year of operations, and importing an equal amount of water during that year would produce about 15,064 metric tonnes of CO₂ equivalents. West Basin proposes to obtain offsets or credits for the difference – i.e., 26,023 – 15,064 = 10,959. However, because the imported water would continue to be imported to Southern California and continue to result in those emissions, the lack of offsets or credits for those imports in West Basin’s proposed “net zero” plan would represent an increase of 15,064 metric tonnes in the overall regional water portfolio.¹¹

To ensure that West Basin’s project operates as a “net carbon neutral” facility, the currently accepted approach would be for West Basin to mitigate for all the GHG emissions that result from the facility’s electricity use that aren’t mitigated by the energy provider. For example, if West Basin’s electricity provider generates 500 pounds of emissions for each megawatt produced, meeting West Basin’s “net carbon neutral” standard would require West Basin to offset those emissions or obtain acceptable credits based on the number of megawatts its project used each year. As the electricity provider reduces its emissions per megawatt – e.g., by selecting renewable energy sources or those with lower GHG emissions – West Basin would be responsible for acquiring fewer credits each year. With offsets or credits costing \$10 per tonne, dividing the above-referenced remaining 15,064 metric tonnes among the expected production of 22,500 acre-feet per year would represent a cost increase of less just \$7.00 per acre-foot, or much less than 1% of West Basin’s expected costs to produce the water. Even doubling the cost per tonne of offsets or credits would represent less than 1% of the expected water cost. It therefore appears that it would be economically feasible for West Basin to become fully “carbon neutral” by entirely offsetting its emissions rather than partially offsetting them, and we recommend you consider evaluating this method in a revised DEIR.

CCC-18

Section 5.9 – Hydrology and Water Quality

- **Section 5.9.1, Regulatory Framework:** While this section of the DEIR cites a number of relevant documents and requirements, it does not adequately evaluate project-related effects consistent with guidance provided in least two of those documents – the Coastal Commission’s sea level rise guidance and the City of El Segundo *Multi-Hazard Mitigation Plan*. Regarding sea level rise, the DEIR (on page 5.9-23) cites the Coastal Commission’s 2015 *Sea-Level Rise Policy Guidance*, but does not cite the Commission’s (and California’s) current guidance, which is provided in two reports – the Ocean Protection Council’s April 2017 *Rising Seas in California: An Update of Sea-Level Rise Science* and its 2018 *State Sea-*

CCC-19

¹⁰ The DEIR also states that West Basin’s proposed approach is similar to that first proposed in 2007 by Poseidon Resources for its Carlsbad desalination facility. It cites a 2008 letter from the California Energy Commission and a 2010 letter from the California Air Resources Control Board as supportive of Poseidon’s proposed approach. Since that time, though, the Coastal Commission has determined that this approach does not meet a “net carbon neutral” standard as defined by the Commission. In recognition of this, please note that Poseidon’s annual GHG calculations have not included any of the credits that Poseidon initially proposed it be awarded for imported water reductions.

¹¹ Note: Additionally, the expected 26,023 metric tonne total for West Basin’s project includes construction emissions as amortized over 30 years. Amortizing these emissions instead of providing offsets and credits concurrently with construction also prevents the project from being fully carbon neutral. To meet a “net zero” standard, we recommend West Basin obtain all the necessary offsets and credits for construction-related emissions during the project’s construction phase.

Level Rise Guidance. As a result, the DEIR’s relevant analyses likely underestimate adverse effects related to sea level rise and climate change (see also our comments below on Section 5.9.2 – Sea Level Rise, Coastal Flooding, and Tsunamis). We recommend the DEIR be revised with modified analyses based on the state’s most recent sea level rise guidance. Regarding the City’s hazard plan, which it prepared pursuant to federal requirements, we note that the adjacent ESGs and several West Basin-owned facilities within El Segundo are considered “critical facilities.”¹² Hazard planning for critical facilities generally requires that the analyses of risk from hazards with probabilistic “return periods,” such as flooding and tsunamis, be based on the 500-year return period (i.e., 0.02%) instead of a 100-year return period (i.e., 1.0%). It is likely that the proposed desalination facility would similarly be categorized as a “critical facility;” however, the DEIR’s analyses are based on just the 100-year return period. We recommend that the document’s flooding and tsunami hazard analyses be revised to include the 500-year return period, and that those results also be combined with the higher expected sea level rise elevations described in the state guidance documents noted above.

CCC-19

CCC-20

- **Section 5.9.2, Environmental Setting – Sea Level Rise, Coastal Flooding, and Tsunamis** (starting at p. 5.9-36, and also in Appendix 5A – Coastal Hazards Analysis): As noted above, the DEIR appears to understate likely adverse effects related to the hazards and risks associated with sea level rise, flooding, and tsunamis. As “critical infrastructure,” the proposed facility would have little or no adaptive capacity and would have significant implications if it was destroyed or damaged. This type of proposed facility is to be evaluated using high-risk sea level rise projections and the “extreme risk aversion” scenario known as the “H++” scenario.¹³ The high-risk projection shows an expected 3.4-foot increase in sea level over a 50-year operating life and an 8.5-foot increase over a hundred years. The H++ scenario anticipates a sea level rise increase of 5.1 feet and 14 feet for the 50- and 100-year periods, respectively. By comparison, the DEIR, using calculation methods not consistent with those used in the state guidance documents, cites a somewhat lower expected increase (see page 5.9-37).¹⁴

CCC-21

Even at this lower rate of increase, though, the DEIR acknowledges that both the ESGs North and South sites would be at risk of coastal flooding by 2100. We recommend the revised DEIR use the current state guidance to calculate expected projections for the high-risk and extreme-risk scenarios and evaluate the hazards associated with the facility being subject to those higher sea level increases. We also recommend these revised analyses identify any more near-term hazards and risks resulting from the higher projections.

¹² See 2015 *City of El Segundo Hazard Mitigation Plan*, Table 3-16, prepared pursuant to requirements and guidance of the Federal Emergency Management Agency.

¹³ The 2018 guidance recommends the extreme risk aversion (H++) projection be applied to projects “with little or no adaptive capacity that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur. In CCC work this could include new wastewater treatment plants, power stations, highways, or other critical infrastructure.”

¹⁴ The DEIR provides just an estimate (on page 5.9-37) of a 55-inch (4.6 feet) increase in sea level by 2100, which is generally aligned with the state’s projection of between low- and medium-risk increases. The DEIR’s Appendix 5A – *Coastal Hazards Analysis* does not provide projections consistent with those used in the state’s guidance.

Regarding flooding, the DEIR acknowledges that the proposed ESGS North and South sites would become increasingly vulnerable after 2050 to flooding from a 100-year flood event. As noted above, because the project would be a major public works project and would represent critical infrastructure, we recommend the DEIR evaluate these hazards in connection with a 500-year flood event, which is the common standard for such facilities.

CCC-22

The document (at page 5.9-75) also describes likely flooding (and possible damage) to the shoreline bike trail adjacent to the proposed facility. It appears that the presence of the facility would prevent “managed retreat” of this public accessway and would result in a reduction of public access to the shoreline. This would likely result in nonconformity to the public access and recreation provisions of both the Coastal Act and the LCP. We recommend the DEIR be modified to include an evaluation of the lost public access and recreation opportunities that would result from the presence of the facility and that it identify feasible mitigation measures to maintain that accessway if the facility is built.

CCC-23

Regarding tsunami risks, the DEIR cites the state’s tsunami inundation zone maps prepared by the California Emergency Management Agency, which show a tsunami runup zone along the El Segundo shoreline, but not within the ESGS site boundary. The DEIR’s Appendix 5A provides analyses based on an “extreme” tsunami of two meters high with an accompanying runup of between about 23 and 28 feet above mean lower low water. These projections are substantially lower than those described in the above-referenced City of El Segundo hazard planning document, which identifies a predicted tsunami runup elevation of 50 feet. We recommend the revised DEIR include analyses that include this higher potential runup and that those analyses include expected increases in sea level.

CCC-24

The DEIR also notes (at page 5.9-72) that sea level rise and tsunamis are considered existing environmental conditions under CEQA and that CEQA does not consider them to result in significant impacts unless the proposed project would somehow exacerbate those conditions. It states that “West Basin will implement design measures to protect the Project from potential effects of sea level rise and tsunamis.” However, it does not describe what those measures might be and what effect those measures may have on nearby existing development – for example, whether those features could route floodwater or tsunami surges away from the facility site and increase flooding risks at the power plant, bike path, or other nearby development, or whether those measures might exacerbate coastal erosion along the shoreline. Permit review under the Coastal Act will include evaluation of these types of effects, and we recommend they first be assessed in a revised DEIR.

CCC-25

The DEIR also briefly describes (at pages 5.9-75 & 76) the need for new “coastal hazard protection similar to that provided by the existing ESGS seawall,” though it does not provide a specific description or proposed design or location for this new structure. Please note that both the Coastal Act and the LCP limit the construction of new shoreline protection structures for protecting new development.¹⁵ We recommend the facility plans be modified to not rely on shoreline protection devices over the expected project life.

CCC-26

¹⁵ For example, the LCP currently allows shoreline protective devices only “where necessary to provide protection for existing energy facilities and the bike path,” and when such structures do “not obstruct or interfere with the passage of the public along the beach” (See LCP Section VI. E).

The DEIR also includes a more detailed Coastal Hazards Analysis (Appendix 5A) that quantifies some of the expected hazards, though that analysis overall does not take an adequately conservative approach in its calculations and assessments. We have several comments on that Analysis:

- **Methods used:** The Coastal Hazards Analysis appears to use methods other than those prescribed in the above-referenced state guidance, and uses lower projections of sea level rise than those identified in the state’s guidance. We recommend the analyses be revised to use the methods and projections provided in that guidance. CCC-27
- **Data selection:** The Analysis largely evaluated potential future wave runup scenarios based on records of nearby historical wave heights. By conducting the evaluations based on historic wave heights, the Analysis does not take into account the higher storm and wave energy expected to accompany climate change and sea level rise along Southern California shorelines. We recommend the Analysis be revised to include evaluations provided in the most recent Coastal Storm Modeling System (“CoSMoS 3.0”) assessments done by the U.S. Geological Survey. The CoSMoS 3.0 work appears to identify much higher site risks, wave heights, and erosion rates than were included in this Analysis – for example, it shows that the entire proposed North Site has the potential to flood with about 30 inches of sea level rise (i.e., by about 2055 or sooner) during a 100-year storm. CCC-28
- **Proposed shoreline protection device:** Similar to Section 5.9’s inadequately brief description of a new shoreline protective device, this Analysis states only that a “perimeter wall is a new site feature proposed for the West Basin Desalination Project to prevent the bike trail overpour flows from freely flowing around the southern flank of the NRG sea wall; thereby preventing flooding of the pad on which the desalination facility is proposed to be built...” Again, we recommend the facility plan be modified to avoid the need of new shoreline protection. CCC-29
- **Section 5.9.4 – Impacts and Mitigation Measures, Groundwater:** As noted above in our comments on Section 3.5, the document does not describe the anticipated volumes of groundwater that will need to be pumped from the site during construction or operations. Additionally, although the DEIR acknowledges the presence of known and potential groundwater contaminants at and near the site, it does not describe whether or to what extent those contaminants would be mobilized by any needed groundwater pumping. We recommend this be analyzed in a revised version of this section of the document. CCC-30

Section 5.10 – Land Use and Planning

The DEIR acknowledges that the project as proposed is not consistent with several provisions of the City’s LCP. It notes, for example (on page 5.10-8), that the LCP currently limits development at the proposed site to “onsite expansion or intensification of energy developments...”, and that the City’s Coastal Zone Specific Plan (described on pages 5-10-8 & 9) similarly limits site uses to power plant-related developments. Pursuant to the significance thresholds and criteria listed in the DEIR’s Section 5.10.3, these inconsistencies would therefore represent significant adverse environmental impacts.¹⁶ CCC-31

¹⁶ Section 5.10.3 states that the project would involve a significant adverse environmental impact if it conflicted with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project, including the City’s LCP.

It appears that the City's LCP will need to be comprehensively amended prior to project permitting. LCP provisions to be amended may include, but not be limited to, the following (from the LCP's Section VI):

- A: *Shoreline Access* – acknowledges the need for long-term maintenance of the existing shoreline bike path.
- B: *Recreational and Visitor Serving Facilities* – similarly acknowledges the importance of the existing shoreline bike path.
- E: *Diking, Dredging, Filling, Shoreline Structures* – allows shoreline structures and beachfront protective devices only “where necessary to provide protection for existing energy facilities and the bike path,” and when such structures do “not obstruct or interfere with the passage of the public along the beach.”
- K: *Locating and Planning New Development* – states that the “only new developments expected to occur within the El Segundo portion of the coastal zone are minor modifications of existing energy facilities, minor public works projects, or possibly construction of shoreline protective structures.”
- M: *Public Works* – states that “[a]ll public works necessary to serve the coastal zone in El Segundo are existing.”
- N: *Industrial and Energy Development, Existing Conditions and Plan Proposals* – states that the El Segundo Coastal Zone Specific Plan “explicitly designates most of the coastal zone as either (MT) Marine Terminal or (PP) Power Plant,” and acknowledges that the Coastal Act has designated the power plant site as appropriate for power plant siting and expansion.

CCC-32

We recommend this Land Use section and other relevant sections of the DEIR be modified to identify the proposed project's current non-conformity to the LCP and to describe the needed LCP amendments.

Similarly, and as noted above, this section of the DEIR (at pages 5.10-3 & 4) cites an earlier version of the Coastal Commission's sea level rise guidance, which has since been replaced by newer state guidance. We recommend the revised DEIR include an assessment of the proposed project's conformity to the most recent state guidance documents and that this new assessment be evaluated in a revised analysis in this section of the DEIR.

CCC-33

This section of the document also describes the proposed project as being “coastal dependent” for purposes of Coastal Act conformity; however, it is not clear that it is, in fact, coastal-dependent. The DEIR's project objectives (listed in Sections 3.3 and 7.1.3) identify West Basin's interest in developing a more diversified water portfolio, improved water security, etc.; however, it appears that those objectives could be met by water projects other than seawater desalination (see additional comments below on Section 7 – Alternatives). Additionally, the Commission may find that some, but not all, of the proposed project components are “coastal dependent,” so we recommend the DEIR be modified to assess whether the project would conform to LCP and Coastal Act requirements if all or part of it is determined to not be coastal dependent.

CCC-34

- **Section 5.10, Construction-Related Impacts (p. 5.10-21):** The DEIR (at page 5.10-21) states that the project would “comply with the sea-level rise principle of maximizing natural shoreline values and processes.” As detailed in our comments above, the project appears to need new shoreline protective devices and does not include measures that would allow the beach and public accessways to migrate inland in response to increasing sea levels and expected higher rates of erosion. We recommend this section be revised either to reflect a new proposed project design that will not require shoreline protection or to fully assess the impacts resulting from proposed new shoreline protection.

CCC-35

Section 5.11 – Marine Biological Resources

- **Section 5.11.1, Regulatory Framework:** The DEIR (on pages 5.11-8 & 9) describes California’s 2015 Ocean Plan Amendment (“OPA”), which is applicable to proposed new seawater desalination facilities such as this proposed project. The OPA requires that new facilities use subsurface intakes unless evidence shows them to be infeasible, in which case screened open water intakes may be allowed. If open intakes are allowed, they are to be located in the best available site feasible to minimize the intake and mortality of marine life. Given that the ESGS intake was sited and constructed in 1965, well before we had our current level of knowledge about the adverse effects these types of intakes can have on marine life, it is highly unlikely that its existing location is the best available site for minimizing marine life impacts. We recommend that the DEIR be revised to more fully evaluate the potential feasibility of alternative intakes and a wider range of possible locations for the proposed facility, as required by the OPA.

CCC-36

Additionally, while the DEIR later (in Section 5.11.2 – Environmental Setting) cites the role of the Santa Monica Bay Restoration Commission (“SMBRC”) in protecting and restoring Santa Monica Bay, it does not cite one of the objectives of the SMBRC’s Restoration Plan, which is to “eliminate biological impacts of water intake and discharge from coastal power and desalination plants.”¹⁷ The project as proposed would not be consistent with this Plan objective, which, according to the significance thresholds and criteria provided in the DEIR’s Section 5.10.3, would result in a significant adverse impact.¹⁸ We recommend the DEIR be modified to include the Restoration Plan in this Regulatory Framework section and address the proposed facility’s conformity to this and other relevant goals and objectives of the Restoration Plan.

CCC-37

- **Section 5.11.2, Environmental Setting:** The DEIR describes (on page 5.11-35) of this section the Coastal Act’s definition of “environmentally sensitive habitat areas” (“ESHAs”). Please note that the Coastal Act’s ESHA definition and related requirements apply to upland areas, not marine waters. We recommend removing this discussion from this section of the DEIR.

CCC-38

¹⁷ See Objective 1.3 of the SMBRC’s 2013 *Santa Monica Bay Restoration Plan*.

¹⁸ As noted previously, the DEIR Section 5.10.3’s significance thresholds and criteria state that the proposed project would have a significant adverse environmental impact if it would “conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Project (including but not limited to the General Plan, Specific Plan, LCP, or zoning ordinance) adopted for the purpose of avoiding or mitigating the environmental effect.”

- **Section 5.11.3, Significant Thresholds and Criteria:** The DEIR lists several guidance documents used to establish thresholds and criteria for determining the significance of adverse marine life impacts. Although the list includes the 2015 OPA, it does not cite conformity to the OPA as one of the thresholds or criteria used to evaluate the proposed project. We recommend the DEIR be modified to include OPA conformity as a relevant threshold and that the proposed project’s impacts be evaluated for conformity to the OPA.

CCC-39

- **Section 5.11.4, Impacts and Mitigation Measures – Operational Impacts (starting at page 5.11.-49) and the DEIR’s entrainment assessments** (including Appendices 4A and 4D): The DEIR states that project operations “could” result in impacts to marine biota and “could” have a high salinity discharge affecting marine taxa. The project as proposed will unavoidably result in adverse effects to marine life in the form of entrainment caused by the intake and the diffuser, and we recommend the DEIR be modified to acknowledge these adverse effects. The document also states in several places that using an intake with a 1 mm passive wedgewire screen instead of an unscreened, open intake will “greatly reduce” entrainment. We recommend the DEIR be modified to delete this assertion and instead rely on the environmental documentation that accompanied the adoption of the 2015 OPA, which found that this type of screened intake would reduce entrainment by no more than about 1%.

CCC-40

CCC-41

The DEIR’s proposed Mitigation Measure BIO-M2 would have West Basin conduct a new entrainment assessment based on the OPA requirements. We understand, however, that West Basin intends to conduct this assessment only after the facility is operating and to use it to test some of the findings of the OPA, including whether the 1% entrainment reduction is accurate. However, this post-construction proposal would not provide the pre-construction information necessary to determine whether the project will conform to the OPA. We therefore recommend that the DEIR be modified to include new ETM/APF calculations that have been conducted consistent with OPA provisions (see ETM/APF comments below), or that West Basin conduct a new entrainment study consistent with OPA provisions to replace the existing entrainment data that was collected in 2006. West Basin may then choose to conduct a post-construction follow-up study as described in the DEIR.

CCC-42

- **Empirical Transport Model (“ETM”) / Areas of Production Foregone (“APFs”):** Appendices 4A and 4D provide a discussion of the proposed project’s likely entrainment effects, including calculations of expected Areas of Production Foregone (“APFs”).¹⁹ However, we were unable to replicate the APFs presented in the DEIR using the cited source document.²⁰ Additionally, that source document used several methods that are different than those now prescribed through the state’s 2015 OPA applicable to desalination facilities – for example, it used a different method for determining the length of time larvae are subject to entrainment.²¹

CCC-43

¹⁹ An APF represents the loss of ecosystem productivity caused by the withdrawal of seawater expressed as the area of habitat needed to make up for that loss.

²⁰ Tenera Environmental, Inc. and MBC Applied Environmental Sciences, *El Segundo Generating Station, Clean Water Act Section 316(b) Impingement Mortality and Entrainment Characterization Study*, prepared for El Segundo Power, LLC, 2008.

²¹ The 2008 study based this period of time on “dividing the difference between the size at hatching and the size at the 95th percentile by a larval growth rate obtained from the literature. The duration of the egg stage was added to this value for species with planktonic eggs. The 95th percentile value was used to eliminate outliers from the

The DEIR also describes expected entrainment reductions due to the use of wedgewire screens that are not consistent with the conclusions and requirements of the 2015 OPA. It also bases its assessment on mean intake water volumes of the proposed Local and Regional project (see, for example, Table 5.11-8), rather than the actual maximum expected intake water volumes that will serve as the basis for permit review. To more accurately identify expected adverse marine life impacts and to describe expected mitigation measures, we recommend that the revised DEIR provide modified ETM/APF calculations that are conducted in a manner consistent with the OPA.

CCC-44

Section 5.14 – Recreation

- **Section 5.14.1, Regulatory Framework, Local:** The DEIR cites relevant provisions of the El Segundo General Plan, but does not cite applicable provisions of the City’s LCP. The LCP includes several Coastal Act policies related to public access and recreation, such as providing for the continued existence of the public bike path along the shoreline. We recommend the DEIR be revised to include these relevant LCP provisions and to evaluate the proposed project’s conformity to these provisions, or alternatively, to describe the need for an LCP amendment to allow the project to conform to the LCP.

CCC-45

- **Section 5.14.4, Impacts and Mitigation Measures:** The DEIR states that project construction would result in temporary impacts to the bike path, but that West Basin would mitigate any closures by creating a detour and by repairing any construction-related impacts to the bike path. We recommend the DEIR be revised to identify the approximate period of time the bike path may be closed due to project construction and that it identify proposed detour routes that West Basin would make available during those closures. Please also identify any project construction impacts that would result in temporary or permanent impacts to public parking areas that provide coastal access.

CCC-46

Section 5.16 – Utilities and Service Systems

The DEIR cites relevant sections of the City’s Municipal Code, but not its LCP. As noted above in our comments on Section 5.10 – Land Use, Section M of the LCP states that “[a]ll public works necessary to serve the coastal zone in El Segundo are existing.” We recommend the DEIR be revised to address this potential LCP nonconformity and the need for an LCP amendment.

CCC-47

SECTION 7 – ALTERNATIVES

The DEIR evaluates several variations of the project as proposed and a “no project” alternative. However, and as noted above, it appears that the DEIR’s project objectives could be met by a wider range of feasible water supply alternatives that would avoid or lessen many of the proposed project’s adverse impacts.²² These other alternatives include increased conservation

CCC-48

calculations. The size at hatching estimated as follows: $Hatch\ Length = (Median\ Length + 1^{st}\ Percentile\ Length)/2$.” The study additionally states that it instead used the 10th percentile length for several species.

The OPA prescribes using a different method. As stated in Appendix E of the OPA’s Substitute Environmental Documentation (at page 44), the number of days of larval exposure to entrainment is based on “calculating the difference between the values of the 1st and upper 99th percentiles of the length measurements for each entrained larval taxon and dividing this range by an estimate of the larval growth rate for that taxon that was obtained from the scientific literature.”

²² The DEIR’s Sections 3.3 and 7.1.2 list the project objectives as:

measures, increased capacity and reliance on West Basin's existing recycled water programs, brackish water desalination, and others. Each of these alternatives is likely to have fewer adverse impacts on marine life and on public access to the shoreline, and would have reduced energy use and greenhouse gas emissions and reduced risks from coastal hazards.

CCC-48

Effects of concrete plugs in intake and discharge structures on alternatives analysis: As noted above, the power plant owner plans to plug the structures West Basin plans to use for seawater intake and brine discharge. We recommend this section of the DEIR be revised to describe the effects these plugs would have on the feasibility of using these structures, what additional measures West Basin would need to implement to make these structures useable, and what alternatives may result in fewer impacts and require fewer measures to be included as part of the proposed project.

CCC-49

Extending existing intakes: This section of the DEIR also describes several siting variations for the proposed facility – e.g., using the Chevron Marine Terminal pipeline or the existing intake and discharge at the Redondo Beach Generating Station. As a reason to reject some of these alternatives, the document acknowledges that using these facilities would likely involve more construction-related impacts to the seafloor. However, in some instances, extending existing intakes further offshore or to deeper water may substantially reduce entrainment compared to what would occur at the existing intake location. Additionally, the Ocean Plan Amendment recognizes the difference between long-term operational impacts and relatively short-term construction impacts through its emphasis on minimizing entrainment and its requirement to fully mitigate for that impact versus its allowance that construction-related impacts may not necessarily require mitigation. This may be especially true in areas of extensive sandy seafloor such as those offshore of the proposed project sites, where construction impacts would have relatively little impact. We recommend the revised DEIR evaluate whether extending these existing intakes further offshore or to deeper water would result in lower entrainment rates and a reduced compensatory mitigation requirement.

CCC-50

Blended discharge: We recommend the revised DEIR fully evaluate the feasibility of West Basin routing its desalination effluent for discharge through the nearby Hyperion wastewater treatment facility outfall. The OPA favors this approach, as it would eliminate the adverse discharge entrainment effects associated with the proposed project's use of diffusers and would likely reduce the amount of compensatory mitigation West Basin would need to provide. The DEIR notes that the using this outfall may be infeasible because Hyperion discharge flows are likely to be reduced at some future date; however, the document does not provide a timeline for when those flows might be reduced and does not evaluate whether West Basin could feasibly use the Hyperion system until then. Additionally, even under those future conditions, a blended discharge could have reduced adverse effects compared to West Basin's currently proposed stand-alone facility discharge. We recommend the document be revised to include these assessments.

CCC-51

- “Diversify West Basin's water source portfolio to increase reliability in the near and intermediate term (5-15 years) and the long term (15-30 years) while reducing reliance on imported water.
- Improve water security through West Basin's increased local control of water supplies and infrastructure.
- Improve West Basin's local control of future water costs and long-term price stability.
- Improve climate resiliency by developing a water source that is less susceptible to hydrologic variability.
- Develop a potable water supply that is economically viable and environmentally responsible.”

- **Section 7.1.3, Significant Unavoidable Adverse Impacts of the Proposed Project:** The DEIR identifies just two significant unavoidable adverse impacts of the local and regional projects – i.e., construction-related air emissions and construction-related noise. We recommend the document be revised to include the additional significant adverse impacts described above, including non-conformity to land use requirements.

CCC-52

CLOSING

Thank you for your attention to these comments. Please feel free to contact me at 415-904-5248 or tluster@coastal.ca.gov if you have any questions or would like additional information about our review.

CCC-53

Sincerely,



Tom Luster
Energy, Ocean Resources, and Federal Consistency Division

cc: California Department of Fish and Wildlife – Eric Wilkins
State Lands Commission – Alexandra Borak
State Water Resources Control Board – Kim Tenggardjaja, Daniel Ellis
Los Angeles Regional Water Quality Control Board – Cassandra Owens
Coastal Commission – Chuck Posner



State of California – Natural Resources Agency
 DEPARTMENT OF FISH AND WILDLIFE
 Marine Region
 1933 Cliff Drive, Suite 9
 Santa Barbara, CA 93109
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
 CHARLTON H. BONHAM, Director



June 25, 2018

Zita Yu, Ph.D., P.E., Project Manager
 West Basin Municipal Water District
 17140 S Avalon Blvd
 Carson, CA 90746
desalEIR@westbasin.org

Subject: West Basin Municipal Water District (West Basin) proposed Ocean Water Desalination Project.

Dear Ms. Zita Yu:

The California Department of Fish and Wildlife (Department) has reviewed the Draft Environmental Impact Report (DEIR) for the West Basin proposed Ocean Water Desalination Project (Project). West Basin, serving as the Lead Agency for this Project, prepared the DEIR. The proposed Project would include the construction of a new ocean water desalination facility to produce 20 million gallons per day (MGD) of potable drinking water for the Local Project with the potential for future expansion of the facility to produce up to 60 MGD for the Regional Project. The Local Project would be used to serve communities within West Basin's service area. The Regional Project would be initiated by West Basin in partnership with other local and regional partners to meet demands and increase water supply reliability for a larger portion of the Southern California community. The desalination facility would be located at the existing El Segundo Generating Station (ESGS) on the Pacific coast within the city of El Segundo.

The Project as proposed would consist of three main components: 1) a shore-based, ocean-water desalination facility consisting of a pretreatment and reverse osmosis system; 2) a screened ocean-water intake and brine concentrate discharge system consisting of repurposing and upgrading existing offshore intake and discharge tunnels located offshore of the ESGS; and 3) a desalinated water conveyance system to be constructed inland of the ESGS to deliver potable water produced at the desalination facility to the local and regional water supply systems.

As a trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, and habitat necessary for biologically sustainable populations of those species. In this capacity, the Department administers the California Endangered Species Act, the Native Plant Protection Act, and other provisions of the California Fish and Game Code that afford protection to the State's fish and wildlife trust resources. The Department is the State's fish and wildlife "Trustee Agency" under the California Environmental Quality Act (CEQA guidelines §15386). The Department is also responsible for marine biodiversity protection under the Marine Life Protection Act (MLPA) in coastal marine waters of California. Pursuant to our jurisdiction, the Department has the following comments and recommendations regarding the Project.

CDFW-1

Conserving California's Wildlife Since 1870

Biological Significance

The marine habitats of Santa Monica Bay are rich and productive ranging from nearshore-dominated sandy habitats, rocky intertidal, wetlands, and offshore pelagic. Key features within the bay include the Redondo Canyon and the Santa Monica Canyon. These habitats are home to numerous State and Federal-listed species as well as numerous California Species of Special Concern (SSC). This marine environment is a vital California economic resource for commercial and recreational fishing as well as a wide variety of other recreational and commercial activities.

CDFW-2

Marine Environmental Concerns

Desalination Intake

The Department is concerned about the potential effects to marine resources from impingement (organisms trapped on the intake screens) and entrainment (organisms entering the plant through intake or being trapped in the turbulent discharge) by the Project. The Department prefers the desalination intake method of drawing salt water from wells to avoid entrainment and impingement detailed in the California State Water Resources Control Board (SWRCB) Ocean Plan Desalination Amendment (Ocean Plan). While the Department recognizes that this Project has performed extensive studies to determine that wells are infeasible due to geological and space constraints at site specific locations, the Department continues to question whether wells farther from the ESGS and Redondo Beach Generating Station locations could be used.

CDFW-3

Additionally, the Project proposes to repurpose and upgrade existing offshore intake structures from the ESGS facility. The Department questions whether this is the optimal location for an open water intake as no other sites were analyzed. The Department recommends the Final EIR include an analysis of open-water-intake locations that would include an analysis of different depths and alternate locations.

CDFW-4

The Department appreciates the proposed use of 1 mm wedgewire screens for the Project and agrees that the low intake velocity (0.5 feet per second) coupled with the wedgewire screens will greatly reduce impingement and entrainment for this Project. However, the Department remains concerned with the wedgewire screen technology, as it is relatively new on the California Coast. The Department recommends the Final EIR include a plan for monitoring and testing of the wedgewire screen after deployment to address the following concerns the Department has regarding fish screens:

CDFW-5

- Biofouling of the proposed wedgewire screens
- Impingement and entrainment of organisms smaller than 1 mm
- Maintenance of the screens

The Department anticipates the need for mitigation for the entrainment of fish, invertebrates, and other marine organisms that are smaller than the screen size. Mitigation measure BIO-M2: Entrainment Mitigation does address the need for entrainment assessment and monitoring. BIO-M2 also addresses the potential need for mitigation following assessment and monitoring per the Ocean Plan. The proposed mitigation measure describes an assessment period of at least 12 consecutive months that will be designed to account for variation in oceanographic or hydrologic conditions and larval abundance. The Department recommends a longer assessment period of at least 24 months to account for differences in El Nino and La Nina ocean conditions. Per the Ocean Plan, the Department should be included in discussions regarding any mitigation project or fee-based mitigation program.

CDFW-6

Discharge Brine and Water Quality

The proposed desalination plant will be initially designed to create 20 MGD of desalinated water by taking in roughly 42 to 45 MGD of seawater and create roughly 20.9 MGD of brine waste and 4.5 MGD of treated backwash water per day. A multiport diffuser system consisting of multiple duckbill diffuser ports would be installed into the existing ESGS discharge tower. The diffuser ports would be designed at different angles for lower-velocity discharge to reduce turbulence mortality. The Department remains concerned about potential impacts of entrainment to larval organisms in the Zone of Initial Dilution (ZID) due to sheer stress and concerns related to mixing of the brine in the ZID.

CDFW-7

The Project proposes to repurpose and upgrade existing offshore discharge structures from the ESGS facility. Upon review of the Appendix_4C-Modeling Brine Disposal from the West Basin Ocean Water Desalination Project, the Department identified two concerns. First, the modeling was based on possible diffuser configurations because the design of the diffuser system has not been finalized. Hence, the Appendix_4C states, "a procedure for predicting dilution due to a riser with an arbitrary number of jets at an arbitrary angle to the horizontal was devised and is described. Because the receiving water is relatively shallow, the diffuser nozzles must be oriented at less than the usually accepted optimum angle of 60°". The Department is concerned with the shallow water depth that requires the diffuser nozzles be angled at less than the accepted optimum angle. Because there is no final diffuser system design, the Department recommends that a modeling analysis on the finalized design of the proposed diffuser system be included in the Final EIR. It is difficult for the Department to assess potential impacts on a design that is not finalized. Second, the Department recommends the Final FEIR include an analysis of different discharge options; including increased depth, co-mingling discharge from another location to bring down the brine salinity, and alternate locations.

CDFW-8

CDFW-9

Construction Impacts to the Marine Environment

The Department is concerned about the following construction related Project impacts to the marine environment:

CDFW-10

Riprap Reconfiguration: The Department appreciates the reuse of existing riprap and recognizes the need to relocate an estimated 2,000 tons of riprap around the intake structure and 2,000 tons of riprap around the discharge structure temporarily. The DEIR states that the riprap would be removed and temporarily stockpiled on seafloor or if infeasible stored at the Port of Los Angeles (POLA)/Port of Long Beach (POLB). The Department recognizes that impacts to the benthic habitat may be temporary but prefers the option of storing the riprap material at POLA/POLB to minimize impacts to important benthic habitat species. The Department recommends adding additional mitigation measures to the Final EIR: 1) survey the existing riprap prior to removal and construction activities and prior to replacement at the intake and discharge structures, for sensitive species such as abalone. This additional mitigation measure should also include a description of how the survey will be developed and which species will be included in a pre-riprap removal survey. Species should include both State and Federal listed, species of special concern, and recreationally and commercially important species. Should sensitive species be seen during the survey, the Department should be consulted prior to removal and relocation of the riprap; 2) survey the existing riprap prior to removal and construction activities and prior to replacement at the intake and discharge structures, for invasive species such as Caulerpa. If Caulerpa or other invasive species are detected, the Department should be consulted prior to removal and relocation of the riprap.

CDFW-11

Dredging: The Department is concerned about the short-term impacts from dredging activities. The Department recommends using all appropriate best management practices for dredging, including but not limited to the use of the clamshell bucket dredge, silt curtains, and turbidity monitoring. Details of all best management practices planned for the Project should be included in the Final EIR. The Department also recommends coordinating with the Dredged Material Management Team prior to commencing dredging activities.

CDFW-12

Pile Driving: The Department is concerned about the sound levels generated by underwater construction activities, in particular pile driving activities for six to twelve piles. The DEIR states that the Project proposes using a vibratory hammer, which is the Department's preferred method. However, the Department is concerned that the DEIR states that an impact hammer may be required without any analysis as to why it may be required. The Department is a signatory agency to the Agreement in Principle for Interim Criteria for Injury to Fish from Pile Driving Activities, June 12, 2008. The agreed upon sound pressure levels are 206 decibels (dB) peak and 187 dB accumulated sound exposure level (SEL). The DEIR does not foresee the SEL levels exceeding the agreed upon criteria and the Department appreciates Mitigation Measure BIO-M 5.11-1 for Pile Driving Noise Reduction for Protection of Fish and Marine Mammals. The mitigation measure recommends that sound levels for fish be less than 183 dB. The Department recommends in water sound level monitoring for fish during pile driving activities and that the Final EIR include a modeled calculation of underwater noise and specific details regarding the pile size, diameter, numbers, and materials. The Department cannot fully analyze potential marine related construction impacts without the modeled SELs or exact number of proposed piles and materials.

CDFW-13

Marine Protected Areas

The Marine Life Protection Act (MLPA) required the state to redesign its pre-existing system of marine protected areas (MPAs) to function as a statewide network in order to protect the abundance integrity and diversity of marine life, habitats and ecosystems. The MPAs are regulated through Fish and Game Code Section 2850 and Title 14, Section 632, CCR. As stated in the DEIR, MPAs in the vicinity of the Project include Point Dume State Marine Conservation Area (SMCA), Point Dume State Marine Reserve (SMR), Point Vicente SMCA, and Abalone Cove SMCA. Key to the management of the network of MPAs is the connectivity of each MPA. Connectivity of the MPAs includes recruitment and dispersal of larval organisms and adult organisms within the MPAs and to and from areas outside of the MPAs. Since the project lies in between these two MPA clusters, connectivity could be disrupted between these MPAs. The Department recommends further analysis in the Final EIR of potential impacts to the connectivity of MPAs in the Project area from impacts to the Project source water.

CDFW-14

Terrestrial Environmental Concerns

Brown Pelican

The brown pelican (*Pelecanus occidentalis*) is listed as a fully protected species by the Department (Fish and Game Code § 3511). Brown pelican is common along the southern California coast year round. Breeding is only known to occur on the Channel Islands, but brown pelican utilizes the southern California coast for roosting habitat. This species does not roost overnight on water. Suitable roosting habitat includes mudflats, sandy beaches, wharfs, rocky areas, and jetties.

CDFW-15

The Department is concerned the Project may have the potential to affect brown pelican if construction-related activities, including lighting or noise impacts roosting sites. The DEIR did not adequately analyze potential impacts to roosting brown pelican from construction-related impacts on land. The Department recommends the DEIR include an assessment as to whether or not the Project will impact brown pelican roosting habitat. This could be accomplished by conducting roosting surveys at the appropriate time of year outside of the breeding season (March through August). If brown pelican roosting habitat is found on or adjacent to the Project site, the Department recommends: 1) construction stop at least one hour prior to the observed daily arrival time of brown pelican to their roosting habitat, and 2) sound and visual barriers be erected to minimize sound disturbances to birds roosting farther away but still possibly impacted by construction noise.

CDFW-15

The Department recommends a biological monitor be on site for the duration of the project to check for brown pelican individuals daily, prior to commencing construction for the day. If sick or distressed individuals are found, the Department and the California Marine Mammal Stranding Network hotline at 866-767-6114 should be notified to determine the appropriate course of action.

Western Snowy Plover

The Project shares a boundary with western snowy plover (*Charadrius nivosus ssp. nivosus*) Critical Habitat Subunit 45C. The DEIR Biological Impact section includes several mitigation measures proposed to reduce impacts to western snowy plover. Mitigation Measure Bio-1 which appears to only apply to actively nesting birds and vegetation removal, BIO-2 requiring a pre-construction survey clearance for western snowy plover and establishing a minimum buffer of 500 feet for nesting plover, and BIO-5 which calls for a biological monitor to be present only during vegetation removal and all construction immediately adjacent to the open beach.

The Department is concerned the Project may still impact western snowy plover both during the breeding season (February 15 to August 31), wintering snowy plover (September 1 to February 14) in adjacent habitat, as well as in critical habitat beyond the 500 foot study area identified in the DEIR even with the implementation of the above mentioned minimization measures.

CDFW-16

Noise, vibration, and visual disturbance associated with the use of heavy equipment during Project construction activities has the potential to disrupt western snowy plover behaviors in adjacent habitat by masking intraspecific communication and startling birds (e.g., see Dooling and Popper 2007). The DEIR analyzed noise and vibration impacts as they related to human and building safety standards, and did not include detailed information on how these potential affects were analyzed for western snowy plover. The DEIR evaluated vibrations as they would exceed structural damage potential criteria of 0.12 inches per second at 130 feet, where pile driving can generate between 0.014 and 0.128 inches per second. Shorebirds appear to have a sensitivity to vibration, as observed in nesting colonies near railroad tracks in San Diego County.

The DEIR states Project construction is estimated to take 52 to 60 months with the greatest noise expected during the first 15 months of Project. The proposed pile driving would occur for 3 months with noise levels estimated at 93 dB at 130 feet.

The Department recommends pile driving not be used during construction of the Project. Alternative methods to construct Project features, that produce less noise and vibration, such as

press-in method of pile installation, should be utilized if technically possible. At a minimum, the use of noise shrouds or curtains may reduce noise levels by as much as 30 dB(A) (Marr 2001). The Department also recommends monitoring noise and vibration during construction and setting allowable limits for protection of wildlife.

The Department recommends the following mitigation measure be incorporated into the DEIR: If western snowy plover are observed within Critical Habitat Subunit 45C, and no breeding behavior activity is observed, the project biologist will establish appropriate buffers and monitor the western snowy plovers at least once per day during the first 15 months of construction activities until the snowy plover are no longer observed using these areas. The DEIR indicates this 15-month period will be the noisiest period of construction. The project biologist will have the ability to halt Project construction activities, if necessary, to avoid unanticipated impacts, including significant disturbance, to the snowy plover foraging, roosting or breeding behavior. Surveys and monitoring should be conducted by individuals that are familiar with western snowy plover biology and ecology and have field experience surveying for nests and conducting monitoring activities for western snowy plover.

CDFW-16

Increased ambient lighting levels can increase predation risks and disorientation and disrupt normal behaviors of western snowy plovers in adjacent feeding, breeding, and roosting habitat (Longcore and Rich 2004). The Department recommends constructing the project to avoid the need for nighttime work and lighting.

Vegetation Classification

The DEIR uses a vegetation classification system that does not align with the State's vegetation mapping standard. The DEIR states *Ambrosia chamissonis* and *Achillea millefolium* are present in the survey area. These species are found in a rare (S3) vegetation alliance (*Abronia latifolia-Ambrosia chamissonis* Herbaceous Alliance). The Department recommends that floristic, alliance- and/or association-based mapping and vegetation impact assessments be conducted at the Project site and neighboring vicinity. The Manual of California Vegetation (MCV), second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2008). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

CDFW-17

Please note, in 2007, the State Legislature required the Department to develop and maintain a vegetation mapping standard for the state (Fish and Game Code § 1940). This standard complies with the National Vegetation Classification System which utilizes alliance and association based classification of unique vegetation stands. The Department utilizes vegetation descriptions found in the MCV, found online at <http://vegetation.cnps.org/>. In order for the DEIR to determine the rarity ranking of vegetation communities potentially affected by the Project, the MCV alliance/association community names should be provided as the Department only tracks rare natural communities using this classification system.

The Department considers natural communities with ranks of S1-S3 to be sensitive natural communities that should be addressed in CEQA (CEQA Guidelines § 15125[c]). An S3 ranking indicates there are 21-80 occurrences of this community in existence in California, S2 has 6-20 occurrences and S1 has less than 6 occurrences.

The Department recommends avoiding any sensitive natural communities found on or adjacent to the Project. If avoidance is not feasible, the Department recommends mitigating at a ratio of no less than 5:1 for impacts to S3 ranked communities and 7:1 for S2 communities. This ratio is for the acreage and the individual plants that comprise each unique community.

CDFW-17

Rare Plants

Appendix 6, page 41 of the DEIR states "All vegetated areas within the survey area are manmade ornamental areas or areas that have been revegetated...it was determined that the project site does not provide suitable habitat that would support any special-status plant species known to occur in the general vicinity of the project." The Department questions this conclusion, as the beach is included in the survey area and has natural vegetation typical of beach environments. The Department recommends surveys be conducted following Department protocol found at <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959> for any species found in sandy coastal environments. Absent this information, the Department is not able to assess Project impacts to rare plants or provide meaningful avoidance, minimization or mitigation measures.

CDFW-18

EI Segundo Blue Butterfly

The DEIR addresses the possibility of EI Segundo Blue Butterfly occurring on restored coast buckwheat scrub and requires pre-construction surveys as a mitigation measure. The DEIR references a previous negative survey, but does not state if this was a focused survey done during the appropriate time of year referenced against known population observances. The Department does not consider conducting pre-construction surveys as mitigation for potential impacts to a sensitive species. CEQA Guidelines Sections 15070 and 15071 require the document to analyze if the Project may have a significant effect on the environment as well as review if the Project will "avoid the effect or mitigate to a point where clearly no significant effects would occur". Relying on future surveys, the preparation of future management plans, or mitigating by obtaining permits from the Department are considered deferred mitigation under CEQA. In order to analyze if a project may have a significant effect on the environment, the Project-related impacts, including survey results for species that occur in the entire Project footprint need to be disclosed during the public comment period. This information is necessary to allow the Department to comment on alternatives to avoid impacts, as well as to assess the significance of the specific impact relative to the species (e.g., current range, distribution, population trends, and connectivity).

CDFW-19

The DEIR concludes that because the slopes were planted or restored with coast buckwheat habitat, they are not valuable and no mitigation would be needed. The DEIR should determine if the coast buckwheat scrub was planted as mitigation for previous impacts to EI Segundo Blue Butterfly or its habitat, or required by any entity as part of the development of the area. The Department recommends including specific mitigation measures for any impacts to the EI Segundo Blue Butterfly host vegetation community, as well as provide specific minimization and avoidance measures for the butterfly should it be found on the Project site.

Bats

Potential impacts to bats due to the implementation of the Project are not fully disclosed in the DEIR. The Project contains abandoned structures as well as palm and other trees that have the potential to provide habitat for bats.

CDFW-20

Bats are considered non-game mammals and are protected by state law from take and/or harassment (Fish and Game Code § 4150, CCR § 251.1). Several bat species are also considered SSC, which meet the CEQA definition of rare, threatened, or endangered species (CEQA Guidelines §15065). The Department considers adverse impacts to a SSC, for the purposes of CEQA, to be significant without mitigation. Mitigation is not just avoiding maternity roosts, wintering sites, night roosts, mating roosts and foraging sites, but providing similarly functioning habitat to what is impacted.

The Department recommends bat surveys be conducted by a qualified bat specialist to determine baseline conditions within the Project and within a 500-foot buffer, and analyze the potential significant effects of the proposed Project on the species (CEQA Guidelines §15125). The Department recommends the DEIR include the use of acoustic recognition technology to maximize detection of bat species to minimize impacts to sensitive bat species. The DEIR should document the presence of any bats and include species-specific mitigation measures to reduce impacts to below a level of significance.

To avoid the direct loss of bats that could result from removal of trees, rock crevices, and structures that may provide roosting habitat (winter hibernacula, summer, and maternity), the Department recommends the following steps are implemented:

1. Identify the species of bats present on the site;
2. Determine how and when these species utilize the site and what specific habitat requirements are necessary [thermal gradients throughout the year, size of crevices, tree types, location of hibernacula/roost (e.g., height, aspect, etc.);
3. Avoid the areas being utilized by bats for hibernacula/roosting; if avoidance is not feasible, a bat specialist should design alternative habitat that is specific to the species of bat being displaced and develop a relocation plan in coordination with the Department;
4. The bat specialist should document all demolition monitoring activities, and prepare a summary report to the Lead Agency upon completion of tree/rock disturbance and/or building demolition activities. The Department requests copies of any reports prepared related to bat surveys (e.g., monitoring, demolition);
5. If confirmed occupied or formerly occupied bat roosting/hibernacula and foraging habitat is destroyed, habitat of comparable size, function and quality should be created or preserved and maintained at a nearby suitable undisturbed area. The bat habitat (not bat houses) mitigation shall be determined by the bat specialist in consultation with the Department;
6. A monitoring plan should be prepared and submitted to the Lead Agency. The monitoring plan should describe proposed mitigation habitat, and include performance standards for the use of replacement roosts/hibernacula by the displaced species, as well as provisions to prevent harassment, predation, and disease of relocated bats; and,
7. Annual reports detailing the success of roost replacement and bat relocation should be prepared and submitted to Lead Agency and the Department for five years following relocation or until performance standards are met, whichever period is longer.

CDFW-20

Absent the above requested information, the DEIR does not analyze impacts to bats, and the DEIR does not provide any alternatives discussion or any avoidance strategies to mitigate the loss of occupied bat habitat.

General Construction Recommendations

Parking, driving, lay-down, stockpiling, and vehicle and equipment storage should be limited to previously compacted and developed areas and the designated staging area. No off-road vehicle use should be permitted beyond the project site and designated access routes. Disturbances to the adjacent native vegetation should be minimized. Nonnative plants, including noxious weeds (as listed by the California Invasive Plant Council), should be prevented from establishing in temporarily disturbed areas, either by hand-weeding or selective application of herbicide.

CDFW-21

Conclusion


The Department appreciates the opportunity to provide comments on the DEIR for the West Basin proposed Ocean Water Desalination Project. If you require additional information regarding marine related issues, please contact Mr. Eric Wilkins, Senior Environmental Scientist Specialist, at (805) 594-6172 or via e-mail at Eric.Wilkins@Wildlife.ca.gov. If you require additional information regarding terrestrial related issues, please contact Ms. Kelly Schmoker-Stanphill, Senior Environmental Scientist Specialist, at (949) 581-1015 or via e-mail at Kelly.Schmoker@Wildlife.ca.gov.

CDFW-22

Sincerely,



Craig Shuman, D Env.
Marine Regional Manager



Edmund Pert
South Coast Regional Manager

cc: California Department of Fish and Wildlife
Becky Ota, Environmental Program Manager
Marine Region
Becky.Ota@wildlife.ca.gov

William Paznokas, Senior Environmental Scientist Supervisor
Marine Region
William.Paznokas@Wildlife.ca.gov

Eric Wilkins, Senior Environmental Scientist Specialist
Marine Region
Eric.Wilkins@Wildlife.ca.gov

Tom Luster
California Coastal Commission
Tom.Luster@coastal.ca.gov

Cy Oggins, Chief Environmental Planning and Management
California State Lands Commission
Cy.Oggins@slc.ca.gov

Ms. Zita Yu
West Basin Municipal Water District
Page 10 of 10
June 25, 2018

Claire Waggoner, Statewide Policies and Planning Unit Chief
State Water Resource Control Board
Claire.Waggoner@waterboards.ca.gov

References:

Dooling, R.J. and A.N. Popper. 2007. The effects of highway noise on birds. Report prepared by Environmental BioAcoustics LLC for the California Department of Transportation, Sacramento, California.

Longcore, T. and C. Rich. 2004. Ecological light pollution. *Front Ecological Environment* 2(4):191-198.

Sawyer, J.O., Keeler-Wolf, T. and Evens, J.M. 2009. *California Native Plant Society*, Sacramento, California, USA. 1,300 pages.

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov



June 25, 2018

West Basin Municipal Water District
Attn: Zita Yu, Ph.D., P.E., Project Manager
17140 S. Avalon Blvd., Suite 210
Carson, CA 90746

Re: Comments on the Draft Environmental Impact Report for the Ocean Water Desalination Project (SCH # 2015081087)

Dear Ms. Yu:

California Energy Commission staff appreciates the opportunity to provide comments on the Draft Environmental Impact Report (DEIR) for the Ocean Water Desalination Project. We previously provided comments on the Notice of Preparation (NOP) in a letter dated October 15, 2015. Upon reviewing the DEIR, staff concludes that most our comments on the NOP have been addressed adequately. Our remaining comments cover the issue areas of Biology and Cultural Resources.

CEC-1

Biology

1. Page 2-37, states that the local project’s anticipated intake capacity is 42 million gallons per day (MGD), elsewhere, it is stated as 40 MGD (Page 2-41).

CEC-2

2. The Draft EIR contains a number of mitigation measures, and Energy Commission staff generally supports these measures. Additional language is offered to strengthen certain measures. This language is based on staff’s experience, and has yielded positive results in power plant projects, particularly during the construction phase. The additional language enhances the Worker Environmental Awareness Program (WEAP), aids in the selection of a proper qualified biologist, clarifies nesting bird measures, and overall, promotes routine and scientifically sound communications between the project owner and the permitting agency. Select measures should be augmented as follows (additions are shown in **underlined boldface**, deletions are shown in ~~strikeout~~):

CEC-3

BIO-1: Prior to commencement of ground-disturbing activities, West Basin shall ~~implement~~ **develop** a WEAP to educate all construction personnel on the area’s sensitive biological resources, environmental concerns, and mitigation. The WEAP must discuss the locations and types of sensitive biological resources on the Project site and adjacent areas, identify monitoring methods, **provide pictures**, and identify habitat **and wildlife** protection measures. **The WEAP shall be repeated as necessary during**

construction, mobilization, and demolition activities for new employees, and a copy of the training logs available for inspection upon request by the Responsible agency. The WEAP shall be administered by the Authorized Biologist.

BIO-2: During site mobilization, demolition, and construction, West Basin shall monitor the on-shore construction site sufficiently to ensure that sensitive species are avoided. The extent of monitoring shall be determined by a qualified biologist. The qualified biologist shall prepare monthly reports identifying monitoring results for the duration of the construction period. **The qualified biologist shall have a bachelor's degree in Biology or related subject, and at least a year of work experience with habitat and species expected or potentially expected to occur on or adjacent the project site.**

BIO-4: West Basin shall implement the following measures during construction and operation to prevent the spread and propagation of nonnative, invasive weeds: Only **certified** weed-free straw, hay bales, and seed shall be used for erosion control and sediment barrier installations.

BIO-5: Construction activities involving vegetation removal shall be conducted between September 1 and December 31. For construction occurs inside the nesting season between January 15 and August 31, **West Basin an Authorized Biologist** shall conduct a pre-construction nesting avian species clearance survey in accordance with the following guidelines: a) At least one pre-construction survey shall be conducted within 72 hours preceding initiation of vegetation removal and construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed 3 weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation b) The survey shall cover all potential nesting habitat and substrate on the Project site and within 500 feet of its perimeter. c) If no active nests are identified, the construction work shall be allowed to proceed. The results of the clearance survey **and any ongoing monitoring or buffer implementation** shall be documented in a **monthly** reports. d) If the qualified biologist finds an active nest during the survey and determines that the nest may be impacted, a no-disturbance buffer zone shall be established (protected areas around the nest, **typically established using pin flags or construction netting**). The size of the buffer shall be determined by the qualified biologist in consultation **with** CDFW and USFWS, based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. These buffers are typically 300 feet from the nests of non-listed passerine species and 500 feet from the nests of raptors and listed species. e) Any active nests observed during the survey shall be mapped on an aerial photograph using **GPS, and provided in the monthly report**. f) If active nests are detected during the survey, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise, exposure to exhaust), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, placing noisy stationary

CEC-3

construction equipment in acoustically engineered enclosures and/or relocating them away from noise-sensitive receptors, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

BIO-9: One year prior to commencement of ground-disturbing activities, an El Segundo blue butterfly focused survey shall be conducted by a qualified biologist within areas of the Project site containing suitable habitat supporting coast buckwheat during the adult flight season (mid-June to early September). The adult flight stage of this species can last as little as 4 days to as much as 2 weeks per individual. If this species is found, ground- disturbing activities shall not occur within these areas until West Basin consults with the USFWS and determines if avoidance measures are possible or if an incidental take permit is required prior to Project construction. The qualified biologist will provide the focused survey report within the applicable monthly compliance report, and, if El Segundo blue butterflies are found, shall also report monthly the progress on implementation of any mitigation, monitoring, and compliance efforts, including the submittal of maps, photographs, and shall file with the CNDDDB reports of occurrences.

CEC-3

3. The following references appear to be missing: Sawyer, Keeler-Wolf, and Evens (2009), CDFW 2003, and Sibley, 2014.

CEC-4

4. Wildlife surveys conducted were insufficient to reveal the presence of burrowing owl. California Department of Fish and Wildlife’s (CDFW) October 30, 2015 comment letter on the NOP (Available in the Draft EIR, Appendix 1B) states that owls may be present, and that preconstruction survey recommendations are available to be implemented on the site; yet these were not followed. The analysis should discuss the suitability of the surveys to detect owls, and a rationale for why burrowing owls were dismissed from further analysis within the DEIR (e.g. burrowing owl appears in Table 5.3-2, and is dismissed as having no potential to occur).

CEC-5

Cultural Resources

West Basin concludes that the proposed desalination facility, eastern portions of the proposed conveyance pipeline and alternative pipeline alignments, and offshore screened intake facility have the potential to contain buried archaeological deposits (WBMWD 2018:5.4-24). Appendix 7A to the DEIR goes on to identify some of the kinds of archaeological materials that could be found buried in the proposed project:

- historic artifacts such as glass bottles and fragments, cans, nails, ceramic and pottery fragments, and other metal objects;
- historic structural or building foundations, walkways, cisterns, pipes, privies, and other structural elements;
- prehistoric flaked-stone artifacts and debitage (waste material), consisting of obsidian, basalt, and or cryptocrystalline silicates;
- groundstone artifacts, including mortars, pestles, and grinding slabs;
- dark, greasy soil that may be associated with charcoal, ash, bone, shell, flaked stone, groundstone, and fire affected rocks (Brunzell 2016:9.)

CEC-6

Energy Commission staff agrees with West Basin’s assessment of the types of expectable archaeological materials below the proposed project’s surface. A four-year construction monitoring program at the El Segundo Generating Station resulted in the identification of 16 historic archaeological finds across the energy facility (White et al. 2014), supporting West Basin’s conclusions regarding archaeological sensitivity in the proposed project area. West Basin’s proposed mitigation measures CUL-1 through CUL-5 are similar to the effective mitigation and monitoring program that the Energy Commission employed during construction at the El Segundo Generating Station (CEC 2010:42–49; White et al. 2008).

↑
CEC-6

Conclusion

Thank you for the opportunity to participate in the review of the Ocean Water Desalination Project DEIR. If you have any questions about our comments, please contact Chris Davis, Siting Office Manager, at 916-654-4842, or by email at chris.davis@energy.ca.gov.

CEC-7

Sincerely,

/s/

CHRIS DAVIS
Siting Office Manager
Siting, Transmission & Environmental Protection Division

Attachment: References

References

Brunzell 2016—David Brunzell. *Cultural Resources Assessment, West Basin Ocean Water Desalination Project, City of El Segundo, Los Angeles County, California.* March 18. BCR Consulting, Claremont, CA. Project No. MBI1502. Prepared for Michael Baker International, Irvine, CA. Appendix 7A to *Ocean Water Desalination Project, Draft Environmental Impact Report*, by West Basin Municipal Water District. March 27. Electronic document, <http://westbasindesal.org/draft-eir.html>, accessed June 11, 2018.

CEC 2010—California Energy Commission. *El Segundo Power Redevelopment Project, Commission Decision to the Amendment.* June. Sacramento, CA. CEC-800-2010-015.

WBMWD 2018—West Basin Municipal Water District. *Ocean Water Desalination Project, Draft Environmental Impact Report.* March 27. Electronic document, <http://westbasindesal.org/draft-eir.html>, accessed June 11, 2018.

White et al. 2008—Laura S. White, Robert S. White, and David M. Van Horn. *El Segundo Power Redevelopment Project, Cultural Resources Monitoring and Mitigation Plan (CRMMP).* September. John Minch and Associates, Mission Viejo, CA. Prepared for California Energy Commission, Sacramento.

White et al. 2014—Robert S. White, Laura S. White, David M. Van Horn, Jessica F. Colston, and Richard Guttenberg. *Confidential Cultural Resource Monitoring Report for the El Segundo Energy Center Project, El Segundo, California.* February 28. John Minch and Associates, Mission Viejo, CA. Prepared for El Segundo Energy Center, El Segundo, CA. On file, Cultural Resources Unit, California Energy Commission, Sacramento.

From: Rounds, Steven@DTSC
To: [West Basin Desal EIR](#)
Subject: RE: Ocean Water Desalination - Comment Period Ending June 25, 2018
Date: Wednesday, June 20, 2018 5:15:48 PM

At this moment, the Department of Toxic Substances Control has no comments.

DTSC-1

Steve Rounds, P.E.
Hazardous Substances Engineer
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
9211 Oakdale Avenue
Chatsworth CA 91311
Office: (818) 717-6602
FAX: (818) 717-6857
steven.rounds@dtsc.ca.gov



Los Angeles Regional Water Quality Control Board

June 25, 2018

West Basin Municipal Water District
Attn: Zita Yu, Ph.D., P.E., Project Manager
17140 South Avalon Boulevard
Carson, CA90746
desalEIR@westbasin.org

Dear Dr. Yu:

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE WEST BASIN MUNICIPAL WATER DISTRICT OCEAN WATER DESALINATION PROJECT (SCH # 2015081087)

On March 27, 2018, West Basin Municipal Water District (WBMWD) distributed the Draft Environmental Impact Report (DEIR) for the proposed Ocean Water Desalination Project (Project). The DEIR provides information about the environmental effects anticipated during the construction and operation of the Project at two potential sites within the existing El Segundo Generating Station (ESGS). The DEIR includes a project-level analysis of the currently proposed 20 MGD Local Project. Additionally, there is a potential future expansion of the facility to a Regional Project, which would produce up to 60 MGD. The DEIR includes a project-level analysis of some components of the Regional Project, while other aspects are only analyzed at a programmatic level since design and operational characteristics have not been determined yet.

LARWQCB-1

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) is the agency responsible for issuing the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of brine and other wastes from the Project to the Pacific Ocean and for making a determination regarding the factors set forth in California Water Code (CWC) section 13142.5, subdivision (b) (CWC section 13142.5(b)). The NPDES permit will implement the provisions of the Water Quality Control Plan for Ocean Waters of California (Ocean Plan), including the Amendment to the Water Quality Control Plan for Ocean Waters of California Addressing Desalination Facility Intakes, Brine Discharges, and the Incorporation of Other Non-substantive Changes (Desalination Amendment). Los Angeles Water Board and State Water Resources Control Board (State Water Board) (collectively, Water Boards) staff has reviewed the DEIR and offers the following comments.

LARWQCB-2

In addition to evaluating potential environmental impacts under the California Environmental Quality Act (CEQA), the DEIR is intended to support the Los Angeles Water Board's NPDES permit and CWC section 13142.5(b) determination for the Project. DEIR claims to fulfill CEQA requirements as well as provide information for the Ocean Plan determination. The DEIR states that WBMWD will pursue regulatory permits if WBMWD approves the Local Project. As such, WBMWD has not submitted a Report of Waste Discharge or a request for a CWC section 13142.5(b) determination for the Project to the Los Angeles Water Board. Water Boards staff

LARWQCB-3

acknowledges that the analysis required by the Ocean Plan, in determining consistency with CWC section 13142.5(b), is separate and distinct from WBMWD's analyses for the DEIR. However, a CWC section 13142.5(b) determination is subject to CEQA, and the requirements in the Ocean Plan are related to environmental impacts that would be considered under CEQA. Accordingly, Water Boards staff offers the following comments on the DEIR.

LARWQCB-3

General Comments

1. The DEIR describes how some of the proposed construction will accommodate the 60 MGD capacity of the Regional Project. For instance, WBMWD is proposing to build five pipes within the existing ESGS intake tunnel, when only two pipes are needed for the 20 MGD Local Project. Similarly, the proposed diffuser is designed for the Regional Project capacity of 60 MGD. Therefore, Water Boards staff highlights that the construction proposed in the DEIR would have more impacts than necessary for the currently proposed Local Project. To the extent that the WBMWD seeks approval of the larger 60 MGD capacity as part of the Local Project, all environmental impacts must be assessed.
2. The DEIR describes the Local Project at a project level and analyzes some of the Regional Project components at a project level as well. Water Boards staff notes that, if WBMWD receives an NPDES permit and CWC section 13142.5(b) determination for the Local Project, expanding production to 60 MGD would trigger the requirement for a new 13142.5(b) determination for the Regional Project because it would qualify as an expanded facility under the Ocean Plan. Chapter III.M.2.(a)(3) of the Ocean Plan states that the CWC section 13142.5(b) analysis for expanded facilities may be limited to those expansions or other changes that result in the increased intake or mortality of all forms of marine life, unless the regional water board determines that additional measures that minimize intake and mortality of all forms of marine life are feasible for the existing portions of the facility.
3. Based on Water Boards staff's preliminary review, the DEIR does not appear to adequately address the factors outlined in the Ocean Plan. A complete analysis of the factors is required for Water Boards staff to complete the CWC section 13142.5(b) determination. The DEIR focuses almost entirely on the proposed facility siting at the location of ESGS with a brief mention of the Redondo Beach Generating Station (RBGS) as a possible alternative facility location. The two sites selected for evaluation, both the RBGS and the ESGS, were chosen because of the presence of already existing surface water intake and discharge structures. The focus on the ESGS site, though it may be appropriate for the requirements of the CEQA analysis, does not adequately address the Ocean Plan's requirement to evaluate a reasonable range of nearby sites, including sites that would likely support subsurface intakes (Ocean Plan chapter III.M.2.b).
4. Chapter III.M.2.d.(1)(a) of the Ocean Plan states that the regional water board, in consultation with State Water Board staff, shall require subsurface intakes unless it determines that subsurface intakes are not feasible. Also, chapter III.M.2.d.(1)(a)ii of the Ocean Plan requires that if the regional water board determines that subsurface intakes are not feasible for the proposed intake design capacity, it shall determine whether subsurface intakes are feasible for a reasonable range of alternative intake design

LARWQCB-4

LARWQCB-5

LARWQCB-6

LARWQCB-7

- capacities. The subsurface intake feasibility studies in the DEIR seem to be limited to evaluating conditions at the ESGS and RBGS sites, so the DEIR does not provide enough information for Water Boards staff to determine that subsurface intakes may be technically feasible at nearby sites. The DEIR concludes that none of the eight subsurface intake technologies evaluated were identified as feasible for the design intake rate of 40 MGD at the ESGS site. It concludes that the fatal flaws for the ESGS site were also present at the RBGS site. Those fatal flaws included construction of the subsurface intakes beyond the extent of the facility, complications associated with residential beach front properties, and the protected snowy plover habitat. However, no information was provided evaluating other potential sites for the feasibility of subsurface intakes or considering a reasonable range of alternative subsurface intake design capacities. (Please see Water Board staff's specific comments about subsurface intakes under Appendix 2A.) Furthermore, chapter III.M.2.d.(1)(a)i of the Ocean Plan states that subsurface intakes shall not be determined to be economically infeasible solely because subsurface intakes may be more expensive than surface intakes. Subsurface intakes may be determined to be economically infeasible if the additional costs or lost profitability associated with subsurface intakes, as compared to surface intakes, would render the desalination facility not economically viable. As part of the evaluation of economic feasibility, the regional water board will consider project life cycle cost, which is determined by evaluating the total cost of planning, design, land acquisition, construction, operations, maintenance, mitigation, equipment replacement and disposal over the lifetime of the facility, in addition to the cost of decommissioning the facility.
5. The DEIR also seems to be limited to evaluating surface intakes at the ESGS and RBGS sites. It does not present marine biological or oceanographic data to characterize marine communities present or oceanographic conditions at other nearby sites. Therefore, the DEIR does not provide enough information to support a finding that the ESGS and RBGS sites are the best available sites for minimizing intake and mortality of all forms of marine life from a surface intake.
6. Regarding the proposed technology for a surface intake, the DEIR states that the Project would use copper-nickel alloy wedgewire screens. The DEIR should be revised to include an evaluation of self-cleaning stainless steel wedgewire screens, since these would eliminate the potential for impacts to water quality resulting from copper leaching from copper-based intake screens.
7. The Project would discharge continuous flows of brine from the reverse osmosis process and treated wash water from process washing operations to the ocean. Diffusers would be used to dilute the brine in the receiving water. The modeling discussion included in Appendix 4C of the DEIR focuses on salinity. Elevated concentrations of other pollutants of concern, some of which may bioaccumulate or cause mortality in resident aquatic life, may also be present in the discharge. Project-specific modeling and field studies must be designed and completed to demonstrate that the discharge does not result in elevated salinity or concentrations of pollutants that bioaccumulate in resident species or cause adverse acute or chronic impacts, including mortality.
-
- LARWQCB-7
- LARWQCB-8
- LARWQCB-9
- LARWQCB-10
- LARWQCB-11

8. Water Boards staff acknowledges that mitigation under CEQA is separate and distinct from the mitigation requirements in chapter III.M.2.e of the Ocean Plan. The DEIR does not provide a detailed discussion of the mitigation that WBMWD is considering in order to fulfill the Ocean Plan's mitigation requirements. The DEIR mentions that WBMWD may choose to comply with these requirements through the fee-based mitigation program option presented in chapter III.M.2.e.(4) of the Ocean Plan. Please note that Water Boards staff is not aware of any fee-based mitigation programs that would meet all of the mitigation requirements contained in chapter III.M.2.e.(3)-(4) and therefore encourages WBMWD to develop a mitigation project consistent with chapter III.M.2.e.(3) of the Ocean Plan. The DEIR mentions the Ballona Wetland Restoration Project as a possible mitigation project for the Project but does not provide any details about proposed mitigation activities there. Water Boards staff will require submission of a Mitigation Plan, as described in chapter III.M.e.(3) of the Ocean Plan, to evaluate whether WBMWD's proposed mitigation project constitutes the best available mitigation measures feasible for the Project. Additionally, the DEIR presumes that the Los Angeles Water Board will accept out-of-kind mitigation and a mitigation ratio of one acre of mitigation habitat for every ten acres of impacted open water or soft-bottom habitat for the purposes of a CWC section 13142.5(b) determination. Water Boards staff will evaluate compliance with the Ocean Plan's mitigation requirements when WBMWD submits a request for a CWC section 13142.5(b) determination to the Los Angeles Water Board. The DEIR should be revised to more accurately discuss the current situation with regard to mitigation.

LARWQCB-12

LARWQCB-13

Specific Comments

Section 2

1. Page 2-22, paragraph 4. The Ocean Plan requires the regional water board, not the project applicant, to conduct a CWC section 13142.5(b) analysis to determine the best available site, design, technology, and mitigation measures feasible to minimize the intake and mortality of all forms of marine life. As stated in chapter III.M.2.(a)(2) of the Ocean Plan, the Los Angeles Water Board shall first analyze separately as independent considerations a range of feasible alternatives for the best available site, best available design, best available technology, and best available mitigation measures to minimize intake and mortality of all forms of marine life. Then, the Los Angeles Water Board, not the project applicant, shall consider all four factors collectively to determine the best combination of feasible alternatives to minimize intake and mortality of all forms of marine life. The DEIR should be revised to reflect these Ocean Plan requirements.
2. Page 2-23, paragraph 2. The DEIR states, "If a listed species may be adversely affected by a project, [State Water Board] staff will confer with the [U.S. Fish and Wildlife Service], and/or [National Marine Fisheries Service] to inform these agencies of project impacts to any federally listed species or critical habitat." While Water Boards staff consults with other agencies when conducting the CWC section 13142.5(b) analyses, Water Boards staff is not responsible for making a determination as to whether threatened or endangered species are being adversely affected by a proposed project or for raising this concern to the attention of U.S. Fish and Wildlife Service and National Marine Fisheries Service. WBMWD is responsible for consulting with U.S. Fish and Wildlife Service and National Marine Fisheries Service to determine whether the Project may adversely affect threatened or endangered species.

LARWQCB-14

LARWQCB-15

3. Section 2.10.9. As described in general comment 6, the DEIR should be revised to evaluate stainless steel, self-cleaning wedgewire screens. Unlike copper-based screens, stainless steel screens would not leach copper into the environment, and self-cleaning screens would help minimize greenhouse gas emissions that would result from boat operations during manual cleaning of the screens. Water Boards staff will evaluate both stainless steel and copper-based screens as part of the CWC section 13142.5(b) determination. LARWQCB-16
 4. Page 2-37, footnote 7. Chapter III.M.2.d.(1)(a) of the Ocean Plan requires that the Los Angeles Water Board, in consultation with State Water Board staff, shall require subsurface intakes unless it determines that subsurface intakes are not feasible. Water Boards staff highlights that the Los Angeles Water Board, not the project applicant, is responsible for determining whether subsurface intakes are feasible for the Project. LARWQCB-17
 5. Page 2-37, paragraph 2. This paragraph discusses the 2007 MWH memo that examined the capability of different technologies to reduce impingement and entrainment. The DEIR should be revised to reflect that subsurface intakes collect water through sand sediment, which acts as a natural barrier to organisms and thus eliminates impingement and entrainment. LARWQCB-18
 6. Page 2-40, paragraph 2. Water Boards staff's preliminary review of the DEIR indicates that further technical evaluation of subsurface intakes at the proposed site would be necessary for the CWC section 13142.5(b) determination. Please see detailed comments for Appendix 2A. LARWQCB-19
- Section 3**
1. Page 3-12. Water Boards staff highlights that internally recycling treated backwash water would lower intake and discharge flows, thereby minimizing intake and mortality of marine life. LARWQCB-20
 2. Page 3-11, paragraph 3. This paragraph states that 12 wedgewire screens would be installed during the Local Project, but section 3.6.2 states that only four would be installed during the Local Project and 8 more installed during the Regional Project. The DEIR should be revised to address these inconsistencies. LARWQCB-21
 3. Pages 3-13 and 3-17. The DEIR should be revised to describe the salinity (in parts per thousand [ppt]) of the brine that will be discharged under the different project scenarios. LARWQCB-22
- Section 4**
1. Page 4-12, Table 4-2 and page 4-16. The capacity of the Camp Pendleton Seawater Desalination Project is incorrectly listed as 100-150 MGD. Currently, San Diego County Water Authority is seeking agency approvals to build a pilot facility with an intake flow of 20 gallons per minute to test water quality and different intake technologies. The DEIR should be revised accordingly. LARWQCB-23
- Section 5**
1. Page 5.9-8, paragraph 1. Water Boards staff clarifies that the State Water Board adopted the Ocean Plan in 1972. In 2015, the State Water Board adopted the Desalination Amendment. The Desalination Amendment has been in effect since 2016. LARWQCB-24
 2. Page 5.9-11. The DEIR should be revised to include the Ocean Plan's full definition of initial dilution:
"Initial Dilution: is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the LARWQCB-25

- discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally. For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant* mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.*
3. Page 5.9-11, paragraph 2. Line 9 of this paragraph states that "if the effluent density is greater than that ambient salinity..." This line should be revised to state "if the effluent density is greater than that ambient density."
 4. Page 5.9-11, paragraph 2. The final sentence should be revised to be consistent with the prior comment regarding the definition of the zone of initial dilution (ZID). While there may be circumstances where the ZID extends to the point where the discharge plume contacts the seafloor, that is not always the case.
 5. Page 5.9-55. The DEIR discusses how the Project will be discharging into waters that are on the 303(d) list (e.g., Santa Monica Bay). The DEIR should be revised to clarify how the monitoring and reporting program for the Project will be implemented, given that the ZID is within an impaired water body.
 6. Page 5.9-56. Please see general comment 6 on self-cleaning, stainless steel wedgewire screens.
 7. Page 5.9-58, last paragraph. Water Boards staff recommends that, for the evaluation of diffuser design for the Regional Project, WBMWD use the methodology for determining the best available diffuser to minimize intake and mortality of all forms of marine life that is described in section 5 of a report that Dr. Phil Roberts recently completed for the Santa Ana Regional Water Board (see report posted here: https://www.waterboards.ca.gov/santaana/water_issues/programs/Wastewater/Poseidon/2018/4-18-18_Diffuser_Analysis_Method.pdf).
 8. Page 5.9-58, last paragraph. The DEIR should be revised to say that, if the Project's discharge results in salinity concentrations greater than 2 ppt above ambient salinity at the edge of the brine mixing zone, then the Project would be out of compliance with the receiving water salinity limitation in chapter III.M.3 of the Ocean Plan.
 9. Page 5.11-40, paragraph 2. The DEIR describes that eight acres of seafloor will be disturbed by dredging for construction for the Project. Water Boards staff highlights that Ocean Plan chapter III.M.2.e.(3)(b)iv. requires that the Project fully mitigate for construction-related marine life mortality.
 10. Page 5.11-51, table 5.11-8. Please clarify which data in the table are from Tenera and MBC (2008) and which are from Tenera (2014). It should be clear in the DEIR which data were used and why.
 11. Page 5.11-52, paragraphs 4 and 5; page 5.11-54, table 5.11-9; and page 5.11-59, paragraph 1. The DEIR states that calculating an Area of Production Foregone (APF) under the assumption of an unscreened surface intake leads to an overestimate of intake-related operational mortality for screened surface intakes and describes how the APF could be reduced to account for less entrainment through screened intakes. In 2013, the Final Report by the Expert Panel III on Intake Impacts and Mitigation concluded that, while screens on surface intakes can be effective for reducing entrainment of larger larvae, when all life stages are considered, screens reduce entrainment mortality by less than one percent. Chapter III.M.2.e.(1)(a) of the Ocean Plan allows for the regional water board to

LARWQCB-25

LARWQCB-26

LARWQCB-27

LARWQCB-28

LARWQCB-29

LARWQCB-30

LARWQCB-31

LARWQCB-32

LARWQCB-33

LARWQCB-34

- apply a one percent reduction to the APF acreage calculated for seawater desalination projects to account for the reduction in entrainment of all forms of marine life when using a 1.0 mm slot size screen on a surface intake. The DEIR should be revised to state that the Ocean Plan does not allow for additional reductions in APF acreage to credit for use of a 1.0 mm slot size screen. Changing this amount of credit would require amending the Ocean Plan. For additional explanation of the one percent credit provided by the Ocean Plan, please see pages H-423-426 in Appendix H of the [Final Staff Report to the Desalination Amendment to the Ocean Plan](#).
12. Page 5.11-53, paragraph 2. This paragraph mentions that Mitigation Measure BIO-M2 would reduce Project-related entrainment impacts of non-special-status taxa. Please note that, regardless of this mitigation measure, the entrainment impacts to all forms of marine life must be evaluated in a Marine Life Mortality Report for purposes of a CWC section 13142.5(b) determination, as required by chapter III.M.2.e.(1)(a) of the Ocean Plan.
13. Page 5.11-59, paragraph 2 and page 5.11-60, Table 5.11-12. This paragraph suggests that smaller organisms (<1mm in size) may not be affected by shear stress from a diffuser and that the APF associated with shearing-related mortality should be reduced to account for this. This proposed reduction is not consistent with currently available information. Roberts (2018) (https://www.waterboards.ca.gov/santaana/water_issues/programs/Wastewater/Poseidon/2018/4-18-18_Diffuser_Analysis_Method.pdf), which describes a method for assessing shearing-related mortality from diffusers, states that there is not enough species-specific data to justify this conclusion or to adjust correspondingly the shearing-related mortality for a project. Furthermore, Water Boards staff notes that chapter III.M.2.e.(1)(b) of the Ocean Plan requires that the regional water board approve of the approach for evaluating mortality that occurs due to shearing stress resulting from a facility's discharge.
14. Page 5.11-63. In Mitigation Measure BIO-M2, WBMWD proposes to perform an entrainment assessment that will include evaluation of entrainment through 1.0 mm wedgewire screens and of shearing-related mortality after the Project is constructed and operating. Based on the level of detail provided in the DEIR, it is unclear to Water Boards staff how the proposed assessment would be designed to quantify any difference in marine life mortality from what WBMWD estimates in the Marine Life Mortality Report for the Project, which must be submitted as part of the CWC 13142.5(b) determination request for the Project. Mitigation Measure BIO-M2 also states that the recalculated APF will incorporate mitigation ratios. Water Boards staff notes that chapter III.M.2.e.(3)(b)vi. of the Ocean Plan gives the regional water board, not the project applicant, discretion to apply a mitigation ratio based on relative biological productivity of impacted open water or soft-bottom habitat and mitigation habitat. The Los Angeles Water Board will consider application of mitigation ratios as part of its CWC section 13142.5(b) determination for the Project.
15. Page 5.11-60, table 5.11-12. Please see comment 13 above in this section.
16. Page 5.11-63, last paragraph. The DEIR mentions the Ballona Wetland Restoration Project as a possible mitigation project for the Project but does not provide any details about proposed mitigation activities there. Chapter III.M.2.e. of the Ocean Plan describes the information that WBMWD must submit to the Los Angeles Water Board as part of its CWC section 13142.5(b) determination of the best available mitigation measures feasible for the Project. Chapter III.M.2.e.(3)(b)v gives the regional board discretion to permit out-of-kind mitigation for mitigation of open water or soft-bottom species.
17. Page 5.11-63, paragraph 5. Please see comment 14 above in this section. Additionally, chapter III.M.2.e.(3)(b)vi. of the Ocean Plan gives the regional water board, not the project applicant, discretion to apply a mitigation ratio based on the relative biological productivity

LARWQCB-34

LARWQCB-35

LARWQCB-36

LARWQCB-37

LARWQCB-38

LARWQCB-39

LARWQCB-40

of the impacted open water or soft-bottom habitat and the mitigation habitat and states that the mitigation ratio shall not be less than one acre of mitigation habitat for every ten acres of impacted open water or soft-bottom habitat.

LARWQCB-40

18. Page 5.11-63, paragraph 5. To mitigate for impacts from the Project, the DEIR mentions that WBMWD may perform habitat restoration or provide funding to a State-approved fee-based mitigation program. At this time, Water Boards staff is not aware of any fee-based mitigation programs that would meet all of the mitigation requirements in chapter III.M.3.e of the Ocean Plan (see also general comment #8).

LARWQCB-41

Section 7

1. Page 7-31, last paragraph. The DEIR indicates that WBMWD is unsure if the Chevron outfall has enough capacity to support commingling with the Project's brine discharge. Since commingling brine discharge with wastewater is the Ocean Plan's preferred brine discharge technology, WBMWD should evaluate further the option of commingling with the Chevron outfall.

LARWQCB-42

2. Page 7-32, last paragraph. The DEIR discusses how siting the Project at the Chevron Marine Terminal likely would increase impacts to the marine environment, compared to the proposed site at ESGS. However, the DEIR does not quantify the construction-related or operational impacts of siting the Project at this location. Assessing these impacts would be part of the evaluation of a reasonable range of nearby sites for surface intakes.

LARWQCB-43

3. Page 7-35 – 7-36, section 7.2.3. As noted in our general comments, the Ocean Plan requires the Los Angeles Water Board to determine the best available site, design, technology, and mitigation measures feasible for the Project, consistent with CWC section 13142.5(b). The Los Angeles Water Board has not yet received an NPDES permit application or a request for a CWC section 13142.5(b) determination for the Project yet and therefore has not issued a determination regarding best available site, design, technology, and mitigation measures feasible for the Project. However, preliminary review of the DEIR by Water Boards staff indicates that there does not appear to be sufficient information about a reasonable range of nearby sites that would support subsurface or surface intakes.

LARWQCB-44

Appendix 2A

1. The data provided in the feasibility report does not sufficiently support the conclusion that shallow (less than approximately 20 feet below the sea floor) horizontal directional drilled (HDD) wells are not a potentially viable option. This option was rejected partly because groundwater flow modeling indicated that HDD wells constructed within the Gage Sand aquifer would intercept contaminated water and Injection Barrier wells. Groundwater flow modelling of extraction from an HDD well above 20 feet was not simulated. However, potential impacts to water supply aquifers and the West Coast Basin injection barrier were rated as "unlikely." Construction and maintenance concerns (e.g., clogging), complexity of construction, and performance risk were all rated as high for this option, but these ratings do not appear to be sufficiently justified in the feasibility study.

LARWQCB-45

2. As described in the "Coastal Processes and Seafloor Stability Analysis of Shallow Sub-Seabed Intake Systems for the West Basin Municipal Water District Sea Water Desalination Project" (Appendix K), it appears feasible to install HDD wells within 20- to 25-foot thick coarse-grained sediment interval described above. Results of a stability analysis included in Appendix K indicates that this sediment interval provides "...at least

LARWQCB-46

four-fold margin of safety against exposure by extreme event waves". The author of this analysis refers to the Neodren™ HDD well system in this analysis. It appears that installation of this type of well within the 20- to 25-foot permeable interval is feasible, and extraction from this interval would yield very high percentages of filtered sea water without potential interference with the inland contaminated aquifer or Basin Injection Barrier. Therefore, the DEIR should be revised to include additional analysis of the use of HDD wells and of a combined intake system of HDD wells and surface intakes for a reasonable range of alternative intake design capacities. Water Boards staff recommends including a comparison of geological conditions at the proposed site with those at sites where HDD wells have been installed and successfully operated.

↑
LARWQCB-46
↓

Appendix 4A

1. Appendix 4A presents a wedgewire screen efficiency study. As aforementioned in comment 11 in section 5, chapter III.M.2.e.(1)(a) of the Ocean Plan allows for the regional water board to apply a one percent reduction to the APF acreage calculated for seawater desalination projects to account for the reduction in entrainment of all forms of marine life when using a 1.0 mm slot size screen on a surface intake. The DEIR should be revised to state that the Ocean Plan does not allow for additional reductions in APF acreage to credit for use of a 1.0 mm slot size screen. Changing this amount of credit would require amending the Ocean Plan.
2. It appears that the analyses presented in this appendix are based on data collected from the demonstration facility at the RBGS location. If this is correct, it may be inappropriate to use data from this report to inform analyses of potential impacts at the ESGS location. Also please see comment 11 in section 5.
3. The table of contents for Appendix 4A lists several appendices, but those appendices do not appear to be included. The DEIR should be updated to include the missing appendices.
4. Pages ES-6 and 3-91 state, "Although the [Empirical Transport Model] ETM results may indicate a large percentage loss to the source water population of larvae, the actual impacts due to entrainment may be negligible since the actual number of larvae entrained is very small relative to the reproductive capacity." ETM/APF analyses do not rely on reproductive capacity to assess entrainment. ETM/APF analyses are used to assess mortality and compensatory mitigation. Even though the entrained larvae represent a small fraction of a species' reproductive capacity, those larvae still represent a loss to the system that should be accounted for in compensatory mitigation. For this reason, the calculation of an APF is required in addition to the ETM.
5. Page 3-9. The hatch length equation may be missing a variable. Also, Appendix E of the Final Staff Report to the Desalination Amendment to the Ocean Plan uses the 1st and 99th percentiles to calculate larval length for ETM analyses. This method should be used in this and all other reports.

↓
LARWQCB-47
↓
LARWQCB-48
↓
LARWQCB-49
↓
LARWQCB-50
↓
LARWQCB-51
↓

Appendix 4C

1. Water Boards staff recommends that this appendix follow the procedure described in section of 5 of the analysis on how to determine the best available diffuser design included in Roberts (2018) (https://www.waterboards.ca.gov/santaana/water_issues/programs/Wastewater/Poseidon/2018/4-18-18_Diffuser_Analysis_Method.pdf). Additionally, Appendix 4C should

↓
LARWQCB-52
↓

- include a linear diffuser design as part of WBMWD's evaluation of the best diffuser design for the Project. ↑ LARWQCB-52
- 2. An additional table, similar to Table 4, should be included that provides the same information but for a diffuser that is designed to meet the salinity requirements at the end of the nearfield instead of at the impact point. This information appears to be contained in Table A2 but would be beneficial in the body of the report. As mentioned above, this analysis should also include a linear diffuser that meets the salinity requirements at the impact point and nearfield. | LARWQCB-53
- 3. Since 60 degrees is the optimal angle for most efficient dilution, Water Boards staff recommends that the report analyze how far offshore the diffuser would need to be built such that the ports could be oriented at 60 degrees in order to have the most efficient dilution. This analysis should also be performed for different diffuser designs (e.g., linear). | LARWQCB-54

Appendix 4D

- 1. Please see comments 14, 16, and 17 in section 5. | LARWQCB-55
- 2. Chapter III.M.2.e.(1)(a) of the Ocean Plan requires the submittal of a detailed entrainment study to the Los Angeles Water Board, to estimate intake-related operational mortality, and this report shall include an ETM/APF analysis. For the CWC section 13142.5(b) determination, Water Boards staff will request the raw datasets used for the analysis in Appendix 4D and recommends including the calculations of the different variables in the ETM, including but not limited to, f_i , P_e , P_s , sample source water body, total source water bodies, etc. | LARWQCB-56
- 3. Pages 6-7. Please see comment 11 in section 5. | LARWQCB-57
- 3. Pages 6-7. Please see comment 11 in section 5. | LARWQCB-58

Appendix 10

- 1. Please see general comments. | LARWQCB-59
- 2. It appears that the feasibility assessment of subsurface intakes only evaluated ~40 MGD intake flow and a combined intake of surface intake and seawater infiltration gallery. The Ocean Plan requires the regional water board to consider a combined intake of surface and subsurface intakes, which would include evaluating other subsurface intake technologies (e.g., HDD wells, slant wells, etc.) at different design capacities. | LARWQCB-60
- 3. Please see general comments 3-5. As noted throughout this comment letter, evaluation of one alternative site (RBGS) is not sufficient to constitute a reasonable range of alternative sites. | LARWQCB-61

Appendix 11

- 1. Appendix 11 indicates that it is technically feasible to commingle brine from the Project with wastewater through the Hyperion outfalls, except under a predicted future scenario where only 10 MGD of wastewater flow may be available. The report does not state when this future scenario may be likely to occur. Chapter III.M.2.b.(6) of the Ocean Plan requires that WBMWD analyze the presence of existing discharge infrastructure and the availability of wastewater to dilute the Project's brine discharge. Additionally, chapter III.M.2.d.(2)(a) of the Ocean Plan states that the preferred brine discharge technology for minimizing intake and mortality of all forms of marine life is to commingle brine with wastewater that would otherwise be discharged to the ocean. The DEIR should be revised to further evaluate the option of commingling the Project's brine with wastewater through the Hyperion outfalls while there is adequate dilution to ensure salinity of the commingled discharge meets the Ocean Plan's receiving water limitation for salinity. The evaluation should consider commingling a partial volume, not just the full volume, of the Project's brine with wastewater through the Hyperion outfalls. Water Boards staff also recommends | LARWQCB-62

Dr. Zita Yu
West Basin Municipal Water District

- 11 -

June 25, 2018

evaluating potentially modifying Hyperion's outfall for circumstances when sufficient wastewater is unavailable to provide adequate dilution of the Project's brine.

Thank you for the opportunity to comment on the DEIR. Please note that, regardless of the conclusions set forth in the Final EIR, the Los Angeles Water Board may reach different conclusions as part of its analysis of feasible measures to minimize intake and mortality of all forms of marine life in its permitting process, in compliance with CWC section 13142.5(b). If you have any questions or would like to discuss our comments further, please contact Cris Morris, Chief of the Watershed Regulatory Section, at Cris.Morris@waterboards.ca.gov or (213) 620-2083.

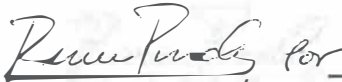
LARWQCB-62


LARWQCB-62

LARWQCB-63

LARWQCB-63

Sincerely,


Deborah J. Smith
Executive Officer
Los Angeles Regional Water Quality
Control Board


Karen Mogus, Deputy Director
Division of Water Quality
State Water Resources Control Board

cc: (Via Email Only)

Daniel Ellis, State Water Board, Daniel.Ellis@Waterboards.ca.gov
Kimberly Tenggardjaja, State Water Board, Kimberly.Tenggardjaja@Waterboards.ca.gov
Scott Seyfried, State Water Board, Scott.Seyfried@Waterboards.ca.gov
Jan Stepek, State Water Board, Jan.Stepek@waterboards.ca.gov
Sophie Froelich, State Water Board, Sophie.Froelich@Waterboards.ca.gov
David Coupe, SWRCB, David.Coupe@waterboards.ca.gov
Jennifer Fordyce, SWRCB, Jennifer.Fordyce@waterboards.ca.gov
Marleigh Wood, State Water Board, Marleigh.Wood@waterboards.ca.gov

May 23, 2018

Dr. Zita Yu
West Basin Municipal Water District
17140 South Avalon Blvd.
Carson, CA 90746

Re: SCH# 2015081087, Ocean Water Desalination Project, Cities of Los Angeles, El Segundo, and Manhattan Beach; Los Angeles County, California

Dear Dr. Yu:

The Native American Heritage Commission (NAHC) has reviewed the Draft Environmental Impact Report prepared for the project referenced above. The review included the Executive Summary; the Introduction and Project Description; the Environmental Impact Analysis, section 5.4 Cultural Resources; and Appendix 7-C prepared by the BCR Consulting for the West Basin Municipal Water District. We have the following concerns:

NAHC-1

1. There are no mitigation measures specifically addressing Tribal Cultural Resources separately and distinctly from Archaeological Resources. Mitigation measures must take Tribal Cultural Resources into consideration as required under AB-52, **with or without consultation** occurring. Mitigation language for archaeological resources is not always appropriate for or similar to measures specifically for handling Tribal Cultural Resources. Sample mitigation measures for Tribal Cultural Resources can be found in the CEQA guidelines at http://opr.ca.gov/docs/Revised_AB_52_Technical_Advisory_March_2017.pdf

NAHC-2

- The Most Likely Descendant timeline in Appendix 7-C is incorrect and mitigation measures in section 5.4, Cultural Resources are not specific on the MLD process. Public Resources Code 5097.98 specifies that an MLD has **48 hours after being allowed access to the site** to make recommendations for disposition of the remains and associated grave goods.

NAHC-3

The NAHC recommends lead agencies consult with all California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

NAHC-4

A brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments is also attached.

Please contact me at gayle.totton@nahc.ca.gov or call (916) 373-3714 if you have any questions.

Sincerely,

Gayle Totton
Gayle Totton, B.S., M.A., Ph.D
Associate Governmental Project Analyst

Attachment

cc: State Clearinghouse

ADDITIONAL INFORMATION:

The California Environmental Quality Act (CEQA)¹, specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.² If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared.³ In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended in 2014 by Assembly Bill 52. (AB 52).⁴ **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** AB 52 created a separate category for “tribal cultural resources”⁵, that now includes “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment.”⁶ Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.⁷ Your project may also be subject to **Senate Bill 18 (SB 18)** (Burton, Chapter 905, Statutes of 2004), Government Code 65352.3, if it also involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space. **Both SB 18 and AB 52 have tribal consultation requirements.** Additionally, if your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966⁸ may also apply.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

Agencies should be aware that AB 52 does not preclude agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52. For that reason, we urge you to continue to request Native American Tribal Consultation Lists and Sacred Lands File searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>. Additional information regarding AB 52 can be found online at http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf, entitled “Tribal Consultation Under AB 52: Requirements and Best Practices”.

Pertinent Statutory Information:

Under AB 52:

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice.

A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.⁹ and **prior to the release of a negative declaration, mitigated negative declaration or environmental impact report.** For purposes of AB 52, “consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18).”¹⁰

The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
 - b. Recommended mitigation measures.
 - c. Significant effects.¹¹
1. The following topics are discretionary topics of consultation:
- a. Type of environmental review necessary.
 - b. Significance of the tribal cultural resources.
 - c. Significance of the project’s impacts on tribal cultural resources.

If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency.¹²

With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process **shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10.** Any information submitted by a California Native

¹ Pub. Resources Code § 21000 et seq.

² Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b); CEQA Guidelines Section 15064.5 (b)

³ Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1); CEQA Guidelines § 15064 (a)(1)

⁴ Government Code 65352.3

⁵ Pub. Resources Code § 21074

⁶ Pub. Resources Code § 21084.2

⁷ Pub. Resources Code § 21084.3 (a)

⁸ 154 U.S.C. 300101, 36 C.F.R. § 800 et seq.

⁹ Pub. Resources Code § 21080.3.1, subds. (d) and (e)

¹⁰ Pub. Resources Code § 21080.3.1 (b)

¹¹ Pub. Resources Code § 21080.3.2 (a)

¹² Pub. Resources Code § 21080.3.2 (a)

American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.¹³

If a project may have a significant impact on a tribal cultural resource, **the lead agency's environmental document shall discuss** both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource.¹⁴

Consultation with a tribe shall be considered concluded when either of the following occurs:

- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.¹⁵

Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 **shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program**, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable.¹⁶

If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, **the lead agency shall consider feasible mitigation** pursuant to Public Resources Code section 21084.3 (b).¹⁷

An environmental impact report **may not be certified**, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
- b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days.¹⁸

This process should be documented in the Tribal Cultural Resources section of your environmental document.

Under SB 18:

Government Code § 65352.3 (a) (1) requires consultation with Native Americans on general plan proposals for the purposes of "preserving or mitigating impacts to places, features, and objects described § 5097.9 and § 5091.993 of the Public Resources Code that are located within the city or county's jurisdiction. Government Code § 65560 (a), (b), and (c) provides for consultation with Native American tribes on the open-space element of a county or city general plan for the purposes of protecting places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code.

- SB 18 applies to **local governments** and requires them to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf
- **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.**¹⁹
- **There is no Statutory Time Limit on Tribal Consultation under the law.**
- **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research,²⁰ the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction.²¹
- **Conclusion Tribal Consultation:** Consultation should be concluded at the point in which:
 - The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or

¹³ Pub. Resources Code § 21082.3 (c)(1)

¹⁴ Pub. Resources Code § 21082.3 (b)

¹⁵ Pub. Resources Code § 21080.3.2 (b)

¹⁶ Pub. Resources Code § 21082.3 (a)

¹⁷ Pub. Resources Code § 21082.3 (e)

¹⁸ Pub. Resources Code § 21082.3 (d)

¹⁹ (Gov. Code § 65352.3 (a)(2)).

²⁰ pursuant to Gov. Code section 65040.2,

²¹ (Gov. Code § 65352.3 (b)).

- Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation.²²

NAHC Recommendations for Cultural Resources Assessments:

- Contact the NAHC for:
 - A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - A Native American Tribal Contact List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
 - The request form can be found at <http://nahc.ca.gov/resources/forms/>.
- Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - If part or the entire APE has been previously surveyed for cultural resources.
 - If any known cultural resources have been already recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

Examples of Mitigation Measures That May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

- Avoidance and preservation of the resources in place, including, but not limited to:
 - Planning and construction to avoid the resources and protect the cultural and natural context.
 - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource.
 - Protecting the traditional use of the resource.
 - Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed.²³
- Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.²⁴

The lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

- Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources.²⁵ In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subs. (d) and (e)) address the processes to be

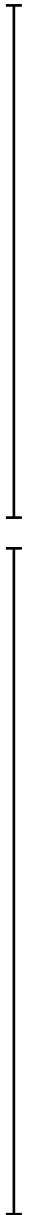
²² (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

²³ (Civ. Code § 815.3 (c)).

²⁴ (Pub. Resources Code § 5097.991).

²⁵ per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)).

followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.



CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202



Established in 1938

JENNIFER LUCCHESI, Executive Officer
(916) 574-1800 Fax (916) 574-1810
California Relay Service TDD Phone 1-800-735-2929
from Voice Phone 1-800-735-2922

Contact Phone: (916) 574-1890
Contact FAX: (916) 574-1885

June 25, 2018

File Ref: SCH #2015081087

Zita Yu, Ph.D., P.E., Project Manager
West Basin Municipal Water District
17140 South Avalon Boulevard
Carson, CA 90746

VIA REGULAR & ELECTRONIC MAIL (desalEIR@westbasin.org)

**Subject: Draft Environmental Impact Report (EIR) for the Ocean Water
Desalination Project, Los Angeles County**

Dear Dr. Yu:

The California State Lands Commission (Commission) staff has reviewed the subject Draft EIR for the Ocean Water Desalination Project (Project), which is being prepared by the West Basin Municipal Water District (District). The District, as the public agency proposing to carry out the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.) The Commission is a trustee agency for projects that could directly or indirectly affect sovereign land and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on sovereign land, the Commission will act as a responsible agency.

Commission Jurisdiction and Public Trust Lands

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The state holds these lands for the benefit of all people of the state for statewide Public Trust purposes, which include but are not limited

SLC-1

to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. On navigable non-tidal waterways, including lakes, the state holds fee ownership of the bed of the waterway landward to the ordinary low-water mark and a Public Trust easement landward to the ordinary high-water mark, except where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

↑
SLC-1

As noted in the Draft EIR, the Project proposes to use existing intake and outfall pipelines and make associated offshore structural modifications on State-owned sovereign land. A lease from the Commission will be required for the portions of the Project encroaching on State sovereign land.

Project Description

The District proposes to construct a new ocean water desalination facility to produce 20 million gallons per day (MGD) of potable drinking water (the Local Project) with a potential future expansion to produce up to 60 MGD (the Regional Project) to diversify the District's water source portfolio and increase water reliability and security. The following components have potential to affect State sovereign land.

- Ocean Water Intake System. Repurposing and upgrading existing intake tunnel by inserting five 24-inch pipelines and installing wedge wire screens at the current terminus to deliver raw seawater to the onshore facility.
- Ocean Water Brine Discharge System. Repurposing the existing discharge tunnel by inserting five 24-inch pipelines and installing a brine diffuser on top of the tower to discharge concentrated seawater back into the ocean.

SLC-2

The Draft EIR identifies the Environmentally Superior Alternative as the proposed Project, with the onshore desalination facility located at the El Segundo Generating Station's (ESGS) North site.

Environmental Review

Commission staff requests that the District consider the following comments on the Project's Draft EIR to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the Final EIR to support the Commission's future consideration of a lease for the Project elements encroaching on State sovereign land. Unless specified, all comments apply to the proposed Local and Regional Projects.

General Comments

1. Project Description – Units 3 and 4 Pipelines: Through communications with staff from NRG Energy,¹ Commission staff understands that NRG Energy is proposing to insert a 20-foot-long concrete plug in the portion of the pipelines for Units 3 and 4, landward of the Commission's jurisdiction. The District should clarify how it will

SLC-3
↓

¹ Timothy Sisk, NRG Energy, pers. comm., June 20, 2018.

access the offshore components of the existing intake and outfall pipelines along with any associated impacts or provide alternative configurations and impact analyses. Commission staff notes that the District must resolve ownership of the pipelines with NRG Energy prior to submitting a Commission lease application.

↑
SLC-3

2. Project Description – Intake and Outfall Maintenance: The Project Description lacks information regarding the monitoring and maintenance trips that will be required to inspect the intake and outfall modifications during Project operation. In addition, the activities associated with offshore maintenance are only briefly mentioned; it is not until page 5.8-21 (Chapter 5.8, Hazards and Hazardous Materials) where diving trips to inspect the screens and diffuser are first discussed. The Project Description should include the information found on pages 5.8-21 and 5.15-39 (Chapter 5.15, Transportation and Traffic) regarding the number of trips per year, the number of divers, and type of vessel used. This will ensure an accurate and consistent Project Description required by State CEQA Guidelines, section 15124, subdivision (c).

SLC-4

Commission staff reviewed Appendix 3 (Air Quality, A., Assumptions and Calculations) and notes that page 12 does not include offshore vessel trips. While the diver crew vessels are evaluated for hazard impacts related to marine fuel, oil spills, and marine vessel and diver safety, the additional vessels must also be analyzed in the Final EIR for aesthetics, air quality, and greenhouse gas (GHG) emission impacts.

SLC-4a

3. Project Description – Construction Time: The Draft EIR appears to have conflicting information regarding the offshore construction work timetable. For example, page 3-22 notes that construction activities will take 36 months, page 5-11 indicates offshore construction would take place over 24 months with barges in the Project area for "months at a time," and page 5.9-43 states in-water construction activities would extend over a 12-month period. In addition, while the Project Description assumes that all construction would occur during daylight hours, page 5.12-17 notes that marine construction activity could require up to 72 hours of continuous construction work in desirable sea conditions. The Final EIR needs to clarify and describe the construction timetable that would result in the most overlapping impacts and discuss how construction work lasting up to 72 continuous hours would affect impacts to aesthetics, marine biological resources, recreation (e.g., recreational boaters), and marine transportation.

SLC-5

4. Project Description – Riprap: The construction activities include temporary placement of 2,000 tons of riprap on the ocean floor, but the Draft EIR does not show the approximate footprint. Please update Figures 3-24 and 3-25 to include the estimated area that will be covered by the relocated material and correct the duplicate discharge pipeline in Figure 3-25. In addition, it is unclear where the riprap will ultimately be placed. Draft EIR page 3-11 and 3-23 both note that the riprap will be placed on the seafloor "unless infeasible," but page 3-23 also states that riprap will be stowed on barges, with possible towing to a nearby port if required (the more conservative scenario). The Final EIR should clearly note the worst-case scenario

SLC-6

↓
SLC-7

and clarify if the additional towing trips are included in air quality,² GHG emissions, anchoring disturbance impact analyses, recreation (e.g., recreational boaters), and marine transportation.

↑
SLC-7

Finally, page 5.11-42 discloses that additional armor rock may be required for the intake and outfall structures. Please include this information in the Project Description and explain under what circumstances it would be necessary, whether the additional rock would increase the permanent riprap footprint and by how much, and whether it would require additional barges and tugboats. If additional marine vessels would be needed, please clarify if they were included in the air quality emissions calculations in Appendix 3.

SLC-8
SLC-9

- 5. Project Description – Tunnel Construction: The Project would require dredging around the existing intake and outfall structures and placement of a new tunnel for the wedgewire screens. Draft EIR page 3-11 states “Once installed, the exposed tunnel would be covered either with the cast-aside dredge material.” Please include the other method for covering the tunnel.

SLC-10

- 6. Project Description – Diffuser Design: As noted above, the Local Project will provide 20.MGD of potable drinking water. The Project Description notes on both pages 3-11 and 3-17 that this will require installation of four diffuser nozzles to accommodate the brine discharge. However, page 3-32 then notes that the diffusers would be installed “with flexibility in their number and placement for Local and Regional demand.” The Final EIR’s Project Description should clearly articulate the anticipated Project, identify any flexibility being considered, and then confirm the design evaluated for environmental impacts.

SLC-11

- 7. Cumulative Projects: Commission staff requests that the Final EIR revise page 4-15 (including the footnote) to include the Commission’s certification of a Supplemental EIR for the Poseidon Huntington Beach Desalination Project in October 2017.

SLC-12

Cultural and Tribal Cultural Resources

- 8. Unanticipated Discovery: Commission staff recommends that the Final EIR evaluate all offshore ground disturbing activities that extend more than 3 feet below the ground surface, especially dredging for the intake and outfall modifications and pile driving, as having the potential to cause adverse direct and indirect impacts to presently unidentified cultural resources, including Tribal cultural resources.

SLC-13

The Draft EIR also includes development of an anchoring plan in mitigation measure HAZ-3, which will presumably involve geophysical surveys to identify areas of hard and soft substrate. Therefore, Commission staff recommends that mitigation measures CUL-1 and CUL-3 include language requiring that a qualified maritime archaeologist participate in the development and implementation of the geophysical

SLC-14
↓

² Table 5.2-11 notes that the worst-case scenario for construction impacts is factored into the emissions calculations. It is unclear as to whether this includes towing the riprap away from the Project area.

surveys for offshore activities, identify any cultural resource found, and prepare a summary report to be submitted to West Basin and Commission staff.

↑ SLC-14

Please also note that any submerged archaeological site or submerged historic resource that has remained in state waters for more than 50 years is presumed to be significant. Because of this possibility, please add the following language to mitigation measure CUL-4: "In the event cultural resources are discovered during any offshore construction activities, Project personnel shall halt all activities in the immediate area and notify both the California State Lands Commission and a qualified archaeologist to determine the appropriate course of action." Commission staff also recommends that Impact CUL-5.4-5 include both a discussion regarding potential impacts to unanticipated Tribal cultural resources and mitigation measure CUL-4.

SLC-15

Finally, the Draft EIR discusses potential paleontological impacts on page 5.4-39 and notes that offshore excavations will not go deeper than 10 feet. However, page 3-24 indicates that excavations for the wedgewire screens and associated pipeline will be at a depth of 20 feet. The Final EIR should clarify the maximum depth for offshore excavations and analyze potential cultural resource impacts accordingly.

SLC-16

Regarding offshore geophysical surveys, the EIR should also note that the use of geophysical survey equipment in State waters may require a permit from the Commission under its Offshore Geophysical Survey Permit Program (OGPP) and be conducted by a permitted operator. General information on the OGPP is available at www.slc.ca.gov/Programs/OGPP.html. For more information on the OGPP, please contact Kelly Keen, Environmental Scientist (see contact information below).

SLC-17

- 9. Title to Resources: The Final EIR should mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the state and under the jurisdiction of the Commission (Pub. Resources Code, § 6313). Commission staff requests that the District consult with Staff Attorney Jamie Garrett (see contact information below) should any cultural resources on state lands be discovered during construction of the proposed Project. In addition, Commission staff requests that the following statement be included in the EIR's Mitigation and Monitoring Plan: "The final disposition of archaeological, historical, and paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission."

SLC-18

Climate Change

- 10. Greenhouse Gas (GHG): The Draft EIR identifies the indirect GHG emissions associated with operating the Local and Regional Projects and proposes mitigation measures GHG-1 and GHG-2 to reduce the impacts to a less-than-significant level. While GHG-1 notes that West Basin would prepare an Energy Minimization and GHG reduction plan (GHG Plan) "prior to the start of construction," Commission staff recommends that the Final EIR specify the GHG Plan would be made available no later than 60 days before the start of construction, to allow sufficient time for agency review. In addition, while mitigation measure GHG-2 commits West Basin to...

SLC-19 ↓

implementing the "GHG mitigation strategy for Year 1," this strategy should be identified as part of the GHG Plan in GHG-1.

↑
SLC-19

The Final EIR should also clarify whether use of the existing intake and discharge tunnels without the five new pipelines, as described on page 3-11 (footnote 4), would require different pumps and whether those pumps would consume more energy than currently analyzed in the Draft EIR.

SLC-20

Hydrology and Water Quality

11. Dredging: The Draft EIR identifies several technologies that could minimize offshore water turbidity and suspended sediment from construction activities. Page 5.9-45 mentions silt curtains and gunderbooms as examples of already-included best management practices (BMPs), but the Project Description does not note any BMPs for dredging. The Final EIR should discuss these BMPs as part of the Project Description (e.g., as "Applicant-proposed measures") if they are incorporated into the Project or add them to relevant mitigation measures if they are not.

SLC-21

12. Coastal Hazards: Mitigation measure HYDRO-1 describes the preparation of a Coastal Hazard Resiliency Study for the ESGs site, including sections (a)(i) and (a)(v) that address scour and the potential for infrastructure to become exposed during the Project's lifetime. Commission staff strongly recommends that the intake and discharge tunnels be specifically included in the Study to be analyzed for sand scour effects and associated exposure from increased storm activity and severity.

SLC-22

Marine Biological Resources

13. Anchoring: Intake and outfall modification construction and maintenance will require vessel anchoring offshore. The Draft EIR shows the type of anchoring used in Figure 3-23 but does not state whether all vessels will be anchoring in the 8-acre construction area (Figure 3-15). The Final EIR needs to specify whether any vessels would be anchoring outside the Project construction area and provide additional information regarding the temporary seafloor disturbance impacts, if applicable. In addition, please include anchoring as a temporary seafloor disturbance on page 5.11-39.

SLC-23

Mitigation measure HAZ-3 requires preparation of an Anchoring Plan. While the Draft EIR includes identification and mapping of areas of kelp, seagrass, and hard substrate, Commission staff recommends the mitigation measure also confirm that those areas shall not be impacted by placement of vessel and buoy anchors, by dragging anchor or buoy lines or cables, by riprap placement, or by dredging spoils.

SLC-24

14. Pile Driving: The Draft EIR lacks a description regarding the number of strikes per pile for pile driving, the number of piles per day, and the number of hours per day. Commission staff notes that some of this information may be present in Table 5.11-7, Note 3, and encourage the District to discuss this activity in the Project Description as well as in Chapter 5.11 (Marine Biological Resources).

SLC-25

Page 3-25 of the Draft EIR explains that impact pile driving may be necessary. Absent a geotechnical survey to determine the nature of the seafloor, the District appears unable to select a pile driving method (impact versus vibratory). Therefore, the Final EIR must fully analyze impact pile driving as the worst-case scenario. This includes providing the cumulative sound exposure level (SEL) for impact pile driving, which is absent from the Draft EIR and specifically from Table 5.11-7. Cumulative SEL must be analyzed because acoustic thresholds for impulsive sounds are presented as dual metric acoustic thresholds using cumulative SEL and peak SPL, and the National Marine Fisheries Service (NMFS) considers the onset of Level A harassment to have occurred when either of the two metrics is exceeded. The associated distance to the permanent threshold shift must be included in the Final EIR, and the District must determine whether that component of Impact BIO-M 5.11-3 can be feasibly mitigated.³

SLC-26

In addition, Commission staff was unable to find the calculation worksheets from the California Department of Transportation (Caltrans), National Oceanic and Atmospheric Administration (NOAA), and NMFS that West Basin used to determine Level A and Level B harassment. Please clearly reference the appropriate appendix in the Final EIR, or if not included, please attach as a separate appendix. Without this information, it is unclear how the Draft EIR can determine the harassment levels and threshold distances for marine mammals (page 5.11-47).

SLC-27

Mitigation measure BIO-M1 requires a completed underwater acoustic analysis once the type of pile and pile driving method are finalized. This information would then be evaluated to determine whether a sound attenuation reduction and monitoring plan is required. However, the Draft EIR already contains an analysis for impact and vibratory pile driving (absent the cumulative SEL for impact pile driving). Therefore, to avoid deferring analysis and mitigation, the Final EIR should instead calculate the worst-case scenario, include all feasible mitigation in BIO-M1, and determine any residual impact after mitigation.

SLC-28

The NMFS-approved plan found in BIO-M1 provides buffer distances of 500 meters in case sound levels are unknown or cannot be accurately quantified. This distance, however, is apparently not found anywhere else in the Draft EIR and is thus not adequately supported. The Caltrans 2015, NOAA 2016, and NMFS 2016 worksheets provide an accurate underwater acoustics analysis, and therefore the buffer should be derived from those calculations. In addition, the plan provides a pile driving work window restriction for grey whale migration. However, pages 5.11-22 and 5.11-24 indicate that humpback whales have been seen in the Santa Monica Bay and are included as a whale species with the highest likelihood in the Project area. Table 5.11-3 also determines humpback whale presence to be low-to-moderate. Therefore, the Final EIR should clarify why humpback whale migration does not require the same mitigation as grey whale migration.

SLC-29

³ Commission staff notes that the Final Supplemental Environmental Impact Report for the Seawater Desalination Project at Huntington Beach (October 2017) concluded the cumulative SEL for impact pile-driving resulted in a distance threshold of 1,520 meters (approximately 5,000 feet) for high-frequency cetaceans. The document concluded that residual impacts, after feasible mitigation, remained significant and unavoidable.

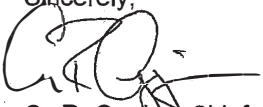
15. Entrainment and Shear Mortality: Table 5.11-9 of the Draft EIR presents several Acres of Production Foregone (APF) for intake mortality, and Table 5.11-12 provides APFs for discharge mortality. Both Tables include a scenario that assumes 100 percent mortality as well as various reductions due to screens and organism size. However, the analysis does not conclude which APF represents the potential impact to require mitigation and should therefore evaluate and mitigate the worst-case scenario. In addition, mitigation measure BIO-M2 does not provide a specific APF to determine whether the Draft EIR contains adequate compensatory mitigation. Instead, the measure defers APF calculation and associated mitigation until after operations begin and a 12-month entrainment study is completed. Commission staff strongly recommends that the Final EIR mitigate the APF for 100 percent mortality, understanding that the acreage would most likely be reduced and mitigation options finalized through the Los Angeles Regional Water Quality Control Board's Water Code Section 13142.5(b) determination process.

SLC-30

Thank you for the opportunity to comment on the Draft EIR for the Project. As a responsible and trustee agency, the Commission will need to rely on the Final EIR for the issuance of any new lease as specified above and, therefore, we request that you consider our comments prior to certification of the EIR.

Please send copies of future Project-related documents, including electronic copies of the Final EIR, Mitigation Monitoring and Reporting Program, Notice of Determination, CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available. Please refer questions concerning environmental review to Alexandra Borack, Environmental Scientist, at (916) 574-2399 or via email at Alexandra.Borack@slc.ca.gov. For questions concerning archaeological or historic resources under Commission jurisdiction, please contact Staff Attorney Jamie Garrett, at (916) 574-0398 or via email at Jamie.Garrett@slc.ca.gov. For questions concerning Commission leasing jurisdiction, please contact Cheryl Hudson, Public Land Management Specialist, at (916) 574-0732 or via email at Cheryl.Hudson@slc.ca.gov. For general information on the Commission's OGPP, please contact Kelly Keen, Environmental Scientist, at (916) 574-1938 or via email at Kelly.Keen@slc.ca.gov.

SLC-31

Sincerely,


Cy R. Oggins, Chief
 Division of Environmental Planning
 and Management

- cc: Office of Planning and Research
 A. Borack, Commission
 C. Hudson, Commission
 B. Johnson, Commission
 K. Keen, Commission
 P. Griggs, Commission

Response to Letter CALT: California Department of Transportation

Response CALT-1

West Basin notes the California Department of Transportation's (Caltrans') concurrence with the encroachment permit application of proposed Project facilities that are installed within State highways.

Response to Letter CCC: California Coastal Commission

Response CCC-1

West Basin notes the proposed Project summary provided by the California Coastal Commission (CCC).

Responses to the CCC's comments are provided in response to comment CCC-1 through CCC-53.

The comment states that the Draft EIR should be recirculated. Per CEQA Guidelines Section 15088.5, "New information added to an EIR is not 'significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponents have declined to implement." Furthermore, "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields. West Basin as the lead agency under CEQA believes it complies with the requirements of CEQA and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

Response CCC-2

The Draft EIR explains in several places that, per Government Code section 53091, the proposed Project would not be subject to local planning and building regulations. While this statement is technically accurate, the commenter also correctly points out the subject Government Code section does not pertain to the Local Coastal Plan (LCP), and cites several sections of the Draft EIR where this nuance could be made clearer. Each of the subject sections referenced by the commenter is addressed below. However, as a general matter, with the exception of those appended to the Coastal Zone Specific Plan (i.e., the Municipal Code M-1 and M-2 zoning regulations [1977]), and those adopted for the purpose of Specific Plan implementation (i.e., Municipal Code Title 15, Chapter 12 [1993]), the majority of El Segundo building and planning regulations would not apply to the proposed Project.

Notwithstanding the above, the Draft EIR does describe and consider the potential for the proposed Project to conflict with plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including those of the El Segundo General Plan, zoning regulations, and LCP. This is because a potential conflict with such regulatory requirements, regardless of exemption status, may be an indication that the issue should be explored further to determine whether the potential conflict would result in a substantial, adverse change in the physical environment (CEQA Guidelines Section 15382). As explained in CEQA Guidelines Section 15358(b), "effects analyzed under CEQA must be related to a physical change in the environment."

The Draft EIR thus evaluates the potential for a conflict with local plans, policies, or regulations, even if the Section 53091 exemption would apply. In no case does the Draft EIR rely upon the prospect of a Section 53091 exemption as the basis for justifying, deferring, or otherwise avoiding a determination of significant impact due to a potential conflict with a local regulatory requirement. The Draft EIR sections identified by the commenter as requiring clarification and associated responses are addressed in the subsections that follow. None of the text revisions provided in response to this comment change the Draft EIR analyses or impact conclusions.

As required under CEQA Guidelines Section 15124(d), the Draft EIR's Section 3, *Project Description*, Table 3-11 (pages 3-38 through 3-42) provides a summary of the various environmental review and consultation requirements that could apply to the proposed Project. Consistent with the commenter's statement, table entry for El Segundo (page 3-41) explains the proposed Project would require a "Local Coastal Plan (LCP) amendment in accordance with City of El Segundo Local Coastal Plan. A LCP amendment would require approval from the CCC." The LCP amendment is necessary to allow for a water treatment plant to be constructed within a parcel with the LCP designation of Power Plant (see Section 5.10, *Land Use and Planning*, pages 5.10-22–23; see also response to comment CCC-31). The proposed Project is consistent with all other applicable provisions of the LCP (see *id.*, Table 5.10-3). Once the designation is amended, the land intensity would be consistent with existing General Plan and LCP designations and site conditions. The EIR is intended to support El Segundo's LCP amendment as it considers the impacts of the proposed use (water treatment plant).

Table endnote 1 (page 3-42), which corresponds to the El Segundo entry, also explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances. In response to this comment, the Draft EIR text on page 3-42, Table 3-11 (endnote), is revised as follows:

¹ Note that California Government Code Section 53091(d) states that "[b]uilding ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." Furthermore, Section 53091(e) states that "[z]oning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water . . ." However, West Basin intends to make every effort to comply with all applicable building and zoning ordinances stipulated under the City of El Segundo Municipal Code in the construction and operation of the Ocean Water Desalination Project. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

In describing the organization of the Draft EIR's environmental analysis for each impact topic, the discussion in Section 5, *Environmental Analysis*, notes that a discussion of the corresponding regulatory framework is provided. A footnote (No. 3) is included which explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5-3). In response to this comment, the text in the footnote on page 5-3 is revised as follows:

³ Note that California Government Code Section 53091(d) states that “[b]uilding ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency.” Furthermore, Section 53091(e) states that “[z]oning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water . . .” However, West Basin intends to make every effort to comply with all applicable building and zoning ordinances stipulated under the City of El Segundo Municipal Code in the construction and operation of the Ocean Water Desalination Project. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

Subsection 5.3.1, *Regulatory Framework*, of Section 5.3, *Biological Resources – Terrestrial*, presents the various plans, policies, and regulations with proposed Project relevance. In the introduction to the discussion of local requirements, the Draft EIR explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5.3-7). Nevertheless, the *Regulatory Framework* subsection goes on to identify local regulations related to biological resources protection in El Segundo. Further, Subsection 5.3.4, *Impacts and Mitigation Measures* (namely Impacts BIO 5.3-2 [page 5.3-38], BIO 5.3-5 [page 5.3-47], and BIO 5.3-6 [page 5.3-50]), analyzes potential proposed Project effects on resources identified in or subject to local plans, policies, and regulations. In response to this comment, the introduction is revised as presented below. Section 5.3 does not rely upon Government Code Section 53091 to justify, defer, or avoid discussion of potential effects related to conflicts with local regulatory requirements. For these reasons, the impact analysis is sound and the conclusions remain unchanged. In response to the comment, the Draft EIR text on page 5.3-7 is revised as follows:

Local

As set forth by the California Government Code (CGC) Section 53091(d) and (e), West Basin would not be subject to compliance with local building and zoning ordinances, as the Project involves locating and constructing water-related facilities. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

Section 5.9, *Hydrology and Water Quality*, Subsection 5.9.1, presents the various plans, policies, and regulations with proposed Project relevance. In the discussion of regional and local requirements, the Draft EIR describes the procedures for obtaining local building and grading permits, including demonstration the applicant has complied with applicable requirements governing state construction activity stormwater permits (GCASPs). A footnote (No. 9) is included which explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5.9-24). In response to the comment, the Draft EIR text on page 5.9-24 is revised as follows:

⁹ Note that California Government Code Section 53091(d) and (e) provide that building and zoning ordinances of a county or city “shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water” However, the construction and operation of the Ocean Water Desalination Project would strive to comply with all appropriate building and zoning ordinances, as well as policies set forth in the City of El Segundo General Plan. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

However, Subsection 5.9.4 (namely Impacts HYDRO 5.9-1 [page 5.9-40], HYDRO 5.9-2 [page 5.9-49], and HYDRO 5.9-4 [page 5.9-65]) explains the proposed Project would be required to comply with mandatory state and regional requirements governing stormwater (i.e., those referenced in the Municipal Code as the GCASPs), and that adherence to those requirements would protect against violations of applicable water quality standards and other adverse effects on the hydrology and water quality of the proposed Project area. Section 5.9 does not rely upon Government Code section 53091 to justify, defer, or avoid discussion of potential effects related to conflicts with local regulatory requirements. For these reasons, the impact analysis is sound and the conclusions remain unchanged.

Section 5.10, *Land Use and Planning*, Subsection 5.10.4, addresses the potential for the proposed Project to conflict with plans, policies, and regulations, including the El Segundo General Plan (Impact LU 5.10-4; page 5.10-28) and the El Segundo Municipal Code (Impact LU 5.10-5; page 5.10-33).

The introduction to Impact LU 5.10-4 explains that the analysis focuses on the proposed Project’s consistency with El Segundo General Plan land use policies. A footnote is included (No. 11), which explains that per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5.10-29). In response to this comment, the subject footnote is revised as presented below. However, the impact discussion proceeds to identify several General Plan policies with relevance to the proposed Project, along with an assessment of consistency (see Table 5.10-6, pages 5.10-30 and 5.10-31). Impact LU 5.10-4 does not rely upon Government Code section 53091 to justify, defer, or otherwise avoid discussion of potential effects related to conflicts with General Plan requirements. For these reasons, the impact analysis is sound and the conclusions remain unchanged. In response to the comment, the Draft EIR text on page 5.10-29 is revised as follows:

¹¹ Since the proposed Project would involve the construction of a water infrastructure project by West Basin Municipal Water District (West Basin), it is exempt from local land use, grading, and building permit requirements (California Government Code Section 53091). However, West Basin intends to comply with applicable General Plan and city building codes and as such they are evaluated in this section. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

The Draft EIR's Impact LU 5.10-5 addresses the proposed Project's potential to conflict with relevant provisions of the El Segundo Municipal Code. The Municipal Code building and zoning regulations applicable to the portion of the proposed Project within the coastal zone are those appended to the LCP (i.e., the Municipal Code's M-1 and M-2 zoning regulations [1977]) or otherwise adopted for the purpose of LCP implementation (i.e., Municipal Code Title 15, Chapter 12 [1993]). That is, the proposed Project would not be subject to provisions of the Municipal Code that have not been certified by the CCC as part of the LCP. The impact discussion addresses the proposed Project's potential to conflict with provisions of the Municipal Code related to the M-2 zoning district. That discussion includes a footnote (No. 12), which explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5.10-34). In response to this comment, the impact discussion is revised as presented below. However, the impact discussion proceeds to identify the applicable M-2 zoning standards and the proposed Project's compliance therewith. Impact LU 5.10-4 does not rely upon Government Code section 53091 to justify, defer, or avoid discussion of potential effects related to conflicts with Municipal Code requirements. For these reasons, the impact analysis is sound and the conclusions remain unchanged.

In response to the comment, the Draft EIR text on page 5.10-34 is revised as follows:

The City of El Segundo Zoning Map identifies the Project site as within the Heavy Manufacturing (M-2) zoning district¹². In addition, As previously noted, the LCP Issue Identification section specifies that height, setback, and bulk requirements are those allowed by the City's M-2 Zone, except that in the SA designated lands, energy development will be limited to stringent development criteria set forth therein designed to not restrict public access.

ESMC Chapter 15-6B, *Heavy Industrial (M-2) Zone*, provides standards for development within lands zoned M-2. All uses within the M-2 Zone are required to comply with the development standards contained in ESMC Section 15-6B-7, *Site Development Standards*.¹² These development standards involve TDM and trip reduction criteria (pursuant to ESMC Chapter 15-16), general provisions (pursuant to ESMC Title 15-2), and development regulations for allowable lot area, building/structure height, setbacks, lot frontage, building area, walls/fences, and access.

¹² Since the proposed Project would involve the construction of a water infrastructure project by West Basin Municipal Water District (West Basin), it is exempt from local land use, grading, and building permit requirements (California Government Code Section 53091). However, West Basin intends to comply with applicable General Plan and city building codes and as such they are evaluated in this section. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

Section 5.12, *Noise and Vibration*, Subsection 5.12.1, presents the various plans, policies, and regulations with proposed Project relevance. In the discussion of local requirements, the

Draft EIR describes the noise policies and regulations of the El Segundo General Plan, El Segundo Municipal Code, and Manhattan Beach Municipal Code. In the introduction to the discussion of General Plan requirements, the Draft EIR explains that, per Section 53091, the proposed Project would not be subject to local building and zoning ordinances (page 5.12-3). Nevertheless, the Regulatory Framework goes on to identify numerous El Segundo noise and vibration policies and standards. Moreover, as explained in the Methodology subsection of Section 5.12.3, "...the noise and vibration analysis that involves the ocean water desalination facility considers the General Plan and El Segundo Municipal Code. Given the site's proximity to Manhattan Beach, the analysis also considers consistency with the Manhattan Beach Municipal Code..." (page 5.12-14). In addition, Impact NOI 5.12-1 proceeds to evaluate the proposed Project's potential to conflict with applicable noise standards contained within these documents, concludes a significant impact would result, and identifies feasible mitigation. Impact NOI 5.12-1 does not rely upon Government Code section 53091 to justify, defer, or otherwise avoid discussion of potential effects related to conflicts with local regulatory requirements. In response to this comment, the discussion is revised as presented below. However, for these reasons presented, the impact analysis is sound and the conclusions remain unchanged.

The Draft EIR text on page 5.12-3 is revised as follows:

City policies pertaining to noise are contained in the Land Use and Noise Elements. ~~Since the proposed Project would involve the construction of a water infrastructure project by West Basin, it is exempt from local land use, grading, and building permit requirements (California Government Code Section 53091).~~ The policies outlined in the *City of El Segundo General Plan* (General Plan) Land Uses Element and Noise Element are considered relevant to the proposed Project, as described below.

Subsection 5.16.1 of Section 5.16, *Utilities and Service Systems*, presents the various plans, policies, and regulations with relevance to the proposed Project. A footnote (No. 1) is included at the end of the El Segundo Municipal Code subheading, which explains that, per Section 53091, the proposed Project would not be subject to local building ordinances (page 5.16-4). In response to this comment, the Draft EIR text on page 5.16-4 (Footnote No. 1) is revised as follows:

¹ California Government Code Section 53091(d) states that "Building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, wastewater, or electrical energy by a local agency." However, construction and operation of the Ocean Water Desalination Project would strive to demonstrate compliance with the applicable building ordinances stipulated under the City of El Segundo Municipal Code. The subject Government Code section does not apply to Local Coastal Programs, including zoning ordinances of a city or county incorporated into or adopted for the purpose of implementing Local Coastal Programs.

As noted previously, the Municipal Code building and zoning regulations applicable to the portion of the proposed Project within the coastal zone are those appended to the LCP (i.e., the Municipal Code M-1 and M-2 zoning regulations [1977]) or otherwise adopted for the purpose of

LCP implementation (i.e., Municipal Code Title 15, Chapter 12 [1993]). That is, the proposed Project would not be subject to provisions of the Municipal Code that have not been certified by the CCC as part of the LCP. Furthermore, the Municipal Code sections identified in the subsection containing the footnote address procedural requirements governing water service, metering, rates, payments, and taxes, among others, and do not relate to physical developments, or avoiding or mitigating an environmental effect. Thus, Section 5.16 does not rely upon Government Code section 53091 to justify, defer, or otherwise avoid discussion of potential effects related to conflicts with local regulatory requirements. For these reasons, the impact analysis is sound and the conclusions remain unchanged.

Response CCC-3

While Draft EIR Section 3.3 describes one of the proposed Project objectives as diversifying West Basin's water source portfolio to increase reliability in the long term (15–30 years), the Draft EIR did not include a temporal length of the proposed Project components since there is no anticipated or planned operational end date for the ocean water desalination facility. However, while the analysis of greenhouse gas construction emissions are amortized based on the standard South Coast Air Quality Management District 30-year assumption, and while the project life for financing and depreciation purposes is based on a 30-year assumption, the CCC recommends the coastal hazards analyses extend out 100 years. Therefore, it is unrealistic to consistently apply a common operating life throughout the analyses. Only, the supplemental Coastal Hazards Analysis completed for the Final EIR (Appendix 15) extends out 100 years. No further changes are made to the Draft EIR in response to this comment.

Response CCC-4

In response to this comment and others, West Basin prepared a supplemental technical study to assess whether siting the proposed Project at the El Segundo Generating Station (ESGS) location, or some other location within Santa Monica Bay (SMB), would result in more or less entrainment of planktonic organisms (see *Comparison of 316(b) Data in Santa Monica Bay*, included as Final EIR Appendix 12). This technical study clarifies the existing data and information and supports the impact analysis in the Draft EIR. It also provides additional information that may be used during the permitting phase of the proposed Project. Results of the study indicate that the preferable location for a project's ocean water intake in coastal California must be as distant as possible from rocky reef/hard substrate habitat, coastal lagoons and estuaries, and marine protected areas (MPAs) in order to minimize the entrainment of larval fish, including special-status and managed fish and invertebrate taxa. As illustrated in the Draft EIR Figure 5.11-2, there are MPAs at either end of SMB and numerous artificial reefs in the nearshore coastal waters; ESGS is uniquely located in SMB at a site that is as distant from MPAs, the King Harbor artificial reef, and coastal wetlands as possible. Based on available data, the evidence indicates the ESGS is the "best available" site in SMB to minimize the intake and mortality of marine life. See also *Master Response CEQA and Ocean Plan Compliance*.

Response CCC-5

The concrete plugs installed in the intake and discharge tunnels by NRG Energy (NRG) will be demolished from the onshore end during construction of the desalination plant; specifically,

during construction of the Intake Pump Station. The Final EIR Section 11 presents *Refinements to the Project Description*, and Subsection 3.5.1 of the Final EIR Project Description describes two options for the demolition process: constructing the intake pump station vault surrounding the plug, and chipping out the plug from within the tunnel. The offshore intake and discharge structures would remain available, and modified for West Basin's use as described in the Draft EIR Subsection 3.5.2.

Response CCC-6

See response to comment CCC-4 and Final EIR Appendix 12. The analysis found that the largest factor affecting impacts on fish entrainment is the distance of the intake from hard substrate. The greater the distance an ocean water intake is located from natural or artificial rocky reef/hard substrate habitat, rocky headlands, coastal lagoons, and estuaries, the lower the expected potential entrainment of larval fish, including special-status and managed fish and invertebrate taxa. Based on available data, the evidence indicates the ESGS is the "best available" site in SMB to minimize the intake and mortality of marine life. Within the ESGS location, it does not appear to make a difference in the overall area of production foregone (APF) estimate whether the intake is extended from the currently proposed 10-meter contour location to a deeper 30-meter contour location. This is because potential increases in entrainment of soft-bottom fish species at the deeper contour cancel out potential decreases in entrainment of estuarine and soft-bottom species at the shallower contour.

Response CCC-7

The Draft EIR does not discuss a coastal hazard protection structure, and none is proposed as part of the proposed Project. Since rising sea levels will increase the potential coastal flooding and flood hazards in the future, West Basin conducted a site-specific Coastal Hazards Analysis for the proposed desalination facility at the ESGS North and South Sites, provided as Draft EIR Appendix 5. The conclusions of that analysis are presented in Draft EIR Subsection 5.9.4, in the discussion of coastal flooding and tsunami. As noted on Draft EIR page 5.9-72, "[S]ea level rise and the risk of tsunamis are existing environmental conditions, and unless the Project will exacerbate these conditions, they are not considered potentially significant impacts under CEQA. The analyses presented here are provided for informational purposes and West Basin will implement design measures to protect the Project from potential effects of sea level rise and tsunamis."

The Draft EIR analysis concludes that portions of the ESGS Site would be potentially vulnerable to flooding from future unmitigated coastal flood hazards, including from strong wave surge and tsunami inundation under future sea-level flood hazard conditions. Therefore, Mitigation Measure HYDRO-1 in Draft EIR Subsection 5.9.4 requires the West Basin to complete a Project-specific coastal engineering study for the final Project design, and would require the final Project engineering design to minimize conflicts with the applicable Coastal Act requirements (Coastal Act Sections 30235 and 30253).

However, in response to this and other comments, West Basin prepared a supplemental Coastal Hazards Analysis (see *Master Response: Supplemental Studies* and Final EIR Appendix 15) that utilizes the Ocean Protection Council's April 2017 *Rising Seas in California: An Update of*

Sea-Level Rise Science (Griggs et al. 2017)¹ and the 2018 *CCC Sea Level Rise Guidance* (CCC 2018) and considered the high-risk sea-level-rise projections and the “extreme risk aversion” scenario known as the “H++” scenario. The results of the supplemental study confirm the inland extent of the potential flooding of the ESGS Project sites that is presented in the Draft EIR. But it also provides a cross section of the wave run-up that includes calculations of the wave depth and velocity, which informs and supports strategies to minimize and mitigate exposure to these hazards. *Master Response: Supplemental Studies* provides a summary of the results of this study.

Response CCC-8

The studies presented in the Draft EIR Section 2.10 are provided as proposed Project development background, and are representative of West Basin’s stepwise approach to carefully evaluating ocean desalination over the past 10 years. Draft EIR Sections 5.9 and 5.11 evaluate the potential impacts of the proposed Project on hydrology and water quality, and on marine biological resources, respectively; both of those sections use the 2015 Ocean Plan Amendments (OPA) provisions in their evaluations. In addition, West Basin has prepared four supplemental studies that provide support for future regulatory permitting decisions. See *Master Response: Supplemental Studies*.

As for calculating the APF, the Draft EIR analysis of potential ocean water intake entrainment as well as discharge shear stress impacts on marine plankton (Draft EIR pages 5.11-49 through 5.11-54 and 5.11-58 through 5.11-60, respectively) clearly illustrates that the scientific data used by the State Water Resources Control Board (SWRCB) and the methodology proposed for estimating ocean sited desalination impacts on planktonic organisms in OPA currently necessitates a range of APF calculations, since studies that have been conducted since the drafting of OPA in 2015 (Jessopp 2017; Zhang 2017), and were cited in the Draft EIR, indicate that the use of 1.0 mm sized wedgewire screens and intake flow rates <0.5 fps could reduce entrainment of planktonic organisms by 20 percent or more. Similarly, the potential shear stress impact to planktonic organisms could be reduced by 25 percent or more and only affect specific taxa that are <1 mm in size. Because of this uncertainty in potential effects to marine ecosystems from Project-related entrainment and brine discharge shear stress, no specific APF mitigation estimate for these impacts was committed to in Mitigation Measure BIO-M2. However, Mitigation Measure BIO-M2 does address the monitoring of the intake and discharge for the impingement and entrainment of organisms and commits West Basin to conducting site-specific scientific studies of both the entrainment of planktonic organisms into the wedgewire screen equipped ocean intake, and of potential shear stress impacts on planktonic organisms from the brine discharge. The results of these studies would then be used to accurately estimate Project-related impacts to marine ecosystems in the form of APF calculations, as required by OPA. As described in Mitigation Measure BIO-M2, the eventual calculated loss will be compensated for by either direct or indirect habitat restoration consistent with California Ocean Plan Chapter III.M.2.e.(3) or by providing monetary payments to an appropriate State-approved fee-based mitigation

¹ The Ocean Protection Council’s April 2017 publication was prepared by its Science Advisory Team Working Group (Griggs et.al. 2017). The April 2017 publication was used to prepare its *State of California Sea-Level Rise Guidance: 2018 Update*, referenced as Ocean Protection Council 2018.

program consistent with the Ocean Plan Chapter III.M.2.e.(4), or a combination of the two. See also response to comment SLC-30.

See *Master Response: CEQA and Ocean Plan Compliance*. There is no requirement to revise background material that predates the 2015 OPA. No change has been made to Draft EIR Section 2.10 as a result of this comment.

Response CCC-9

The concrete plug will be removed during the construction of the desalination plant; specifically, during construction of the proposed Intake Pump Station (rectangular vault) that is described in the Draft EIR on page 3-4. See response to comment CCC-5 and Final EIR Section 11, *Refinements to the Project Description*, Section 3.5.1, and Figures 3-26 and 3-27.

Response CCC-10

Draft EIR Section 5.9 does not discuss a coastal hazard protection structure, and none is proposed as part of the Project. Draft EIR Subsection 5.9.4 explains that if the desalination facility were constructed at the South Site (as noted in the Draft EIR Section 7.4), “the entire ESGS South Site behind the 45th Street berm would be lowered to roughly at grade with the bike trail and would require coastal hazard protection similar to that provided by the existing ESGS seawall.” (Draft EIR page 5.9-76.) However, in response to this and other comments, West Basin prepared a supplemental Coastal Hazards Study; see response to comment CCC-7. *Master Response: Supplemental Studies* provides a summary of the results of this study.

Response CCC-11

See response to comment CCC-5 and Final EIR Section 11, *Refinements to the Project Description*, Subsection 3.5.1. In either demolition option, about 84 cubic yards per plug would be loaded into trucks and hauled to landfill for disposal, or an approved concrete recycling plant. There would be no additional construction-related activities to clear the inside of the intake and discharge structures of any sand that may have accumulated. There would be some residual sand within the structures, similar to the existing operational condition. The offshore risers (or intake and discharge towers) on the Units 3 and 4 structures would be modified as part of the proposed Project, as described in Final EIR Section 11, *Refinements to the Project Description*, Subsection 3.5.1.

Response CCC-12

Potential laydown/staging areas for the proposed Project are shown in Figure 3-21. The known or potential impacts associated with their use are evaluated throughout the resource sections in the Draft EIR Section 5.

Response CCC-13

Regarding construction dewatering volumes and extraction rates, as discussed in detail under Impact 5.9-3 (Draft EIR Subsection 5.9.4, page 5.9-61 et seq.), groundwater levels in the city of El Segundo vary, but are typically 20 feet below ground surface. While proposed Project

construction may require dewatering where deep excavations encounter shallow or perched groundwater, any such dewatering activities would be temporary, highly localized, and would involve the extraction of low volumes of shallow groundwater (i.e., not groundwater from aquifers used for municipal or industrial water supply). As such, dewatering activities conducted during construction would not result in significant long-term effects to local groundwater supplies.

Regarding the potential for construction groundwater dewatering to mobilize contaminants, as described on page 5.9-16 of the Draft EIR, the Los Angeles Regional Water Quality Control Board (LARWQCB) General National Pollutant Discharge Elimination System Permit No. CAG994004 (R4-2003-0111) (Dewatering Permit) covers discharges of treated and untreated groundwater generated from permanent or temporary dewatering operations, including groundwater generated from construction dewatering activity. As assessed and discussed in detail under Impact 5.9-1 under “Construction Excavation Dewatering Activities” (Draft EIR Subsection 5.9.4, pages 5.9-42 to 5.9-43), construction dewatering at the proposed desalination facility would require West Basin or their contractor(s) to obtain coverage under the Dewatering Permit for dewatering. The permit requires testing of the effluent to identify the presence of potential contaminants and implementation of appropriate treatment and disposal methods (see response to comment MBCH3-69). An ongoing monitoring and reporting program, with LARWQCB review and approval, is also required under this permit to ensure on-site treatment and/or disposal adheres to the conditions of the Dewatering Permit. Mandatory compliance with the requirements of the Dewatering Permit would ensure that proposed Project dewatering discharges would not mobilize pollutants, result in exceedances of water quality standards, or otherwise degrade water quality or deleteriously affect the beneficial uses of receiving waters.

In addition, as discussed under Impact 5.9-1 and described in detail in Section 5.8 (Draft EIR pages 5.8-22 et seq.) Mitigation Measure HAZ-1, the Waste Management Plan, shall include procedures for managing groundwater generated from dewatering activities, including contaminated groundwater, if any. The procedures shall include the designation of a state-registered Professional Engineer or Professional Geologist to oversee dewatering activities and, if necessary, investigation and cleanup in the event that contamination is encountered; sampling procedures to assess the nature and extent of contamination; and reporting and notification requirements. The disposal procedures for contaminated groundwater would be required to comply with the regulations listed in Subsection 5.8.1, which include the Resource Conservation and Recovery Act, Hazardous Materials Business Plan Program, Hazardous Waste Control Law, and the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, all of which require that hazardous waste be disposed of at licensed facilities permitted to accept the waste. The specific disposal facility—the sanitary sewer or a hazardous waste treatment facility—would depend on the nature and concentrations of chemicals in the dewatering effluent.

Response CCC-14

As discussed in Draft EIR Section 5.14, *Recreation* (page 5.14-7) and Section 5.15, *Transportation and Traffic* (Impact TRA 5.15-6; page 5.15-33), work immediately adjacent to the Marvin Braude Coastal Bike Trail could occur for a period of several weeks. As currently envisioned, use of the bike trail could be disrupted for a period of several weeks during the 5-year

construction period. As explained in Impacts REC 5.14-1 (pages 5.14-7 and 5.14-8) and TRA 5.15-6 (pages 5-15-33 and 34), application of Mitigation Measures REC-1 and TRA-1 would provide for local agency coordination around bicycle path disruptions, and establishment of appropriate detours and associated signage during periods of closure. Thus, with these measures implemented, any temporary construction-related closures of the subject trail would be accompanied by instructions regarding safe alternative routes, which would not include forcing trail users onto the sand.

Response CCC-15

Refer to response to comment CCC-2. In response to this comment, the text of Table 3-11 pertaining to El Segundo is revised to further clarify that, in addition to an LCP amendment, the proposed Project would require a Coastal Development Permit (CDP) issued in accordance with the LCP, as amended. The revision to Table 3.11 does not affect the Draft EIR’s impact discussion or conclusions. This revision would not require changes to the Draft EIR’s impact discussion or conclusions; the CDP requirement is discussed at length in Section 5.10, *Land Use and Planning*, beginning on page 5.10-2: “Most proposed Project components are located within the coastal zone; therefore, their development would require a CDP. The City of El Segundo has certified and adopted an LCP and therefore, pursuant to Coastal Act Section 30519, has jurisdiction to issue a CDP for the desalination facility...”

The Draft EIR text on page 3-38, Table 3-11 is revised as follows:

Agency/Department	Permit/Approval	Required for
Local Agencies		
City of El Segundo ¹	Local Coastal Plan (LCP) amendment and Coastal Development Permit (CDP), in accordance with City of El Segundo Local Coastal Plan. A LCP amendment would require approval from the CCC.	Required for onshore construction of the ocean water desalination facility, which is located within the coastal zone and is under the City of El Segundo LCP jurisdiction. Evaluation of Project consistency with Local Coastal Plan. May be administered by the California Coastal Commission with the City's consent for consolidated permit review.

Response CCC-16

The commenter is correct; nighttime lighting directed over ocean waters can have a temporary effect on marine fish, invertebrates, birds, and marine mammals. This effect is primarily focused on attracting fish and some invertebrate taxa, like squid, to any areas with increased artificial illumination occurring over the water, which then can attract large fish, birds, and marine mammals, who prey on the schooling fish and invertebrates. Although this phenomenon has been a problem in the past, minimal illumination of ocean waters occurs today because of improved environmental awareness as well as the required refitting of work vessels and barges with low-intensity, shrouded, and focused deck lighting. Draft EIR Subsection 3.5.2, *Project Description*, has been revised to clarify that any work vessels employed by the proposed Project will be required to have state-of-the-art deck lighting that does not cause unnecessary lighting of ocean

waters; see Final EIR Section 11, *Refinements to the Project Description*. Therefore, the temporary, short-term scenario of nighttime work would not be expected to result in anything but negligible effects on marine biological resources.

Response CCC-17

See response to comment CDFW 19. Mitigation Measure BIO-9 is revised to include clarification on measures used to avoid impacts to El Segundo blue butterfly. In response to the comment, the Draft EIR text on page 5.3-38 is modified as shown in response to comment CDFW-19.

Response CCC-18

For a response to CCC's interpretation of a "net carbon neutral" facility, see *Master Response: Greenhouse Gas Emissions and Energy Use*.

In response to Footnote 11, in CEQA analysis of GHG emissions impact, it is standard practice to amortize construction emissions over the life of the project, which for the proposed Project is assumed to be 30 years. SCAQMD guidance, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, recognizes that construction-related GHG emissions from projects "occur over a relatively short-term period of time" and that "they contribute a relatively small portion of the overall lifetime project GHG emissions." The guidance recommends that construction project GHG emissions should be "amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies" (SCAQMD 2008).

For the proposed Project, construction emissions amortized over 30 years represent approximately 3.4 percent of the Local Project's annual emissions, and approximately 1.5 percent of the Regional Project's emissions.

Response CCC-19

In November 2018, subsequent to the Draft EIR's March 2018 publication, the CCC adopted an update to its sea-level rise policy guidance. In response to this and other comments, West Basin prepared a supplemental coastal hazards analysis (see Final EIR Appendix 15) in accordance with the updated (2018) Sea Level Rise Policy Guidance. See response to comment CCC-7. The results of the supplemental study confirm the inland extent of the potential flooding of the ESGS Project sites that is presented in the Draft EIR, and the Draft EIR therefore included Mitigation Measure HYDRO-1 to ensure the final Project design would not conflict with Coastal Act Sections 30235 and 30253. Since Mitigation Measure HYDRO-1 in the Draft EIR specified using the Coastal Commission's 2015 Sea Level Policy Guidance, and since that guidance was replaced in 2018 and may again be replaced prior to final Project design, Mitigation Measure HYDRO-1 is revised as follows:

HYDRO-1: West Basin shall contract a California licensed engineer to update as required ~~prepare~~ at the Coastal Hazard Resiliency Study focused on the ESGS site, consistent with the methods for assessing sea-level rise in the current CCC's Sea Level Rise Policy Guidance (~~CCC-2015~~), over the Project planning horizon. Recommendations in the Study shall be incorporated into the final design and construction specifications of

the Project as applicable to minimize conflicts with the applicable Coastal Act Section 30235 (Construction altering natural shoreline) and Section 30253 (Safety, stability, pollution, energy conservation, visitors). At a minimum, the study shall: . . .

Response CCC-20

See *Master Response: Supplemental Studies* and Final EIR Appendix 15.

Response CCC-21

See response to comment CCC-7, and *Master Response: Supplemental Studies*.

Response CCC-22

See *Master Response: Supplemental Studies* and Final EIR Appendix 15.

Response CCC-23

Sea-level rise and coastal erosion will occur regardless of the Project. A No Action scenario would assume continued maintenance of the existing armoring to protect the existing bike trail. For example, an agreement (Agreement #21618, dated August 7, 1973, between the County of Los Angeles and Standard Oil Company of California (now NRG)), gave the County a 50-year license to use NRG's real property along the beach exclusively for recreational purposes including a bicycle path, and that the "County shall be solely responsible for the maintenance and repair of such facilities and shall keep same in first-class condition" (County of Los Angeles 1973). The supplemental coastal hazards analysis (see response to comment CCC-7) assumes that the beach erodes with sea-level rise, but the rock revetment and trail are assumed to be maintained in place by others.

Under a No Action scenario, the presence of the existing NRG facility, without the proposed Project, would require managed retreat of the bike trail. The proposed Project would not affect the existing armoring or the existing bike trail with regards to erosion or flooding. The presence of the Project would not change public access and recreation opportunities. See *Master Response: Supplemental Studies* which provides a description of the supplemental Coastal Hazards Analysis.

Response CCC-24

In response to this and other comments on the Draft EIR, West Basin prepared a supplemental Coastal Hazards Analysis and considered tsunamis; see Final EIR Appendix 15, Section 3.6. The supplemental analysis describes publicly available information on tsunami hazards at the Project site, including the California Official Tsunami Inundation Maps and more recent mapping by the American Society of Civil Engineers (ASCE). The California Official Tsunami Inundation Map shows the Project is located immediately landward of the tsunami inundation hazard area (Figure 35; State of California 2009) consistent with the United States Geological Survey Tsunami Inundation Map - Venice Quadrangle, shown in the 2015 City of El Segundo's 2015 Hazard Mitigation Plan (page 64). However, the reference in the Hazard Mitigation Plan to a predicted tsunami run-up of 50 feet is not documented and is inconsistent with the tsunami amplitude of 2 meters analyzed by Jenkins (2016; 2017) and ASCE. The supplemental Coastal Hazards Analysis presents additional information on the ASCE structural design criteria for

tsunamis, including the design inundation depths and velocities for existing and future conditions with sea-level rise.

Response CCC-25

The supplemental Coastal Hazards Analysis prepared for this Final EIR informs and supports strategies to minimize and mitigate exposure to these hazards, such that the proposed Project would minimize conflicts with the applicable Coastal Act requirements (Coastal Act Sections 30235 and 30253). *Master Response: Supplemental Studies* provides a summary of the results of this study. See also Final EIR Appendix 15B.

Response CCC-26

Draft EIR Section 5.9 does not discuss a coastal hazard protection structure, and none is proposed as part of the Project. See responses to comments *CCC-10* and *-23*, and *Master Response: Supplemental Studies* which provides a description of the supplemental Coastal Hazards Analysis.

Response CCC-27

See response to comment *CCC-7*. The supplemental Coastal Hazards Analysis (Final EIR Appendix 15) has used the updated guidance.

Response CCC-28

Since rising sea levels will increase the potential coastal flooding and flood hazards in the future, West Basin conducted a site-specific Coastal Hazards Analysis for the proposed desalination facility at the ESGS North and South Sites, provided as Draft EIR Appendix 5. In response to this and other comments, however, West Basin prepared a supplemental Coastal Hazards Analysis which is included as Final EIR Appendix 15; see also *Master Response: Supplemental Studies*. The results of the supplemental study confirms the inland extent of potential coastal flooding identified in the Draft EIR, compare the new site-specific results with the more regional Coastal Storm Modeling System 3.0 (CoSMoS) results, and inform and support strategies to minimize and mitigate exposure to these hazards. *Master Response: Supplemental Studies* provides a description of the results of this study.

Response CCC-29

Draft EIR Section 5.9 does not discuss a coastal hazard protection structure, and none is proposed as part of the Project. The supplemental Coastal Hazards Analysis prepared for this Final EIR (see Appendix 15) advances the analysis in Draft EIR Appendix 5 (the subject of this comment), and informs and supports strategies to minimize and mitigate exposure to potential coastal flooding hazards, such that the proposed Project would minimize conflicts with the applicable Coastal Act requirements (Coastal Act Sections 30235 and 30253). *Master Response: Supplemental Studies* provides a summary of the results of this study.

As noted on Draft EIR page 5.9-72, “[S]ea level rise and the risk of tsunamis are existing environmental conditions, and unless the Project will exacerbate these conditions, they are not considered potentially significant impacts under CEQA. The analyses presented here are provided

for informational purposes and West Basin will implement design measures to protect the Project from potential effects of sea level rise and tsunamis.”

Response CCC-30

See response to comment CCC-13.

Response CCC-31

As the commenter correctly notes, the Draft EIR discloses that the Coastal Zone Specific Plan designates the proposed Project site as Power Plant (PP), a designation which “...limits the use of the site to energy facility and energy related developments required for the continued operation of electrical power plant’ (City of El Segundo, 1980)” (pages 5.10-8 and 5.10-9). As explained in Impact LU-5.10-2 (page 5.10-22), the type of use proposed under the Project may not be permitted under the LCP, because the Project is not an energy facility or energy-related development. Therefore, the Draft EIR states, “...the LCP may need to be amended to allow for a water treatment plant to be constructed within a parcel zoned exclusively for Power Plant (PP). The LCP amendment would require approval from the CCC” (page 5.10-22).

As the commenter also correctly notes, the Draft EIR’s Subsection 5.10.3 establishes significance thresholds that state the proposed Project would have a significant adverse environmental effect if it would conflict with any applicable land use plan, policy or regulation of any agency with jurisdiction over the proposed Project, including the LCP, adopted for the purpose of avoiding or mitigating an environmental effect (page 5.10-13). The Draft EIR appropriately concludes less than significant for the proposed Project’s potential to conflict with the LCP for two primary reasons.

First, the Draft EIR explains that in order for the proposed Project to proceed, (1) the LCP would likely need to be amended, (2) the LCP amendment would require certification by the CCC that it is consistent with the Coastal Act, and (3) the West Basin Water District would be required to obtain a CDP consistent with the LCP, as amended (page 5.10-23). The impact discussion further explains why it would be reasonable to conclude the LCP could be amended to allow for the Project (e.g., the proposed Project constitutes a use of greater than local importance, depends on proximity to the coast in order to function [i.e., coastal-dependent], and would not conflict with applicable Coastal Act policies [see Draft EIR Table 5.10-3]). Thus, the Draft EIR discloses the potential LCP conflict; acknowledges that compliance with the LCP, and by extension the Coastal Act, is mandatory; and explains how adherence to the corresponding procedural requirements for LCP amendment would resolve the potential conflict. Under CEQA, compliance with mandatory regulatory requirements designed to avoid or mitigate an impact addressed in the EIR constitutes substantial evidence that the lead agency may rely upon to conclude impacts would be reduced to a less than significant level (see *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 234 Cal. App. 4th 214, 246 (“[A] condition requiring compliance with regulations is a common and reasonable mitigation measure, and may be proper where it is reasonable to expect compliance.” (citing *Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 903)); see also *Gentry v. City of Murrieta* (1995) 36 Cal. App. 4th 1359, 1395 (no improper deferral of mitigation where condition required applicant to submit improvement plans, grading plans, and a final map for approval, plans that would be “subject to a host of specific performance

criteria imposed by various ordinances, codes, and standards, as well as other mitigation conditions”). In the present case, the proposed Project could not proceed in conflict with the LCP or Coastal Act, and therefore through adherence to the applicable LCP amendment and CDP application processes, the proposed Project would not result in a significant impact with respect to conflicts with LCP or Coastal Act policies.

Second, as defined in CEQA Guidelines Section 15382, a significant effect on the environment means a “substantial, or potentially substantial, adverse change in any of the *physical conditions* within the area affected by the Project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance” (emphasis added). As is clear from the definition, CEQA is concerned with a project’s physical effects on the environment.

Notwithstanding the prior discussion of the LCP amendment, the proposed Project’s potential incompatibility with the LCP’s established land use designation does not itself equate to a significant impact. Rather, as appropriately examined in the Draft EIR, a potential conflict is an indication that the issue should be explored further to determine whether the conflict would result in a substantial, adverse physical environmental change. In the present case, there is nothing in the Power Plant land use designation that appears to have been “adopted for the purpose of avoiding or mitigating an environmental effect,” such that a conflict with the designation would result in a significant physical environmental effect. Rather, the LCP appears to have codified the heavy industrial land uses existent at the time of LCP preparation. As explained by the CCC (Regional Commission) in its analysis of the Specific Plan (El Segundo Local Coastal Program, Staff Summary page 15, and Coastal Zone Specific Plan page 21): “Two major energy installations currently exist in the coastal zone in El Segundo; both are described in detail in the City’s Coastal Zone Specific Plan. The larger of the two facilities is the S.C.E electrical generating station which produces a total of 1,020,000 KW’s. The smaller energy facility is the onshore portion of the Chevron Marine Tanker Terminal... The El Segundo LCP submittal gives most of the coastal zone an energy land use designation of either (MT) Marine Terminal or (PP) Power Plant. The implementing actions included in the Specific Plan are designed primarily to allow for on-site expansion or intensification of energy developments consistent with space constraints of the respective sites.”

Compared to the power plant land use, which formed the basis of (and which would presently be allowed under) the current designation, the proposed Project would involve a smaller, less-intensive development. Moreover, the potential physical effects of the Project are the very subject of the whole Draft EIR. Nevertheless, the Draft EIR considers the full range of environmental effects, including but not limited to those related to potential conflicts with the LCP and the Coastal Act. For example, the analysis in Impact LU-5.10-2 (page 5.10-23, Footnote 8) explains that, in addition to the detailed Coastal Act policy consistency analysis presented in Table 5.10-3 (page 5.10-17), "... detailed discussion of specific Coastal Act issues are addressed in the appropriate EIR sections, including marine biology (Section 5.11), terrestrial biology (Section 5.3), greenhouse gas emissions (Section 5.7), public access and recreation (Section 5.14), visual impacts (Section 5.1), and alternatives (Section 7)." Thus, the Draft EIR completely and adequately considers the potential for non-conformity with the LCP and the significant, adverse physical effects that could result therefrom. For these reasons, the impact analysis is sound and the conclusions remain unchanged.

Response CCC-32

Unlike the LCPs of other jurisdictions with a larger coastal zone, more diverse coastal resource base, and/or which have been more recently certified or comprehensively updated, El Segundo's 38-year-old LCP contains no coastal resource protection policies. Rather, the LCP generally consists of: (1) the Coastal Zone Specific Plan, which sets forth land use designations and allowable uses consistent with those uses existent at the time of LCP preparation; and (2) the Issue Identification, which identifies applicable Coastal Act policies, describes the physical and regulatory setting at the time of LCP preparation, and identifies potential conflicts between coastal policies and the then-existing plans and development proposals.

The portion of the LCP referenced by the commenter as "LCP provisions to be amended" does not contain LCP provisions, but rather a section of the then-Regional Commission's staff report evaluating the City's then-proposed LCP's conformity with applicable Coastal Act policies. The provisions of the LCP governing land use are included in the Coastal Zone Specific Plan, which designates the Project site as Power Plant (PP) and enumerates permitted uses (LCP pages 24 and 25). Please refer to response to comment CCC-31 for a discussion of potential conflicts with the LCP, wherein it is explained that the Draft EIR acknowledges the potential conflict with the LCP's land use designation and explains the LCP will likely require amendment in order for the Project to proceed.

Notwithstanding the above, recognizing the Coastal Act is the standard of review for an LCP amendment proposal, the Draft EIR also evaluates the proposed Project's potential to conflict with Coastal Act policies. The Draft EIR acknowledges that "...final determination on Coastal Act consistency rests with the City of El Segundo and CCC" (page 5.10-16). Nevertheless, the Draft EIR's Table 5.10-3 (pages 5.10-17 through 5.10-20) presents the text of the various Coastal Act resource protection policies assumed to be relevant, discussions of the Project's potential to conflict with said policies, and determinations of conformity. The policy analysis presented in Table 5.10-3 covers the range of coastal resource policy issues raised by the commenter as warranting consideration in the LCP update. For example, the LCP Section VI Policy Groups A and B (protect existing bicycle path) are addressed in the Table 5.10-3 discussion of potential

conflicts with Coastal Act sections 30211 and 30212 (page 5.10-17). Group E (shoreline structures) is addressed in the table's discussion of potential conflicts with Coastal Act sections 30235 (page 5.10-19; note, the proposed Project does not propose shoreline structures). Group K (locating new development) is addressed in the table's discussion of potential conflicts with Coastal Act Section 30250 (page 5.10-19). Group M (public works improvements) is addressed in the table's discussion of Coastal Act Section 30254 (page 5.10-20). Group N (industrial development) is addressed in the table's discussion of Coastal Act Section 30260 (page 5.10-20).

With respect to CEQA specifically, as noted in response to comment CCC-31, CEQA is concerned primarily with a project's physical change to the environment. The Draft EIR examines the proposed Project's potential to cause a physical adverse effect on coastal resources that are protected under the above-referenced Coastal Act policies. As noted in Section 5.10, *Land Use* (page 5.10-21, Footnote 5), in addition to the analysis provided in Table 5.10-3, the proposed Project's physical impacts related to specific resource areas subject to Coastal Act regulation are addressed in their respective Draft EIR topical sections. For example, potential Project effects on bicycle and pedestrian facilities (Policy Groups A and B), including the Marvin Braude Bike Trail, are addressed in Draft EIR Section 5.14, *Recreation* (pages 5.14-7 and 5.14-8), and Section 5.15, *Transportation and Traffic* (pages 5.15-33 through 5.15-36). The potential effects related to coastal hazards and flooding, including whether shoreline armoring (Group E) may be required, are addressed in Section 5.9, *Hydrology and Water Quality* (pages 5.9-72 through 5.9-80). The issue is addressed further in a coastal hazards analysis prepared subsequent to publication of the Draft EIR (see also response to comment CCC-33 and *Master Response: Supplemental Studies*). The direct and indirect effects of constructing and operating the proposed Project (Groups K and N) are the subject of the Draft EIR's Chapter 5, *Environmental Analysis*, and are addressed across all environmental topics. Further, the direct and indirect effects related to growth inducement associated with development of a new public works facility (Group M) are addressed in Draft EIR Section 6.2, *Growth-Inducing Impacts* (page 6-2 through 6-9).

In summary, the Draft EIR addresses the proposed Project's consistency with potentially applicable Coastal Act policies. Recognizing the CCC would make the final determination regarding policy consistency, the Draft EIR proceeds to address the proposed Project's potential physical changes that could affect coastal resources. Therefore, the Draft EIR's impact discussion adequately fulfills the CEQA mandate to address the proposed Project's potential to conflict with an applicable policy adopted for the purpose of avoiding or mitigating an environmental effect, and the physical adverse effects that could result therefrom. For these reasons, the impact analysis is sound and the conclusions remain unchanged.

Response CCC-33

The Draft EIR's Section 5.10, *Land Use and Planning*, describes and evaluates Project conformity with the CCC's 2015 Sea Level Rise Policy Guidance – the applicable guidance document at the time of Draft EIR publication (page 5.10-3). In the Impact LU 5.10-2 discussion, the Draft EIR explains the proposed Project would not conflict with the guidance, because it “would be located within the existing boundaries of the energy facilities and would avoid expansion and minimize the perpetuation of shoreline armoring” (page 5.10-22). As the commenter notes, subsequent to the Draft EIR's March 2018 publication, in November 2018, the

CCC adopted an update to its Sea Level Rise Policy Guidance. Since publication of the Draft EIR and in response to the commenter's recommendation, a supplemental Coastal Hazards Analysis has been prepared in accordance with the updated (2018) Sea Level Rise Policy Guidance. See response to comment CCC-07 and Final EIR Appendix 15.

In response to this comment, the Draft EIR's Section 5.10 (pages 5.10-3, 5.10-4, 5.10-22, 5.9-37, and 5.10-38) has been revised as indicated below to reflect the updated CCC 2018 policy.

The Draft EIR text on pages 5.10-3 and 5.10-4 is revised as follows:

California Coastal Commission Sea Level Rise Adopted Policy Guidance

In August 2015, the Sea Level Rise Policy Guidance document was unanimously adopted for use by the CCC (CCC 2015). This document provides an overview of the best available science on sea-level rise and recommended methodology for addressing sea-level rise in Coastal Commission planning and regulatory actions. This guidance is a comprehensive, multi-purpose resource that will be updated periodically to address new sea-level rise science and information. Some of the principles listed in the document for addressing sea-level rise in the coastal zone that apply to the proposed Project include:

Minimize Coastal Hazards through Planning and Development Standards

- 7. Minimize hazard risks to new development over the life of authorized structures.**
- 8. Minimize coastal hazard risks and resource impacts when making redevelopment decisions.**

Maximize Protection of Public Access, Recreation, and Sensitive Coastal Resources

- 12. Maximize natural shoreline values and processes; avoid expansion and minimize the perpetuation of shoreline armoring.**

In November 2018, the CCC adopted an update to the 2015 Sea Level Rise Policy Guidance (CCC 2018). The revisions address the State's updated understanding of sea level rise science and best planning practices for anticipated impacts. The changes mainly concern updated references to best available science, including revisions to sea level rise projections. Notably, while the 2015 guidance identified and incorporated findings from a 2012 National Research Council report (NRC 2012) as the best available science at the time, the 2018 updates revise much of that discussion to incorporate the findings of two Ocean Protection Council studies (Griggs, et al. 2017 [OPC 2017] and OPC 2018) as the best available science.

The Draft EIR text on page 5.10-37 is revised to update the Coastal Commission 2015 reference to 2018 as follows:

By year 2100, sea levels may rise up to 55 inches (1.4-meter), causing a 45 percent increase in land in Los Angeles County to become more vulnerable to the 100-year flood event (CCC 2018~~5~~).

The Draft EIR text on page 5.10-38 is revised to include the following references:

California Coastal Commission (CCC), 2018. Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits, Adopted August 12, 2015, Updated November 7, 2018.

National Research Council (NRC), 2012. *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*. Washington, DC: The National Academies Press, <https://doi.org/10.17226/13389>.

Griggs, G, Árvai, J, Cayan, D, DeConto, R, Fox, J, Fricker, HA, Kopp, RE, Tebaldi, C, Whiteman, EA (California Ocean Protection Council Science Advisory Team Working Group), 2017. Rising Seas in California: An Update on Sea-Level Rise Science, California Ocean Science Trust, April 2017

Ocean Protection Council (OPC), 2018. State of California Sea-Level Rise Guidance: 2018 Update. [http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit A OPC SLR Guidance-rd3.pdf](http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit_A_OPC_SLR_Guidance-rd3.pdf)

The Draft EIR text on page 5.10-22 is revised as follows:

The proposed Local Project ocean water desalination facility would be subject to compliance with the El Segundo LCP, as this Project component is sited within the coastal zone. In addition, the Local Project would comply with the Sea Level Rise Policy Guidance principles because it would be located within the existing boundaries of the energy facilities and would avoid expansion and minimize the perpetuation of shoreline armoring. A recent study of coastal hazards (see Final EIR Appendix 15) indicates the Project site could be subject to unmitigated coastal hazards associated with wave run-up late in the century under a medium to high sea level rise scenario. Accordingly, the Project site plan would be modified to mitigate exposure to such risks. These potential modifications would take into consideration sea level rise over the next approximately 100 years and reduce the Project's exposure to coastal hazards consistent with the CCC's updated 2018 Sea Level Rise Policy Guidance.

Also in response to this comment, the text in Draft EIR Section 5.9, *Hydrology and Water Quality*, pages 5.9-23 and 5.9-80, has been revised as indicated below to reflect the updated CCC 2018 policy guidance.

The Draft EIR on page 5.9-23 is revised as follows:

California Coastal Commission Sea-Level Rise Policy Guidance

The CCC has developed Sea-Level Rise Policy Guidance intended to help local governments, permit applicants, and other interested parties address the challenges presented by sea-level rise in California's coastal zone. The CCC's adopted ~~2018~~²⁰¹⁵ Sea-Level Rise Policy Guidance (CCC ~~2018~~²⁰¹⁵) outlines the types of information,

analysis, and design considerations that the agency's staff requires to determine whether shoreline projects conform to the above-listed Coastal Act policies.

The Draft EIR text on page 5.9-80 is revised to include the following reference:

California Coastal Commission (CCC), 2018. Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits, Adopted August 12, 2015, updated November 7, 2018.

Response CCC-34

Please also see response to comment CCC-48. With respect to alternatives, the Draft EIR's Subsection 7.2.1 describes several potential non-desalination alternatives, including increased conservation, stormwater capture, increased non-potable recycling, indirect potable reuse, and direct potable reuse. For the reasons described in Subsection 7.2.1 (pages 7-6 through 7-31), these alternatives were rejected due to issues of feasibility, environmental effects, and/or inability to meet Project objectives.

The commenter asserts that the CCC may find that some, but not all, of the proposed Project components are "coastal dependent." The commenter further requests additional consideration of Project conformity in the event some or all of the Project were found not to be coastal dependent. The Draft EIR assumes the proposed Project is a coastal dependent development or use, because its primary function is the desalination of seawater. As explained in Subsection 7.2.3 (pages 7-35 and 7-36): "...West Basin conducted a detailed assessment of the feasibility of installing a subsurface intake system in 2016. The study outlined the local geology and proximity to subsurface ocean water and evaluated numerous technologies that could access subsurface ocean water. As described in Appendix 10, the assessment concluded that due to the local geology, existing coastal development, subsurface water quality, potential for interference with the operation of the West Coast Seawater Barrier Project, and untested expensive technology, subsurface intakes would be infeasible."

As explained further in *Master Response: Supplemental Studies*, detailed technical investigations into seawater intake options concluded that the proposed Project could not obtain source water through alternative intake mechanisms (e.g., wells located near, but not directly on the shoreline), and that in order for the proposed Project to function, open ocean intakes would be required. Thus, even if the CCC were to disagree with the presumption that the proposed Project as a whole is a coastal-dependent development or use, because the intake facilities "...require a site on, or adjacent to, the sea to be able to function at all," those components are necessarily coastal-dependent per the Coastal Act Section 30101 definition. Accordingly, because the proposed Project would be "dependent upon a coastal-dependent development or use," it would necessarily be a coastal-related development (Section 30101.3).

As discussed in response to comment CCC-32, the Draft EIR provides analyses and preliminary conclusions regarding Project consistency with Coastal Act policies, including those concerning coastal-dependency (e.g., Impact LU 5.10-2; pages 5.10-15 and 5.10-16), while also explicitly

acknowledging that final determination of Project consistency rests with the CCC (Draft EIR page 5.1-13). Moreover, as described further in that response, CEQA is concerned with the potential physical adverse effects of the Project on the environment, and the Draft EIR addresses the potential effects on coastal resources subject to CCC jurisdiction. For these reasons, the Draft EIR's analysis of potential adverse physical effects is sound.

The determination of coastal-dependency would not change the Draft EIR's conclusions regarding whether the proposed Project could have a significant physical adverse environmental effect. As explained below, analysis of Project conformity with Coastal Act policies related to coastal dependency suggests the Project could be found consistent with the Coastal Act, even if the CCC concluded the whole Project (i.e., the desalination facility) is not coastal dependent.

The existing LCP designates the proposed Project site Power Plant (PP), which allows electrical generation, accessory buildings, on-site repowering, and on-site modification to existing facilities. While the facilities existent at the time of LCP certification may have relied upon proximity to the coast to function, nothing in the current LCP land use designation requires the site be used for coastal-dependent purposes. Thus, notwithstanding the Project's potential conflict with the principal permitted use (i.e., Power Plant; see response to comment CCC-33) future development of the site with a non-coastal dependent use would not itself conflict with any coastal-dependency requirement of the LCP.

In enacting the Coastal Act, the Legislature found and declared that among the basic goals of the State for the coastal zone were assure priority for coastal-dependent and coastal-related development over other development on the coast (Section 30001.5). As explained previously, the in-water proposed Project components (i.e., the ocean intake facilities) are necessarily coastal-dependent, as they require a site "on or adjacent to, the sea in order to be able to function at all" (Section 30101). Further, because the proposed Project would be "dependent upon a coastal-dependent development or use," it would necessarily be a coastal-related development (Section 30101.3). Therefore, under Section 30001.5, it appears the proposed Project should be afforded priority over other developments on the coast.

Section 30255 directs that coastal-dependent developments shall have priority over other developments on or near the shoreline. The policy goes on to provide that, when appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support. As explained for Section 30001.5, the proposed Project's in-water components (i.e., the ocean intake and outfall facilities) are necessarily a coastal-dependent development or use, as they require a site on, or adjacent to, the sea in order to be able to function at all. And because the desalination facility would be dependent upon a coastal-dependent development or use, it would be a coastal-related development. The site of the proposed desalination facility is within reasonable proximity to the existing ocean intake and outfall facilities upon which it would rely to operate. Therefore, it appears siting of a desalination plant at the proposed Project site would not conflict with Section 30255.

Section 30222 directs that use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over

other types of development, except agriculture or coastal-dependent industry. Given the adjacent heavy industrial uses, it is not clear that the proposed Project site, specifically the North Site, is suitable for visitor-serving commercial recreational facilities or agricultural developments because it is collocated with the existing NRG industrial facilities. Moreover, there are currently no proposals for such uses, or any other coastal-dependent industrial uses, to which the proposed Project would be expected to yield under this policy. Therefore, it appears development of the proposed Project site with a desalination plant would not conflict with Section 30222, even if found not to be coastal-dependent.

Section 30233 allows dredging and filling of open coastal waters for, among other purposes, new or expanded coastal-dependent industrial facilities and incidental public service purposes. The proposed Project would require a small amount of dredging and fill in the areas of the former power plant's existing intake and discharge systems. As noted previously, given their purpose would be for ocean water intake and ocean effluent discharge, the subject dredge and fill work would be for the purpose of new or expanded coastal-dependent facility. However, even if the CCC were to find the work were not for a coastal-dependent purpose, the proposed desalination plant and associated intake and outfall infrastructures would be for a public service purpose (i.e., public water supply). Therefore, the dredge and fill needed for the intake and outfall facilities would be for "incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines" (Section 30233(a)(4)). For these reasons, the proposed Project would not conflict with Section 30233.

Section 30235 allows the development of shoreline structures that would alter natural shoreline processes, when required to serve coastal-dependent uses and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. As discussed in *Master Response: Supplemental Studies* and response to comment CCC-33, a coastal hazards analysis prepared for the Project indicates the proposed Project would not require the development of shoreline protection during its estimated life. However, irrespective of the CCC's determination regarding the Project's coastal dependency, if shoreline protection were required at some point due to unforeseen circumstances, such armoring would not conflict with this policy, because the shoreline is not natural. Rather, the entire coastline in this area has been armored with revetment. Therefore, the proposed Project would not conflict with Section 30235.

For these reasons, it appears the proposed Project would not conflict with policies related to coastal dependency. For the reasons explained in response to comment CCC-32, the CCC's deliberations would not affect Draft EIR's impact conclusions with respect to whether the proposed Project would result in a significant physical adverse environmental effect.

Response CCC-35

See responses to comments CCC-7, -23 and -26. The Draft EIR does not discuss a coastal hazard protection structure, and none is proposed as part of the proposed Project. Under a No Action scenario, the presence of the existing NRG facility, without the proposed Project, would require managed retreat of the bike trail. See response to comment CCC-10, and *Master Response: Supplemental Studies*, which provides a description of the supplemental study.

Response CCC-36

See *Master Response: Supplemental Studies*; specifically, AMS Technical Memo-Comparison of 316(b) Data from SMB, California (AMS 2019; Final EIR Appendix 12).

Response CCC-37

The comment correctly cites the Santa Monica Bay Restoration Commission (SMBRC) Plan (dated 2013), Objective 1.3, which is to eliminate biological impacts of water intake and discharge from coastal power plants and desalination plants. The proposed Project would not, however, be inconsistent with this objective. The SMBRC Plan explains that, “Like coastal power plants, desalination plants also take up ocean water and may even use the intake water from adjacent coastal power plants. Since the intake pipes for desalination plants are not specifically covered under the CWA Section 316(b), policies to address potential impingement and entrainment impacts of ocean water intake by desalination plants should be developed under the purview of other existing and appropriate water quality policies. SWRCB is developing and scheduled for adoption in 2014 an amendment to the Ocean Plan that would address issues associated with desalinization facilities and the disposal of brine discharges from other sources.” The Plan goes further in adopting Milestone (1.3b) to implement the Plan objectives relative to desalinization facilities which states: “Develop and adopt policies to address potential impacts of water intake brine discharge from desalination facilities by 2014. Implementation Lead: SWRCB, Implementation Partners: LARWQCB, Water Districts.”

Because the Project as proposed in the Draft EIR will be designed and operated in conformance with OPA regulations adopted by the SWRCB concerning coastally sited desalination plants, the proposed Project would not be inconsistent with this SMBRC Plan policy.

In further response to the comment, the Draft EIR text on page 5.11-34 is revised as follows:

National Estuary Program

The Santa Monica Bay National Estuary Program (SMBNEP) was established under 1987 CWA Section 320 and is intended to protect and restore Santa Monica Bay’s resources. The Santa Monica Bay Restoration Commission (SMBRC) is responsible for developing, updating, and implementing the Bay Restoration Plan (BRP). The SWRCB and The Bay Foundation (TBF), a non-profit entity, serve as the hosting entity that provide physical locations, staffing, and matching funds to support the SMBNEP activities. The Bay Foundation also receives, administers, and uses grant funds from different entities to implement many Projects identified in the BRP. The SMBRC in its Bay Restoration Plan (SMBRC 2013) have adopted 14 restoration goals that include objectives to improve water quality through enhancement of current regulatory frameworks and collaborative, integrated watershed-wide planning and implementation. These goals include the minimization of potential entrainment and impingement effects of desalinization facilities.

The Draft EIR Reference section is revised on page 5.11-82 as follows:

Santa Monica Bay Restoration Commission. 2013. Bay Restoration Plan. Adopted December 19, 2013. Available at: https://www.smbrc.ca.gov/about_us/smbr_plan/docs/smbrplan2013_adopted.pdf

Response CCC-38

In response to this comment, the paragraph discussing Environmentally Sensitive Habitat Areas in marine waters has been deleted from the Draft EIR on page 5.11-35 as follows:

~~Environmentally Sensitive Habitat Areas~~

~~Under the California Coastal Act, Environmentally Sensitive Habitat Areas (ESHA) are defined as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” According to El Segundo’s Local Coastal Program, there are no ESHAs in El Segundo’s coastal zone, thus, Coastal Act Sections 30240(a) and (b) are not applicable (City of El Segundo 1980). Section 5.3, Biological Resources—Terrestrial discusses the presence of artificially introduced buckwheat, which is the host plant for the protected El Segundo blue butterfly.~~

Response CCC-39

Conformity with the OPA will be determined by the LARWQCB during the California Water Code Section 13142.5(b) determination (the “Water Code determination”) process. See *Master Response: CEQA and Ocean Plan Compliance*.

Response CCC-40

The word “could” is used throughout the EIR impacts analyses to describe what impacts may result if the proposed Project were to be approved and permitted to operate. Draft EIR Subsection 5.11.4 (pages 5.11-49 through 5.11-60) discusses in detail the potential adverse effects the proposed Project may have on marine resources, especially planktonic organisms, as a result of ocean water intake and brine discharge related entrainment. The impacts range from No Impact to Less than Significant with Mitigation.

Response CCC-41

See *Master Response: CEQA and Ocean Plan Compliance*. Additionally, Draft EIR Table 5.11-9 has been modified to include a 1 percent reduction in ocean water intake entrainment on the APF calculation in accordance with OPA 2015 (see responses to comments LARWQCB-33 and -34).

Response CCC-42

See responses to comments LARWQCB-33 and-34 and *Master Response: CEQA and Ocean Plan Compliance*.

Response CCC-43

See *Master Response: CEQA and Ocean Plan Compliance*. The APF calculation involves multiplying the source water area (acres) by the P_m . Below is a table with the source water areas used, the scaled P_m , as well as the APF. In contrast with APF, the calculation of P_m involves more variables including the proportional entrainment (PE) calculated from densities of larvae:

(1) entrained in the intake and (2) present in the source water each month over the course of the year that the Tenera 2008 study was performed. Replication of the P_m calculations (including PE values) using data from the Tenera 2008 report is included in Appendix B of the AMS Technical Memo-Comparison of 316(b) Data from SMB, California (AMS 2019; Final EIR Appendix 12), and copied below for transparency.

Tenera 2008 Report Page no.	Fish (scale group) ¹	Alongshore distance (km)	Offshore distance (km)	Area (km ²)	Area (acres)	Scaled P_m (41 MGD)	APF
4-42	Anchovy (1:10)	54.6	21.7	1184.8	292774.9	0.000226292	66.3
4-50	Silversides (1:10)	26.1	3.5	91.4	22573.0	0.003281234	74.1
4-56	Sea Basses (1:1)	21.9	5.6	122.6	30305.0	0.0005143	15.6
4-65	White Croaker (1:10)	39.4	13.5	531.9	131435.1	0.000432012	56.8
4-74	Queenfish (1:10)	35.9	9.7	348.2	86049.4	0.00005143	4.4
4-74	Unid. Croakers (1:10)	28.5	7.4	210.9	52114.4	0.000699448	36.5
	Combtooth Blennies ² (1:1)				1356.0	0.00041144	0.6
	CIQ ² (1:1)				1356.0	0.002273206	3.1
4-104	California Halibut (1:10)	32.2	8.2	264.0	65245.6	0.000246864	16.1
	Diamond Turbot ² (1:1)				1356.0	0.003178374	4.3
4-117	Sanddabs (1:10)	23.9	6.2	148.2	36616.0	0.00015429	5.6
4-123	English Sole (1:10)	29.8	7.6	226.5	55964.3	0.000113146	6.3

¹ Scale group per Allen and Pondella 2006 according to habitat type; ²Source water habitat per National Wetland inventory

The comment (that Tenera 2008, used a different method for determining the length of time that larvae are subject to entrainment, compared with that recommended by OPA), will be taken into consideration at the time of the Water Code determination request.

Response CCC-44

See *Master Response: CEQA and Ocean Plan Compliance*. Additionally, the analysis of potential Project-related entrainment and shear stress mortality and the effect of these impacts on marine ecosystems were assessed in detail in Draft EIR Subsection 5.11.4 (pages 5.11-49 through 5.11-60). Mitigation measure BIO-M2 commits to mitigating these impacts by conducting off-site ecological habitat enhancement or contributing to a State-acceptable ecological enhancement fund. The studies proposed in mitigation measure BIO-M2 are intended to provide the State with more accurate California based information on desalination entrainment and shear stress impacts and their magnitude in a coastal application and employing OPA-mandated operational requirements.

See also responses to comments SLC-30, LARWQCB-34, and LARWQCB-36.

Response CCC-45

The Coastal Act and City of El Segundo LCP policies are included in Table 5.10-3, within Section 5.10, *Land Use*, which is the appropriate section to include a consistency analysis with policies related to recreation and public access. As stated in Table 5.10-3, “As indicated in Section 5.14, *Recreation*, it is not anticipated that the Project would impact recreational use of the 8-acre narrow strip of beach, owned by the California State Lands Commission, that borders the western boundary of the ESGS. Construction activities could temporarily affect use of the Marvin Braude Coastal Bike Trail but the temporary impact to the bike trail would not limit public access to the beach.” The conformity analysis include in Section 5.10 is sufficient and does not need to be repeated in Section 5.14, *Recreation*.

Response CCC-46

See response to comment CCC-14 regarding temporary impacts to the Marvin Braude Coastal Bike Trail. Proposed Project construction activities would not result in any temporary or permanent impacts to public parking areas that provide coastal access.

Response CCC-47

See response to comment CCC-32. As discussed in that response, Coastal Act policy conformity regarding public works is addressed in the Table 5.10-3 discussion of Coastal Act Section 30254 (page 5.10-20). As also noted in that response, the direct and indirect effects related to growth associated with development of a new public works facility are addressed in Draft EIR Section 6.2, *Growth-Inducing Impacts* (pages 6-2 through 6-9). Also refer to response to comment CCC-31 for a discussion of potential conflicts with the LCP, wherein it is explained that the Draft EIR acknowledges the potential conflict with the LCP’s land use designation and explains the LCP will likely require amendment in order for the Project to proceed.

Response CCC-48

CEQA Guidelines Section 15126.6 requires that an EIR consider alternatives that can avoid or substantially lessen significant impacts of a project. Draft EIR Subsection 7.1.3 explains the proposed Project would result in very few significant and unavoidable impacts, and identifies those impacts to air quality and noise during construction. As discussed in the Draft EIR on page 7-37, the No Project Alternative evaluates water supply sources to be implemented if West Basin does not pursue ocean water desalination. The No Project Alternative includes the continuation of conservation programs and existing supply sources which primarily include recycled water and imported water (see Table 7-4) in addition to groundwater that is available to West Basin’s customers. West Basin currently maximizes all feasible water supply alternatives, and will continue to do so under the No Project Alternative whether or not the proposed Project is approved.

However, the collective water supply alternatives identified above and under the No Project Alternative would not meet the objectives of the proposed Project (Draft EIR page 7-40). Maximizing the use of existing sources may reduce some of the need for imported water in the future, but current water supply sources do not holistically improve water security, or reduce the risk of imported water unavailability during drought conditions, and would not collectively

eliminate the need for imported water. See *Master Response: Water Supply Alternatives*. West Basin’s future water supply diversification would result in a reduction in imported water which allows for an increase in conservation programs and recycled water, and ocean water desalination should it be approved as a supply source. As noted in the conclusion to the March 2019 Coordinated Strategic Plan to Advance Desalination for Enhanced Water Security,² “Desalination is an important part of a comprehensive approach to improve water availability, resiliency, and security in the U.S.”

Response CCC-49

The removal of concrete plugs within the intake and discharge tunnels has been added to the Project Description Subsection 3.5.1 (see Final EIR Section 11, *Refinements to the Project Description*). The removal process would entail drilling and breaking up of the plugs, and hauling off the debris. It is anticipated that approximately 20 truckloads (40 round trip truck trips) would be required to haul the material from the site. These additional truck trips would be well within the maximum daily truck trips assumed during the demolition and soil off-hauling components of site preparation. The demolition activities needed for the concrete plugs would not result in substantial environmental impacts not already accounted for in the EIR. The removal of the concrete plugs from the intake and discharge would not change the Draft EIR conclusions respective to the analysis of alternatives.

Response CCC-50

As noted in the Draft EIR Subsection 7.1.3, the analysis did not find any significant impact on water quality or the marine environment that would necessitate an evaluation of alternatives that would extend the intake further offshore or to deeper water. Furthermore, subject to the LARWQCB’s review and final determination, West Basin can support the determination that the ESGS is the best available site for the purposes of intake and discharge technology because the evidence demonstrates that the ESGS is uniquely located in SMB at a site that is as distant as possible from MPAs, the King Harbor artificial reef, and coastal wetlands in order to minimize the entrainment of larval fish, including special-status and managed fish and invertebrate taxa; see Final EIR Appendix 12 and responses to comments CCC-4 and CCC-6.

While the OPA recognizes the difference between long-term operational impacts and relatively short-term construction impacts through its emphasis on minimizing entrainment, Mitigation Measure BIO-M2 specifies that loss of habitat will be compensated for by either direct or indirect habitat restoration consistent with California Ocean Plan Chapter III.M.2.e.(3) or by providing monetary payments to an appropriate State-approved fee-based mitigation program consistent with California Ocean Plan Chapter III.M.2.e.(4), or a combination of the two and in a manner acceptable to the LARWQCB as part of the Project’s permitting process, and that final determination of the appropriate mitigation shall be determined by the LARWQCB. See *also Master Response: CEQA and Ocean Plan Compliance*.

² A Report by the Desalination Science and Technology Task Force Subcommittee on Water Availability and Quality Committee on Environment, of the National Science & Technology Council, and issued by the Executive Office of the President of the United States.

Response CCC-51

The Draft EIR Appendix 11 evaluates the feasibility of constructing a brine discharge pipeline to Hyperion Water Reclamation Plant to co-mingle brine with the existing secondary-treated wastewater effluent. The study comports with the OPA requirements to evaluate the possibility of co-mingling brine with existing ocean discharges. The study concludes that the construction of a pipeline would be difficult, but technically feasible. However, the study also concludes that future wastewater flows in the Hyperion outfall are not sufficient reliable to support the dilution benefits associated with co-mingling. Furthermore, since the publication of the Draft EIR, the Mayor of the City of Los Angeles announced on February 21, 2019, that the City will recycle 100 percent of its wastewater by 2035, further assuring that any co-mingling of brine with wastewater at the Hyperion plant would be infeasible. As a result, significant alterations to the outfall diffuser would be required similar to the proposed outfall, and because West Basin does not own the Hyperion facility, the study concluded that it would be infeasible to obtain permission from the City of Los Angeles to retrofit the existing outfall to accommodate ocean water desalination brine. While the benefits of co-mingling brine with wastewater effluent are on meeting water quality standards, little benefit is gained with regards to discharge entrainment and shear stress impacts. As such, West Basin has met the OPA's requirement to investigate the feasibility of using existing outfalls to co-mingle brine and proposes to use a linear multi-port diffuser; see Final EIR Appendix 14.

Response CCC-52

Comments on the Draft EIR have not identified any new or additional significant and unavoidable adverse impacts of the proposed Project. With respect to non-conformance with land use plans and policies, the impact is not significant and unavoidable. The Draft EIR discloses on pages 5.10-8 and 5.10-9, that the El Segundo Coastal Zone Specific Plan designates the proposed Project site as Power Plant (PP), a designation which "... limits the use of the site to energy facility and energy related developments required for the continued operation of electrical power plant." (City of El Segundo, 1980)." As explained in Impact LU-5.10-2 (page 5.10-22), the type of use proposed under the Project may not be permitted under the LCP, because the Project is not an energy facility or energy-related development. The Draft EIR notes that the LCP may need to be amended to allow for a water treatment plant to be constructed within a parcel with the LCP designation of "Power Plant (PP)." See Section 5.10 *Land Use and Planning* (pages 5.10-22-23); see also response to comment CCC-31.

The California Office of Planning and Research in the November 2017 Proposed Updates to the CEQA Guidelines (OPR 2017) has clarified that "the focus of the analysis should not be on the 'conflict' with the plan, but instead, on any adverse environmental impact that might result from a conflict. For example, destruction of habitat that results from development in conflict with a habitat conservation plan might lead to a significant environmental impact. The focus, however, should be on the impact on the environment, not on the conflict with the plan."

The Draft EIR addresses the impacts of the proposed Project on land use in Subsection 5.10.4 and concludes the proposed Project would not physically divide an established community, and Subsection 5.14.4 concludes the impacts of the proposed Project on recreation would have a less than significant impact with mitigation.

Response CCC-53

West Basin notes the CCC contact information for any future correspondence regarding this comment letter.

Response to Letter CDFW: California Department of Fish and Wildlife

Response CDFW-1

West Basin notes the summary of the proposed Project and California Department of Fish and Wildlife's (CDFW's) role in protecting the State's fish and wildlife resources as a Trustee Agency under CEQA.

Response CDFW-2

West Basin notes the provided description of marine resources in the Santa Monica Bay (SMB), and the importance of the marine environment in its role as an economic resource for commercial and recreational fishing. The EIR determined that with mitigation (see Draft EIR Subsection 5.11.4), the proposed Project would have a less than significant impact on any species, natural community, or habitat; would not threaten to eliminate a marine plant or animal community; would not interfere with the movement of any native resident or migratory fish or marine wildlife species; and would not introduce or spread invasive non-native species.

Response CDFW-3

In response to this and other similar comments, a supplemental study has been conducted that expands upon the Subsurface Intake Feasibility Study provided in the Draft EIR. The findings of this supplemental study (provided as Final EIR Appendix 13) present further evidence that confirms West Basin's conclusions in the Draft EIR, and provide support for future regulatory decisions. See *Master Response: Supplemental Studies*.

Response CDFW-4

West Basin prepared a supplemental technical study to assess whether siting the proposed Project at the El Segundo Generating Station (ESGS) location, or some other location within SMB, would result in more or less entrainment of planktonic organisms (see *Master Response: Supplemental Studies*). The supplemental study titled *Comparison of 316(b) Data in Santa Monica Bay*, included as Final EIR Appendix 12, clarifies the existing data and information and supports the impact analysis in the EIR. It also provides additional information that may be used during the permitting phase of the Project (see *Master Response: CEQA and Ocean Plan Compliance*). Results of the study indicate that the preferable location for a project's ocean water intake in coastal California must be as distant as possible from rocky reef/hard substrate habitat, coastal lagoons and estuaries, and marine protected areas (MPAs) in order to minimize the entrainment of larval fish, including special-status and managed fish and invertebrate taxa. As illustrated in the Draft EIR Figure 5.11-2, there are MPAs at either end of SMB and numerous artificial reefs in the nearshore coastal waters; ESGS is uniquely located in SMB at a site that is as distant from MPAs, the King Harbor artificial reef, and coastal wetlands as possible. Based on available data, the evidence indicates the ESGS is the "best available" site in SMB to minimize the intake and mortality of marine life.

Response CDFW-5

As explained in Draft EIR Subsection 2.10.9, West Basin partnered with Metropolitan Water District of Southern California to prepare the Ocean Water Desalination Intake Biofouling and Corrosion Study to further investigate the impacts of biofouling and corrosion rates related to wedgewire screens in open ocean water intake structures (Tetra Tech 2016). That study demonstrated that copper-nickel (Cu-Ni) alloys have superior fouling resistant characteristics which would help reduce the maintenance needs. And the success of using wedgewire screens, from an operational point of view, is dependent upon the management of corrosion and biofouling (macro- and microbiofouling) since these processes will affect the overall maintenance requirements as well as the longevity of the screens. As described in Final EIR Section 11 (*Refinements to the Project Description*, Subsection 3.7.4) periodic maintenance trips estimated at less than one per month, would be required for divers to inspect the intake screens, and to ensure that excessive biofouling does not develop. Should macro foulants be found, divers would use tools, such as brushes and chisels, to mechanically remove large foulants attached to the screens. The Draft EIR at page 5.9-56 also explains that the use of a Cu-Ni alloy for the wedgewire screens is proposed to minimize micro-biofouling and prevent macro-biofouling of the intake structure. Regarding impingement and entrainment of organisms smaller than 1 mm, Mitigation Measure BIO-M2 (see EIR Subsection 5.11.4) addresses the monitoring of the intake and discharge for the impingement and entrainment of organisms and commits West Basin to conducting site-specific scientific studies of both the entrainment of planktonic organisms into the wedgewire screen equipped ocean intake, and of potential shear stress impacts on planktonic organisms from the brine discharge. The results of these studies would then be used to accurately estimate Project-related impacts to marine ecosystems in the form of APF calculations, as required by the 2015 California Ocean Plan Amendments (OPA).

Response CDFW-6

Mitigation Measure BIO-M2 explains that consistent with the requirements of the OPA and as part of the California Water Code Section 13142.5(b) determination (the “Water Code determination”) process, West Basin will prepare a marine life mortality report that includes a detailed entrainment study, and the entrainment assessment period shall be at least 12 consecutive months and sampling shall be designed to account for variation in oceanographic or hydrologic conditions and larval abundance and diversity such that abundance estimates are reasonably accurate. West Basin will ensure that CDFW is consulted with respect to any Mitigation Plan or fee-based mitigation program. As noted in the Draft EIR Table 3-11, West Basin will be consulting with CDFW regarding an Endangered Species Act consistency determination and as part of the Lake/Streambed Alternation Agreement process. See *Master Response: CEQA and Ocean Plan Compliance*.

Response CDFW-7

A detailed and comprehensive analysis of impacts to marine organisms from turbulence-induced shearing stress related to the discharge of brine is presented in the Draft EIR Subsection 5.11.4 under “Shear Stress” (Impact 5.11-1, page 5.11-58 *et seq.*). Impacts related to shear stress were determined to be less than significant with implementation of Mitigation Measure BIO-M2,

which requires West Basin to conduct an assessment of larval entrainment of both its ocean water intake and its ocean outfall, such that the magnitude of the proposed Project's effect on the marine ecosystem can be more accurately determined and mitigated. The assessed loss due to entrainment will then be compensated for by either direct or indirect habitat restoration consistent with California Ocean Plan Chapter III.M.2.e.(3) or by providing monetary payments to an appropriate State-approved fee-based mitigation program consistent with California Ocean Plan Chapter III.M.2.e.(4), or a combination of the two. The comprehensive assessment of water quality impacts from the discharge of brine (Draft EIR Subsection 5.9.4) was incorporated into the analysis of impacts on marine biological resources potentially occurring due to changes in receiving water quality within the mixing zone at the outfall diffuser. As discussed in detail in the Draft EIR Subsection 5.11.4 (page 5.11-56), because water quality constituents would not exceed existing background levels at the edge of the Zone of Initial Dilution, the discharge of brine would not be expected to pose any risk to marine habitats and taxa, including special-status fish, marine mammals, and sea turtles. Regarding the angle of the diffuser ports, Final EIR Appendix 14A presents a supplemental model analysis of dilution conducted for linear diffuser configurations with an assumed port depth of 24 feet and a diffuser port angle of 60°. See response to comment LARWQCB-30 for additional details.

Response CDFW-8

Final EIR Appendix 14A presents a supplemental model analysis of linear diffuser configurations consistent with the calculation procedures recommended by Roberts (2018). Through the supplemental model analysis, linear diffuser designs were developed for the Local Project and the Regional Project (see Final EIR Section 11, *Refinements to the Project Description*) that include a port depth of 24 feet below sea level, and a diffuser port angle of 60°. The objective of the analysis was to identify a linear diffuser configuration that would comply with the required Ocean Plan criteria for desalination discharges. These criteria are: The salinity increment must be less than 2 parts per thousand within the maximum allowable Brine Mixing Zone (BMZ) of 100 meters (328 feet), and the jets must be fully submerged and not impact the water surface. In addition, the analysis identified linear diffuser configurations that would minimize the extent of the BMZ and the jet exit velocity, in order to minimize mortality of organisms that may be entrained into the jets due to turbulence and shear. See responses to comments LARWQCB-30, -34, and -36 for additional details.

Response CDFW-9

CEQA Guidelines Section 15126.6 requires that an EIR consider alternatives that can avoid or substantially lessen significant impacts of a project. As described in Draft EIR Subsection 5.9.4, the proposed brine discharge system described in the Draft EIR Subsection 3.4.1 (see also response to comment CDFW-8) would comply with the impact thresholds described in the Draft EIR Subsection 5.9.3 (and with the CA Ocean Plan), and would not result in a significant impact on water quality that warrants an analysis of alternative discharge options.

For the purposes of the Ocean Plan requirements, the Draft EIR Appendix 11 evaluates the feasibility of constructing a brine discharge pipeline to Hyperion Water Reclamation Plant to co-mingle brine with the existing secondary-treated wastewater effluent. The study comports with the Ocean Plan requirements to evaluate the possibility of co-mingling brine with existing ocean

discharges. While the study concludes that the construction of a pipeline would be difficult, but technically feasible, the study also concludes that future wastewater flows in the Hyperion outfall are not sufficiently reliable to support the dilution benefits associated with co-mingling.

Furthermore, since the publication of the Draft EIR, the Mayor of the City of Los Angeles announced on February 21, 2019, that the City will recycle 100 percent of its wastewater by 2035, further assuring that any co-mingling of brine with wastewater at the Hyperion plant would be infeasible. As a result, significant alterations to the outfall diffuser would be required similar to the proposed outfall location. Since West Basin does not own the Hyperion facility, the study concluded that it would be infeasible to obtain permission from the City of Los Angeles to retrofit the existing outfall to accommodate ocean water desalination brine. The EIR complies with the Ocean Plan's requirements to investigate the feasibility of using existing outfalls to co-mingle brine, and proposes to use a multi-port diffuser that would allow the brine to meet the Ocean Plan's water quality thresholds.

Final EIR Appendix 12 presents a comparison of entrainment data from SMB and the results indicate that within the ESGS location, it does not appear to make a difference whether the intake is extended from the currently proposed 10-meter contour location to a deeper 30-meter contour location. This is because potential increases in entrainment of soft-bottom fish species at the deeper contour cancel out potential decreases in entrainment of estuarine and soft-bottom species at the shallower contour.

See also responses to comments CCC-4, LARWQCB-42, and LARWQCB-52.

Response CDFW-10

The Draft EIR evaluates both methods of stockpiling riprap. As noted in the Draft EIR Table 3-11, if the proposed Project is approved, West Basin would apply to CDFW for a Lake or Streambed Alteration Agreement and West Basin would be required to consult with CDFW during the permitting process.

Response CDFW-11

The Draft EIR determined that the removal and reinstallation of the existing armor rock at the ESGS offshore intake and outfall would result in a less than significant impact (Draft EIR pages 5.11-39 through 5.11-40). The Draft EIR determined that the potential for the occurrence of any special-status species, including abalone (Draft EIR page 5.11-33 and Draft EIR Table 5.11-3) are not known or expected to occur in the Project Marine Study Area. Additionally, there is no known occurrence of the invasive algae, *Caulerpa*, in the offshore waters of California. The only known occurrence has been within San Diego Bay, where it has been eradicated. Finally, no sensitive marine habitats, MPAs, or Habitat Areas of Particular Concern (HAPC) designated by CDFW, U.S. Fish and Wildlife Service (USFWS), or the National Marine Fisheries Service (NMFS) exist inside or in the vicinity of the Project Marine Study Area, and as such, the proposed Project was assessed in the Draft EIR not to have the potential to impact critical habitat or other sensitive marine habitats (Draft EIR page 5.11-40). Based on this evidence, the Draft EIR determined that the potential effect of the removal and re-installation of the armor rock would be less than significant, rendering the inclusion of a mitigation measure requiring a pre-survey of the armor rock prior to removal or after removal, neither required nor justified under CEQA, as suggested by the commenter.

At present, the U.S. Army Corps of Engineers (USACE) requires all dredging and pile driving activity permittees in Southern California to conduct an Essential Fish Habitat, HAPC, and invasive algae assessment of the marine project area prior to permit issuance and commencement of operations. The protocols for conducting and reporting findings for these surveys is fairly standardized. Additionally, as the State's lead resource agency, CDFW can request the California Coastal Commission to include such a requirement in the Project's Coastal Development Permit and/or the Los Angeles Regional Water Quality Control Board (LARWQCB) to include it in any National Pollutant Discharge Elimination System (and/or Waste Discharge Requirement [WDR]) permit issued for the Project.

Response CDFW-12

Draft EIR Subsection 5.9.1 presents the regulatory framework for the hydrology and water quality analysis. The Marine Protection, Research, and Sanctuaries Act authorizes the U.S. Environmental Protection Agency (USEPA) to designate areas for ocean dredge material disposal and the USACE is the permitting agency for ocean disposal of dredged material. The USEPA and USACE Los Angeles District personnel jointly administers pre-dredge sediment evaluations, project-specific compliance tracking of disposal operations, evaluation of permit compliance and monitoring results, implementation of a site-specific monitoring program, and periodic review of the Site Management and Monitoring Plan. A detailed analysis of potential water quality impacts from construction dredging is presented in the Draft EIR Subsection 5.9.4 under the heading "Screened Ocean Intake and Concentrate Discharge Structures" (Impact 5.9-1, page 5.9-43). The evaluation of potential impacts to water quality from dredging included consideration of short-term impacts associated with turbidity, dissolved and particulate contaminants, dissolved oxygen concentration changes, and water quality degradation from dredge material stockpiling, transport, and disposal. The application of typical industry standard Best Management Practices (BMPs) and the requirements to implement such BMPs as part of regulatory permit coverage is also described and considered in the Draft EIR assessment of impacts. Mandatory requirements for compliance with a USACE Section 10 permit, LARWQCB water quality certification, and Waste Discharge Requirements as well as disposal of dredged materials are also described in the Draft EIR; coordination with these agencies regarding permits would be the appropriate time to coordinate with the Dredged Materials Management Team. See response to comment SLC-21 for additional details.

Response CDFW-13

Draft EIR Subsection 3.5.2 (page 3-25) and Subsection 5.11.4 (page 5.11-39) explain an impact hammer would only be used to ensure that the anchor pilings have reached the requisite total depth needed to anchor the intake or discharge pipeline terminus structures. The Project proposes to use fiberglass composite pilings or very-small-diameter steel pilings and both of these piling types generate very-low-amplitude noise underwater, as demonstrated in Draft EIR Table 5.11-6. A calculation of underwater noise during pile driving activities is provided in Draft EIR Subsection 5.11.4 (pages 5.11-45 through 5.11-50), and the results of underwater noise calculations is summarized in Draft EIR Table 5.11-7. As cited in the Draft EIR Subsection 5.11.4 (page 5.11-46), the maximum decibels (dB) levels of installing 16-inch fiberglass composite pilings employing a combined vibratory and impact hammer installation method

would generate peak sound exposure levels of 149 dB at a 10-meter distance; the peak dB readings are attributed to the impact hammer portion of the pile installation.

In response to this comment, a sound level monitoring BMP during pile driving activities has been included in Mitigation Measure BIO-M1 as follows:

The plan shall incorporate, but not be limited to the following BMPs:

- Pile driving shall be conducted only between June and November to avoid gray whale migration, unless NMFS in their Section 7 consultation with the USACE determines that the potential effect to marine mammals is less than significant.
- A ~~1,600-foot (500-meter)~~ safety zone at least 1,600 feet (500 meters) in size shall be established and maintained around the sound source for the protection of marine mammals and sea turtles in the event that sound levels are unknown or cannot be adequately predicted. If NOAA or the USACE requests that the size of the safety zone be increased when NOAA or the USACE issues a permit for Project pile-driving, then the larger of the NOAA-requested or USACE-requested safety-zone size will be established and maintained around the sound source.^[3]
- Work activities shall be halted when a marine mammal or sea turtle enters the ~~1,600-foot (500-meter)~~ safety zone, and shall cease until the mammal has been gone from the area for a minimum of 15 minutes.
- A “soft start” technique shall be used in all impact hammer sourced pile driving, giving marine mammals an opportunity to vacate the area.
- A NMFS-approved biological monitor will conduct daily surveys before and during impact hammer pile driving to inspect the work zone and adjacent SMB waters for marine mammals. The monitor will be present as specified by NMFS Fisheries during the pile-driving phases of construction.
- In-water sound level monitoring will be conducted during all pile-driving activities.

Mitigation measure BIO-M1 ensures that if final engineering design or site specific geologic conditions require an anchor pile installation slightly different than what was modeled in the Draft EIR, that the requisite assessment will be done as part of the Project permitting phase and the potential impacts remain less than significant with mitigation, as required by CEQA.

Similar to all changes to mitigation measure presented herein, these minor edits serve to clarify the mitigation measure; they do not decrease the effectiveness of the proposed mitigation measure, result in a substantial increase in the severity of the identified impact after implementation of mitigation, nor preclude meaningful review and comment.

³ This BMP was edited in response to comment SLC-29.

Response CDFW-14

See *Master Response: Marine Biological Resources Study Area and Comparison of 316(b) Data from SMB, California* (AMS 2019; Final EIR Appendix 12). Additionally, as identified in Section 5.11, *Marine Biological Resources*, in the discussion of potential entrainment (Draft EIR pages 5.11-49 through 5.11-54) and discharge shear stress (Draft EIR pages 5.11-58 through 5.11-60), the Clean Water Act Section 316(b) entrainment studies upon which the Project-related entrainment and shear stress effects are estimated and the area of production foregone (APF) calculations are based use a much larger area of recruitment within SMB for use in the empirical transport model. If the Point Dume, Point Vincente, Abalone Cove, or Palos Verdes MPAs contribute any larval fish to the marine study area, they would be reflected in the multi-year data used to analyze these impacts. Similarly, if any adults from any of the MPAs located on either end of SMB were to immigrate into the study area, that occurrence should be reflected in the site data used to identify fish and invertebrate species present within the marine study area.

Response CDFW-15

In response to the comment regarding brown pelican, and specifically related to brown pelican roosting, the Draft EIR text on pages 5.3-29 and 5.3-36 to -37 is revised as follows:

Draft EIR page 5.3-29:

California Brown Pelican

California brown pelican is a CDFW fully protected subspecies of the brown pelican that has been delisted from both the federal and ~~CESA state endangered species lists (formerly endangered on both)~~. It is a year-round resident of Los Angeles County. The brown pelican is found mostly offshore along coastal waters, but may also venture inland into large open waters; it is known to occur in inundated reservoirs throughout the county. It usually nests on the ground, in trees, or on cliffs along the Pacific Coast; refer to Appendix 6. However, the only breeding colonies of this subspecies along the California coast are located on Anacapa Island and Santa Barbara Island. The species is known to roost on mudflats, sandy beaches, wharfs, rocky areas, and jetties. The Project ESGS site is located along the California coast, where brown pelicans (as well as several other birds) can commonly be found foraging offshore; however, there is no suitable nesting habitat within a 250-foot buffer of the ESGS site within the survey area. This species was observed flying over the Project ESGS site during the November 2015 habitat assessment field survey. Roosting habitat in the form of sandy beach and a jetty exists at the ESGS site as it does within the entire Santa Monica Bay and Southern California coastline. However, because there is a high level of human activity along this section of beach, brown pelican is not expected to roost at the site and has not been observed roosting at the site. In addition, the sandy beach in this area is much narrower than similar and wider areas located to the immediate north and south that also provide sandy beaches that are suitable for roosting.

See modifications to Mitigation Measure BIO-5 in response to comment CEC-3

Response CDFW-16

Regarding potential noise and vibration impacts to snowy plover, sound dampening measures are included in Mitigation Measure BIO-5 as one of the adaptive measures to reduce disturbance to nesting birds. In addition, Mitigation Measures NOI-1 and NOI-2 include measures to reduce noise created by proposed Project activities, such as use of sound barriers. Mitigation Measure BIO-7 has been revised to include additional measures to protect western snowy plover as suggested by the commenter. Further, Mitigation Measure NOI-3 will determine the feasibility of construction methods that avoid pile driving. West Basin takes note of CDFW's request to use the "press-in" method of pile installation instead of pile driving, and this will be assessed as part of Mitigation Measure NOI-3. The Draft EIR notes on page 5.3-33 that direct impacts to western snowy plover is unlikely due to the lack of impact to the beach area and due to the high level of human disturbance currently affecting the area.

In an abundance of caution, and in response to comments from CDFW, the Draft EIR text on page 5.3-37 is revised as follows:

BIO-7: A qualified biologist shall be present during all vegetation removal and construction on or immediately adjacent to the open beach. The qualified biologist shall be familiar with the identification of western snowy plover, their biology and ecology, and have field experience surveying from nests and conducting monitoring activities for western snowy plover. The qualified biologist shall be responsible for ensuring that no snowy plovers are present within the construction zone.

If western snowy plover are observed within Critical Habitat Subunit 45C, and no breeding behavior activity is observed, the Project biologist will establish appropriate buffers and monitor the western snowy plovers as needed until the snowy plover are no longer observed using these areas. The Project biologist will have the ability to halt Project construction activities, if necessary, to avoid unanticipated impacts, including significant disturbance, to the snowy plover foraging, roosting or breeding behavior.

As discussed in Draft EIR Subsection 3.5.1, proposed Project construction work would generally occur during daylight hours from 7 a.m. to 6 p.m., with some demolition and materials removal or import to occur at night for oversized loads. Regarding potential light and glare impacts to snowy plover, Draft EIR Section 5.1, *Aesthetics*, (page 5.1-26) states that with mitigation incorporated, the facility construction would not create a new source of substantial light or glare that would adversely affect nighttime views, which would also avoid significant impacts to western snowy plover from lighting. Mitigation Measure AES-5 requires preparation of a Construction Safety Lighting Plan that demonstrates that all construction-related lighting is located and aimed away from adjacent residential and public beach areas and consists of the minimal wattage necessary to provide safety at the construction site. As a result, it is not anticipated that ambient lighting would substantially impact snowy plover.

Response CDFW-17

Although *The Manual of California Vegetation* (MCV) was not used, vegetation communities were accurately described in Draft EIR Subsection 5.3.2, beginning on page 5.3-13. The following revisions were made to incorporate corresponding communities described in the MCV.

Restored Coastal Scrub

The restored coastal scrub plant community occurs along the slopes of the southwestern corner of the desalination facility site. This plant community is primarily composed of native vegetation, including common yarrow (*Achillea millefolium*), brittlebush (*Encelia farinosa*), Menzies' goldenbush (*Isocoma menziesii*), Douglas' nightshade (*Solanum douglasii*), lemonadeberry (*Rhus integrifolia*), and California buckwheat (*Eriogonum fasciculatum*), but also includes some non-natives, particularly Mexican fan palm (*Washingtonia robusta*), pine (*Pinus* sp.), New Zealand flax (*Phormium* sp.), and rabbitsfoot grass (*Polypogon monspeliensis*). This community corresponds to Menzie's golden bush scrub (*Isocoma menziesii* Shrubland Alliance) as described in the MCV and is considered a natural sensitive community with a state rank of S3. This community integrates into ornamental vegetation in the southeastern corner of the Project site. Water irrigation pipelines, which provide artificial irrigation, are present throughout this community.

Ornamental

Ornamental areas are present along the remainder of the slopes within the survey area, which are primarily found along the eastern half of the desalination facility site and along the entire length west of Vista Del Mar. These slopes are dominated by iceplant (*Carpobrotus edulis*), particularly in the southern half of the desalination facility site. Additional ornamental shrubs and trees, including Mexican fan palm, are present on the slopes in the northern half of the site. This community corresponds to Ice Plant Mats (*Mesembryanthemum* spp. - *Carpobrotus* spp. Herbaceous Semi-Natural Alliance) as described in the MCV, which does not identify a state ranking due to its dominance by non-native species. Thus, it is not considered a natural sensitive community.

The area identified as sandy beach does not meet the requirements of the *Abronia latifolia* *Ambrosia chamissonis* Herbaceous Alliance, as *Ambrosia chamissonis* was observed growing sparsely within an area containing a rocky slope to support an adjacent bike path. Requirements for this alliance as well as sand dunes associated with this alliance were not observed during surveys conducted for the proposed Project.

Response CDFW-18

As described in Draft EIR Subsection 5.3.4, vegetation within the ocean water desalination facility (the ESGS north and south sites) is comprised of manmade ornamental areas and restored coastal sage scrub. In response to this comment, the section has been revised to clarify that the reference to ornamental areas and restored coastal sage scrub applies only within the ocean water desalination facility, and not the 250-foot buffer area that was surveyed during the habitat assessment. The Draft EIR text on page 5.3-32 is revised as follows:

Special-Status Plant Species

The ESGS is developed and is surrounded by two plant communities: restored coastal scrub and ornamental. The habitat assessment field survey did not identify any special-status plant species at the ESGS. All vegetated areas within the ~~survey area~~ ESGS north and south sites are manmade ornamental areas or areas that have been revegetated with a specific coastal scrub seed mix. Based on habitat requirements for specific species, the availability and quality of habitats needed by each special-status plant species, and the manmade nature of the on-site vegetation, it was determined that the ~~desalination facility~~ ESGS north and south sites does not provide suitable habitat that would support any of the special-status plant species

known to occur in the its general vicinity. Therefore, Local Project ocean water desalination facility construction would not impact special-status plant species.

Response CDFW-19

The Draft EIR Terrestrial Habitat Assessment (Draft EIR Appendix 6) states that the survey done on November 2, 2015, was a general habitat assessment that assessed multiple special-status species and habitats. An additional focused assessment was conducted for the El Segundo blue butterfly on July 12, 2016 (Draft EIR Appendix 6, page 1). Although the surveys did not observe any butterflies at the site, the biologist concluded that the habitat was sufficient for occupation. Based on these assessments and the onsite habitat present, the Terrestrial Habitat Assessment (Draft EIR Appendix 6) concluded that the El Segundo blue butterfly has moderate potential to occur at the proposed Project site. Mitigation Measure BIO-9 is included to mitigate this potential impact. This measure requires a focused survey for this species during the appropriate time period, and includes appropriate follow up protocols.

The focused survey that would be conducted as part of Mitigation Measure BIO-9 would confirm the absence of the El Segundo blue butterfly and serve to document the location of the species and/or its host plant onsite. The measure specifies performance standards (i.e., halt work) that shall be followed if El Segundo blue butterfly are found to ensure the species is not significantly impacted. Furthermore, focused surveys for the presence of the butterfly need to be conducted just prior to construction activities to provide value since individuals can occupy the site between now and the proposed Project construction period. West Basin has added additional details to Mitigation Measure BIO-9 regarding actions to be taken in consultation with USFWS to ensure impacts remain less than significant.

BIO-9: Although surveys have shown the El Segundo blue butterfly is absent from the Project site, One year prior to commencement of ground-disturbing activities, an El Segundo blue butterfly focused survey shall be conducted by a qualified biologist within areas of the Project site containing suitable habitat supporting coast buckwheat during the adult flight season (mid-June to early September). The adult flight stage of this species can last as little as 4 days to as much as 2 weeks per individual. If this species is found, ground- disturbing activities shall not occur within these areas until West Basin consults with the USFWS and determines if avoidance measures are possible or if an incidental take authorization permit is required prior to Project construction. Avoidance measures shall be determined based on consultation with USFWS and may include avoidance of occupied habitat, replacement of impacted habitat, and measures to control fugitive dust, which can adversely affect the species. The qualified biologist shall provide the results of the focused survey in the subsequent monthly compliance report. If El Segundo blue butterflies are found, the qualified biologist shall document butterfly mitigation, monitoring, and compliance efforts in the monthly compliance reports, including maps and photographs. The qualified biologist shall report all butterfly occurrences with the CNDDDB. If avoidance of occupied or suitable habitat is not possible, West Basin shall consult with USFWS for replacement of impacted habitat at a ratio commensurate with the value of the affected area to be determined by USFWS.

These minor edits serve to clarify the mitigation measures; they do not decrease the effectiveness of the proposed mitigation measure, result in a substantial increase in the severity of the identified impact after implementation of mitigation, nor preclude meaningful review and comment.

Response CDFW-20

The Draft EIR identified in Table 5.3-2 that the six bat species found in the region (pallid bat, western mastiff bat, silver-haired bat, hoary bat, pocketed free-tailed bat, big free-tailed bat) have no potential to roost at the site. None of these bat species is listed on state or federal endangered species lists. The Draft EIR documented that no natural habitat exists on site and the potential for roosting on the power plant infrastructure was low and not previously documented. The Draft EIR concluded that power plant infrastructure is not suitable habitat for these special-status bat species. As a result, no additional surveys are required. However, in response to this comment and to ensure that no bats utilize the infrastructure on the site for roosting, the following mitigation measure has been added:

BIO-9B: One year prior to commencement of demolition activities, a bat roosting survey will be conducted on the Project site to confirm the absence of any bat roosts. If bats are found to utilize any portion of the site, and avoidance is not feasible, West Basin shall report the findings to CDFW and will prepare and implement a bat relocation plan consistent with CDFW approved methods.

Response CDFW-21

Mitigation Measure AQ-1 requires West Basin to implement a series of dust suppression techniques to prevent fugitive dust from creating an off-site nuisance and to reduce construction-related fugitive dust impacts on nearby sensitive receptors, while Mitigation Measure AES-1 requires a Construction Management Plan that indicates the equipment and vehicle staging areas to be used and haul routes. Mitigation Measure BIO-2 ensures that sensitive species are avoided during construction while Mitigation Measure BIO-4 is intended to prevent the spread and propagation of nonnative, invasive weeds. No changes have been made to the Draft EIR in response to this comment.

Response CDFW-22

West Basin notes the CDFW contact information for any future correspondence regarding this comment letter.

Response to Letter CEC: California Energy Commission

Response CEC-1

West Basin acknowledges the commenter's statement that comments made on the Notice of Preparation have been addressed adequately in the Draft EIR. Subsequent responses to comments are found in CEC-2 through CEC-7.

Response CEC-2

Draft EIR Section 2.10 presents the proposed Project development background. Subsection 2.10.10 of the Draft EIR on page 2-37 summarizes a technical memo prepared by MWH in 2007, that describes "... a flow rate anticipated for the Local Project (defined as 42 MGD)" at that time. The text of the Draft EIR on page 2-41 is summarizing the results of a 2017 study, included in the Draft EIR as Appendix 2A, that assumed a 40 million gallons per day (MGD) intake rate.

However, and as explained specifically in the Draft EIR Section 3, *Project Description*, Subsection 3.4.1, on page 3-12, the total intake flow for the Local Project would be 42.2 MGD if the plant uses one method of pretreatment, 45.4 MGD if the plant uses a different pretreatment method and 41 MGD if treated backwash water is internally recycled. The topical sections in the Draft EIR Section 5 evaluate the Project described in the Section 3, *Project Description*; no change has been made to the Draft EIR in response to this comment.

Response CEC-3

The mitigation measures described in Draft EIR Section 5.3, *Biological Resources – Terrestrial*, have been revised based on the commenter's recommendations, with some additional modifications. The Draft EIR text on pages 5.3-36 through -38 is modified as follows:

BIO-1: Prior to commencement of ground-disturbing activities, West Basin shall ~~implement~~ develop a Worker Environmental Awareness Program (WEAP) to educate all construction personnel on the area's sensitive biological resources, environmental concerns, and mitigation. The WEAP must discuss the locations and types of sensitive biological resources on the Project ESGS site and adjacent areas, identify monitoring methods, provide pictures, and identify habitat and wildlife protection measures. WEAP training shall be conducted as necessary during mobilization, demolition, and construction activities. New employees that join the construction crew must complete the training prior to working on the Project. A copy of the training logs shall be made available for inspection upon request by responsible agencies. The WEAP shall be administered by a qualified biologist.

BIO-2: During site mobilization, demolition, and construction, West Basin shall monitor the ~~on-shore construction~~ ESGS site sufficiently to ensure that sensitive species are avoided. The extent of monitoring shall be determined by a qualified biologist. At a minimum, monitoring shall occur when ground-disturbing activities are conducted for the first time in new areas on the ESGS site, as well as during vegetation removal. The qualified biologist shall prepare monthly reports identifying monitoring results for the duration of the construction period. The qualified biologist shall have a bachelor's degree in biology or related subject or equivalent experience, and at least one year of work

experience with the special-status species (and their associated habitats) that have the potential to occur on or adjacent to the ESGS site.

BIO-4: West Basin shall implement the following measures during construction and operation to prevent the spread and propagation of nonnative, invasive weeds: Only certified weed-free straw, hay bales, and seed shall be used for erosion control and sediment barrier installations.

BIO-5: Construction activities involving vegetation removal shall be conducted between September 1 and December 31. For construction that occurs inside the nesting season (between January 15 and August 31), ~~West Basin~~ a qualified biologist shall conduct a pre-construction nesting avian species clearance survey in accordance with the following guidelines:

- a) At least one pre-construction survey shall be conducted within 72 hours preceding initiation of vegetation removal and construction activity. Additional follow-up surveys may be required if periods of construction inactivity exceed 3 weeks in any given area, an interval during which birds may establish a nesting territory and initiate egg laying and incubation.
- b) The survey shall cover all potential nesting habitat and substrate as well as roosting habitat on the Project site and within 500 feet of its perimeter.
- c) If no active nests or roosts are identified, the construction work shall be allowed to proceed. The results of the clearance survey and any ongoing monitoring efforts and/or buffers shall be documented in ~~a~~ monthly compliance reports.
- d) If the qualified biologist finds an active nest during the survey and determines that the nest may be impacted, a no-disturbance buffer zone shall be established (protected areas around the nest, typically established using pin flags or construction netting). The size of the buffer shall be determined by the qualified biologist in consultation with CDFW and USFWS, based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. These buffers are typically 300 feet from the nests or roosts of non-listed passerine species and 500 feet from the nests of raptors and listed species.
- e) Any active nests or roosts observed during the survey shall be mapped on an aerial photograph using GPS, and provided in the monthly compliance report.
- f) If active nests or roosts are detected during the survey, the qualified biologist shall monitor all nests or roosts at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting or roosting activities (e.g., excessive noise, exposure to exhaust), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, or placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away

from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, placing noisy stationary construction equipment in acoustically engineered enclosures and/or relocating them away from noise-sensitive receptors, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

BIO-9: Although surveys have shown the El Segundo blue butterfly is absent from the Project site, One year prior to commencement of ground-disturbing activities, an El Segundo blue butterfly focused survey shall be conducted by a qualified biologist within areas of the Project site containing suitable habitat supporting coast buckwheat during the adult flight season (mid-June to early September). The adult flight stage of this species can last as little as 4 days to as much as 2 weeks per individual. If this species is found, ground-disturbing activities shall not occur within these areas until West Basin consults with the USFWS and determines if avoidance measures are possible or if an incidental take authorization permit is required prior to Project construction. Avoidance measures shall be determined based on consultation with USFWS and may include avoidance of occupied habitat, replacement of impacted habitat, and measures to control fugitive dust, which can adversely affect the species. The qualified biologist shall provide the results of the focused survey in the subsequent monthly compliance report. If El Segundo blue butterflies are found, the qualified biologist shall document butterfly mitigation, monitoring, and compliance efforts in the monthly compliance reports, including maps and photographs. The qualified biologist shall report all butterfly occurrences with the CNDDDB. If avoidance of occupied or suitable habitat is not possible, West Basin shall consult with USFWS for replacement of impacted habitat at a ratio commensurate with the value of the affected area to be determined by USFWS.

Response CEC-4

In response to the commenter's suggestion to add a reference to Draft EIR Section 5.3, *Biological Resources – Terrestrial*, the Draft EIR text on page 5.3-53 is revised as follows:

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens, 2009. A Manual of California Vegetation, 2nd Edition, California Native Plant Society, 2009.

California Department of Fish and Wildlife (CDFW), 2003. List of Terrestrial Natural Communities, 2003.

Sibley, D.A., 2014. The Sibley Guide to Birds, 2nd Edition, 2014.

Response CEC-5

As discussed in Table 5.3-2, neither burrowing owl nor suitable habitat for burrowing owl were observed in the survey area for the November 2015 habitat assessment. As noted in the 2012 California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation*, a habitat assessment is the first step in the evaluation process and assists investigators in determining whether or not occupancy surveys are needed. Site survey conducted at the El Segundo Generating Station site found no suitable habitat as noted on page 5.3-24. Since the surveys were negative, no additional surveys were conducted or are warranted. This approach is consistent with the 2012 CDFW *Staff Report on Burrowing Owl Mitigation*.

Response CEC-6

West Basin notes the CEC's concurrence with the cultural report included in Appendix 7A of the Draft EIR and the mitigation measures presented to reduce impacts.

Response CEC-7

West Basin notes the CEC contact information for any future correspondence regarding this comment letter.

Letter DTSC: Department of Toxic Substances Control

Response DTSC-1

West Basin acknowledges that the Department of Toxic Substances Control has no comments.

Response to Letter LARWQCB: Los Angeles Regional Water Quality Control Board

Response LARWQCB-1

West Basin notes the proposed Project summary provided by the Los Angeles Regional Water Quality Control Board (LARWQCB).

Response LARWQCB-2

West Basin notes the role of the LARWQCB as a responsible agency for the proposed Project and as the agency responsible for issuing the National Pollutant Discharge Elimination System (NPDES) permit required for the proposed Project. Subsequent responses are provided in response to comment LARWQCB-3 through LARWQCB-63.

Response LARWQCB-3

The Draft EIR Section 2.2 explains that once this EIR review process is complete, the West Basin Board of Directors will consider whether to approve the Local Project. If the Local Project is approved, West Basin plans to pursue regulatory permits. The Draft EIR Section 2.8 explains that this EIR is intended to support future regulatory agency permits and approvals, including a Water Code Section 13142.5(b) determination pursuant to the State Water Resources Control Board's (SWRCB's) 2015 California Ocean Plan Amendments (OPA). See also response to comment LARWQCB-2 and *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-4

Draft EIR Subsection 3.4.1 explains that the Local Project would involve the installation of five new 42-inch pipes inside the existing El Segundo Generating Station (ESGS) intake tunnel and five new 42-inch pipes inside the existing ESGS discharge tunnel. As currently planned, two of these pipelines would be used for the Local Project and all five pipelines would be used for the Regional Project; as noted in Footnotes 4 and 5, this represents the worst-case construction impact scenario given that the conditions of the tunnels are unknown, and the impacts of installing all five are discussed at a project-level throughout Draft EIR Section 5. If West Basin determines in the future that the condition of the existing tunnels allows for their use without internal pipe installation, construction impacts and schedule would be reduced. The footprint of the physical construction impacts associated with the installation of the five intake and five discharge pipes (see Draft EIR Subsection 3.5.1, Table 3-6) would be no greater than the physical construction impacts associated with the installation of only two pipes each, but the duration of construction would be increased.

As described in the Draft EIR Subsection 3.4.1, a new header with 12 risers would be installed at the end of the existing intake tunnel. The Local Project would include the installation of wedgewire screens on four of the risers and eight risers would remain capped. In the future, if the Regional Project is pursued, an additional eight wedgewire screens would be attached to the additional eight risers to accommodate 12 wedgewire screens, eliminating additional disturbance of the seafloor during underwater installation of the Regional Project.

Also described in the Draft EIR Subsection 3.4.1, a diffuser system consisting of multiple ports would be installed directly on the seafloor. A total of 14 diffuser ports would be installed during construction of the Local Project; if the Regional Project is pursued in the future, the 14 ports would be changed to larger diameter ports, eliminating additional disturbance to the seafloor during underwater installation of the Regional Project.

Response LARWQCB-5

West Basin acknowledges that if it decides to move forward with the Regional Project, a separate NPDES permit and California Water Code Section 13142.5(b) determination (the “Water Code determination”) would be required.

Response LARWQCB-6

The Draft EIR provides a detailed alternatives analysis as required by CEQA that explains the rationale for the preference of the ESGS site over other sites, including the Redondo Beach Generating Station (RBGS) site. The West Basin Board of Directors will use this EIR to review the potential environmental impacts of the proposed Project and to consider whether to approve the Project and pursue permitting, including a Water Code determination to be made by the LARWQCB. The LARWQCB must find that the applicant has complied with the OPA in order to make the Water Code determination, and through this process, LARWQCB will assess whether a reasonable range of nearby sites was assessed pursuant to the OPA. See also *Master Response: CEQA and Ocean Plan Compliance*, and *Master Response: Supplemental Studies*.

While CEQA Guidelines Section 15126 explains that an EIR shall identify and focus on the significant environmental effects of a project, in response to this and other comments, West Basin prepared two supplemental technical studies to evaluate (1) whether placing an open water intake at some other location in Santa Monica Bay (SMB) would result in more or less entrainment of planktonic organisms (see *Comparison of 316(b) Data in Santa Monica Bay* [Final EIR Appendix 12]) and (2) whether siting the Project at the ESGS location, or some other location within SMB, could support subsurface intakes (see *Subsurface Intake Feasibility Study* [Final EIR Appendix 13]). These two technical studies clarify the existing data and information and confirm the impact analysis in the EIR. They also provide additional information that may be used during the permitting phase of the Project.

Response LARWQCB-7

See *Master Response: CEQA and Ocean Plan Compliance*, *Master Response: Supplemental Studies* and the Supplemental Subsurface Intake Feasibility Study (Final EIR Appendix 13).

Response LARWQCB-8

See response to comment LARWQCB-7.

Response LARWQCB-9

The Existing Marine Habitats and Communities Subsection (Draft EIR pages 5.11-12 through 5.11-36) presents information on marine biological resources throughout the greater SMB, as well as for the ESGS Project Study Area specifically. Furthermore, the discussion of SMB covers the

biological resources of all potential alternative sites. In addition, a detailed analysis using abundances of fish larvae, sampled every month over the course of a year, at three separate locations in SMB (Scattergood Generating Station [SGS], ESGS, RBGS), was performed in order to evaluate the differences in planktonic species' variation and densities, and to draw conclusions about the potential levels of entrainment that could result from a desalination plant at each location (AMS Technical Memo-Comparison of 316(b) Data from SMB, California, AMS 2019; Final EIR Appendix 12). As a result of this analysis, RBGS was characterized as the least protective of all forms of marine life with larval stages compared to the ESGS and the SGS.

Response LARWQCB-10

The impact on water quality resulting from the dissolution of the copper-nickel (Cu-Ni) screens was evaluated in the Draft EIR Subsection 5.9.3. West Basin adequately quantified the potential impacts of copper leaching and no water quality impact from the Cu-Ni screen was identified. Since no impact was identified, CEQA does not require the evaluation of an alternative to avoid a Cu-Ni impact. Therefore, the evaluation of stainless steel wedgewire screens is not required.

Response LARWQCB-11

As described in Draft EIR Section 2.8 under "Ocean Plan Amendment" (page 2-22 et seq.), West Basin has conducted extensive pilot testing, siting studies, demonstration testing of full-scale processes, and developing a comprehensive Program Master Plan. These studies evaluated water quality of the brine discharge with respect to elevated salinity as well as other constituents (Draft EIR Subsection 2.10.1, pages 2-29). A Demonstration Project was conducted to test implementation of full-scale components for long-term evaluation, integrating the results of a previous Pilot Project (discussed in the Draft EIR Subsection 2.10.2, page 2-30). The Demonstration Project included a detailed study of the effects of brine discharge on local marine life from salinity and toxicity to support permitting, design, construction, and operation of West Basin's proposed full-scale desalination facility.

Water quality sampling conducted as part of West Basin's Pilot Project located in El Segundo (at the proposed Project site) and Demonstration Project located in Redondo Beach (SPI 2017, 2018) documented that up to eight⁴ constituents at times exceeded the California Ocean Plan water quality objectives under baseline conditions. As discussed in detail in the assessment of water quality impacts (see Draft EIR Subsection 5.9.4, page 5.9-54), although the reverse osmosis (RO) treatment process would result in the discharge of increased concentrations of constituents associated with SMB source waters within a localized area around the diffuser, the total loading of constituents being discharged into SMB would not be increased above existing conditions.

Water quality evaluations of operational brine discharges conducted as part of the Pilot and Demonstration Projects (SPI 2017, 2018; incorporated by reference into the analysis of impacts presented in Draft EIR Subsection 5.9.4 and available as part of the Project Administrative Record and online at <http://westbasindesal.com/research-and-planning.html>) determined that the majority of constituents in the brine for which there is a numeric water quality objective (Draft

⁴ Copper, ammonia, cyanide, beta/positron emitters, PAHs, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) equivalents, benzidine, and bis(2-ethylhexyl) phthalate.

EIR Table 5.9-2, page 5.9-8) complied with Ocean Plan water quality objectives. None of the constituents were determined to exceed existing background levels in SMB following discharge and dilution/dispersion associated with the proposed diffuser. As discussed in detail in the Draft EIR Subsection 5.11.4 (page 5.11-56), because water quality constituents would not exceed existing background levels at the edge of the Zone of Initial Dilution (ZID), the discharge of brine would not be expected to pose any risk to marine habitats and taxa, including special-status fish, marine mammals, and sea turtles because of the extremely small percentage of total open water habitat contained within the ZID and the limited duration of exposure to marine taxa.

The Draft EIR acknowledges that the LARWQCB may require additional information for the Water Code determination and NPDES permit. Additional modelling and ultimately monitoring for bioaccumulation of discharge constituents would be conducted if required under the permit conditions. The NPDES permit application will include a Report of Waste Discharge, which will provide a detailed analysis of compliance with the Ocean Plan water quality standards, and the request for a Water Code determination will require that West Basin prepare and provide the LARWQCB with a Marine Life Mortality Report as described in Ocean Plan chapter III.M.2.e.(1)(a), and a Mitigation Plan. However, for purposes of determining potentially adverse impacts to ocean water quality and marine life, the Draft EIR adequately presents substantial evidence based on years of pilot testing and Demonstration Project testing that suggests bioaccumulation would not present significant impacts. No additional mitigation measures would be needed to ensure impacts are sufficiently minimized or avoided. See *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-12

Mitigation Measure BIO-M2 specifies that the loss of habitat will be compensated for by either direct or indirect habitat restoration consistent with California Ocean Plan Chapter III.M.2.e.(3) or by providing compensation to an appropriate state-approved fee-based mitigation program consistent with California Ocean Plan Chapter III.M.2.e.(4), or a combination of the two and in a manner acceptable to the LARWQCB as part of the Project's permitting process. Final determination of the appropriate magnitude and source of the off-site ecological habitat enhancement and/or payments to an acceptable fee-based mitigation program shall be determined by the LARWQCB. Also see *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-13

Chapter III.M.e.(3) of the Ocean Plan gives the Project Applicant the option of submitting a Mitigation Plan to the LARWQCB, so the LARWQCB can evaluate whether West Basin's proposed mitigation Project constitutes the best available mitigation measures feasible for the Project. See *Master Response: CEQA and Ocean Plan Compliance*. As mentioned on Draft EIR page 5.11-59, regardless of the magnitude of the impact of Project-induced entrainment, the impact would be reduced through the application of mitigation to restore or enhance marine or coastal habitat, which could include a local coastal marsh restoration project (such as the Ballona Wetlands Restoration Project). Seeking to restore wetland habitat and functions within the Ballona Reserve, the California Department of Fish and Wildlife is proposing a large-scale effort to restore, enhance, and establish native coastal wetland and upland habitats within the Ballona

Reserve; however, funding of the restoration effort is uncertain. If the West Basin Board of Directors certifies the Final EIR and approves the Project, West Basin will compensate for the loss of habitat (as determined by the LARWQCB) by either direct or indirect habitat restoration and will prepare a Mitigation Plan as detailed in the Ocean Plan and specified in Mitigation Measure BIO-M2, or by providing monetary payments to an appropriate State-approved fee-based mitigation program, or a combination. The Ballona Reserve could be a beneficiary of either approach.

Finally, the Draft EIR does not assume that the LARWQCB will accept out-of-kind mitigation and a mitigation ratio of 1 acre of mitigation habitat for every 10 acres of impacted open water or soft-bottom habitat. As noted on Draft EIR page 5.11-64, final determination of the appropriate mitigation shall be determined by the LARWQCB, and as such, mitigation may ultimately be provided at a ratio greater than 1 acre of mitigation habitat for every 10 acres of impacted open water or soft-bottom habitat.

Response LARWQCB-14

In response to the comment requesting clarification between a project applicant and LARWQCB, the Draft EIR text on page 2-22 is revised as follows:

West Basin has included this analysis of best available site, best available design, best available technology, and best available mitigation measures to assist the LARWQCB in its determine determination of the best combination of feasible alternatives to minimize intake and mortality of all forms of marine life pursuant to the OPA.

Response LARWQCB-15

In response to this comment, the Draft EIR text on page 2-23 is revised as follows:

~~If a listed species may be adversely affected by a Project, SWRCB staff will confer with the USFWS, and/or NMFS to inform these agencies of Project impacts to any federally listed species or critical habitat.~~

Response LARWQCB-16

See response to comment LARWQCB-10.

Response LARWQCB-17

In response to the comment requesting clarification of the role of the LARWQCB in determining feasibility of subsurface intakes, Footnote No.7 on page 2-37 of the Draft EIR text is revised as follows:

⁷SWRCB amended the California Ocean Plan on May 6, 2015, to address desalination facilities withdrawing seawater (“Desal Amendments”). As a result, Ocean Plan Section III.M.2(d)(1) now requires that in requesting while making a Water Code Section 13142.5(b) determination for an ocean desalination facility, the ~~owner or operator of a proposed seawater desalination facility~~ LARWQCB must consider whether subsurface intakes are feasible to minimize intake and mortality of all forms of marine life.

Response LARWQCB-18

In response to this comment requesting clarification on subsurface intake technology, the Draft EIR text on page 2-37 is revised as follows:

Although the technical memorandum found that SSIs could have advantages over screened ocean intakes, since SSIs collect water through sand sediment which acts as a natural barrier to organisms, and thus eliminates ~~with regard to~~ impingement and entrainment ~~and while~~ reducing pretreatment requirements, results indicated that significant additional geotechnical feasibility studies would be required for this intake option.

Response LARWQCB-19

See *Master Response: Supplemental Studies* and the Supplemental Subsurface Intake Feasibility Study (Final EIR Appendix 13).

Response LARWQCB-20

The analysis of impacts from brine discharge is discussed in Draft EIR Section 5.11, *Marine Biological Resources*. Area Production Foregone estimates for screened open water intakes (EIR Table 5.11-9), and for turbulent discharge-associated mortality (EIR Table 5.11-12) resulting from the Local Project and Regional Project, are presented with and without the recycling of backwash water. EIR Table 5.11-9 (see also response to comment LARWQCB-34) confirms that internally recycling treated backwash water would lower intake flows (41 million gallons per day [MGD] versus 45 MGD) thereby minimizing intake mortality. However, recycling the treated backwash water would add to the discharge flow (25.4 MGD versus 21 MGD, see EIR Table 5.9-5), thereby increasing discharge mortality (see response to comment LARWQCB-36 for revised EIR Table 5.11-12 that reports impacts of a linear diffuser design). The Draft EIR discusses multiple discharge and intake scenarios for the Local Project and the Regional Project; however, the treated backwash configuration will ultimately depend on the final design and operations procedures prior to construction.

Response LARWQCB-21

The Draft EIR text of the Project Description on page 3-11 is revised to reflect that the Local Project would use only four wedgewire screens (see Final EIR Section 11, *Refinements to the Project Description*) as follows:

The existing intake structure would be modified ~~with~~ by installing an extended header pipe connected to 12 new ~~wedgewire screen risers and screens~~. The Local Project would attach wedgewire screens to four of the risers and eight risers would remain capped (see **Figure 3-16b**). The tops of the wedgewire screens would be approximately 18 feet below the water surface and approximately 13 feet above the ocean floor.

Response LARWQCB-22

The salinity of the brine that would be discharged under the different project scenarios is presented in Draft EIR Tables 5.9-6 and 5.9-8 and these salinity values have been added to the text of the Project Description (see Final EIR Section 11, *Refinements to the Project Description*).

Draft EIR page 3-13 is revised as follows:

For the 20 MGD Local Project, the normal amount of flow to be discharged from the ocean desalination facility would be approximately 25.4 MGD, which would be composed of approximately 20.9 MGD of RO concentrate (brine) and 4.5 MGD of treated backwash water from the HRGMF and MF processes; the salinity of the combined flow would be 62.0 ppt. If washwater is internally recycled, the normal discharge flow would be reduced to approximately 21 MGD, composed of 20.9 MGD of RO brine and 0.1 MGD from the washwater recycling process (Figure 3-7); the salinity of the combined flow would be 67.8 ppt.

Draft EIR page 3-17 is revised as follows:

For the 60 MGD Regional Project, the normal amount of flow to be discharged from the ocean desalination facility would be approximately 76.2 MGD, which would be composed of approximately 62.7 MGD of RO concentrate (brine), and 13.5 MGD of treated backwash water from the HRGMF and MF processes; the salinity of the combined flow would be 62.0 ppt. If the washwater is internally recycled, the normal discharge flow would be reduced to approximately 63 MGD with 62.7 MGD from the RO process and 0.3 MGD from the washwater recycling process (Figure 3-7); the salinity of the combined flow would be 67.8 ppt.

Response LARWQCB-23

The Draft EIR text is revised to clarify that the San Diego County Water Authority is seeking agency approvals to build a pilot facility associated with the Camp Pendleton Seawater Desalination project with an intake flow of 20 gallons per minute to test water quality and different intake technologies.

The Draft EIR text on page 4-12 in Table 4-2 is revised as follows:

11	San Diego County Water Authority -Camp Pendleton Seawater Desalination Project	Camp Pendleton	400-450 <u>Undetermined (pilot test facility of 20 gallons per minute)</u>	Undetermined	Surface	In Feasibility Study
----	--------------------------------------------------------------------------------	----------------	-------------------------------------------------------------------------------	--------------	---------	----------------------

The Draft EIR text on page 4-16 is revised as follows:

In collaboration with the United States Marine Corps, the Water Authority is ~~currently~~ currently was evaluating the feasibility of a potential regional desalination project located at Camp Pendleton in northern San Diego County. ~~The Camp Pendleton Seawater~~

~~Desalination Project would involve an ocean water desalination facility producing between 100 to 150 MGD.~~ The Water Authority released the Camp Pendleton Seawater Desalination Project Feasibility Study in December 2009. ~~The project is considered very early in the development process and the~~ Water Authority ~~was~~ is currently conducting additional technical studies for the project, including parallel piloting of a screened ocean intake and subsurface intake, to evaluate an intake flow of up to 40 gallons per minute and treatment of up to 20 gallons per minute of seawater (SDCWA 2016 and 2017). However, in September 2018, the Water Authority decided to close down its work on a potential seawater desalination pilot plant at Camp Pendleton due to extraordinary permitting hurdles and related costs created by the State Lands Commission staff, along with the decreased potential that the plant will be needed in coming decades (SDCWA 2018).

Response LARWQCB-24

In response to the comment regarding clarification between the Ocean Plan and Desalination Amendment, the Draft EIR text on page 5.9-8 is revised as follows:

The *Water Quality Control Plan for Ocean Waters of California* (California Ocean Plan) (SWRCB 2015), adopted by the SWRCB in 1972 May 2015 and effective January 2016, establishes water quality requirements and objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the state's coastal waters. In 2015, the SWRCB adopted the Desalination Amendment, which has been in effect since 2016.

Response LARWQCB-25

In response to the comment requesting clarification on the Ocean Plan's definition of "initial dilution," the Draft EIR text on page 5.9-11 is modified as follows:

The California Ocean Plan water quality objectives are to be met after the initial dilution of a discharge into the ocean. The California Ocean Plan defines initial dilution as the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally. For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

Response LARWQCB-26

In response to the comment requesting clarification on effluent density, the Draft EIR text on page 5.9-11 is modified as follows:

If the effluent density is greater than the ambient ~~density~~ salinity, as occurs for desalination brine, it produces a negatively buoyant plume that sinks toward the seabed. ~~In this case, the edge of the ZID is located at the point where the discharge plume contacts the seafloor.~~

Response LARWQCB-27

See response to comment LARWQCB-25.

Response LARWQCB-28

As described in Draft EIR Subsection 5.9.1, the offshore waters of SMB in the vicinity of the proposed intake and discharge structures are on the 303(d) list for arsenic, dichlorodiphenyltrichloroethane (DDT), mercury, polychlorinated biphenyls (PCBs), and trash (SWRCB 2017) as Category 5 criteria.⁵ As described in detail in response to comment LARWQCB-11, water quality evaluations of operational brine discharges conducted as part of the Pilot and Demonstration Projects (SPI 2017 and 2018) determined that the majority of constituents in the brine for which there is a numeric water quality objective complied with Ocean Plan water quality objectives⁶. The 303(d) listed constituents for SMB, listed above, were either not detected in brine discharges (DDT and PCBs) or were present in-pipe (i.e., prior to discharge and dilution) at concentrations that complied with Ocean Plan water quality objectives (mercury and arsenic). Therefore, brine discharges would not result in pollutant concentrations for 303(d) listed constituents exceeding existing background levels in SMB following discharge and dilution/dispersion associated with the proposed diffuser. Also, the total loading of 303(d) listed constituents being discharged into SMB would not be increased above existing conditions as a result of the proposed Project as the source water is derived from SMB.

As described in detail in the Draft EIR Subsections 5.9.1 and 5.9.4 and summarized in *Master Response: CEQA and Ocean Plan Compliance*, West Basin will prepare and submit information required by the Ocean Plan when submitting the NPDES discharge permit application as well as the requisite request for a Water Code determination to the LARWQCB, including a Report of Waste Discharge, which will provide a detailed analysis of compliance with the Ocean Plan water quality standards and other relevant water quality objectives, including consideration of 303(d) listed pollutants. Effluent limitations serve as the primary mechanism in NPDES permits for controlling discharges of pollutants to receiving waters (Draft EIR Subsection 5.9.1). When developing effluent limitations for an NPDES permit, the permitting authority (i.e., the LARWQCB) considers limits based on the technology available to control the pollutants (i.e., technology-based effluent limits [TBELs]). TBELs require a minimum level of treatment of pollutants for point source discharges based on available treatment technologies, while allowing

⁵ A water segment where standards are not met and a TMDL is required, but not yet completed.

⁶ Trash and debris was not assessed as the brine discharge would be comprised of filtered source water that would not contain trash or other types of associated debris.

the discharger to use any available control technique to meet the limits (such as facilitating rapid dilution via a multi-port diffuser).

303(d) listed pollutants for a receiving waterbody are constituents for which TBELs are inadequate for achieving water quality standards. Where TBELs are inadequate, the permit authority develops more stringent effluent limitations that are protective of the water quality standards of the receiving water (i.e., water quality-based effluent limits [WQBELs]) that incorporate consideration of the potential impact of every proposed surface water discharge on the quality of a receiving waterbody. WQBELs are typically based on the development of total maximum daily loads (TMDLs) for specific 303(d) pollutants which identify the amount of a pollutant or property of a pollutant, from point, nonpoint, and natural background sources, including a margin of safety, that may be discharged to a water body and still ensure that the water body attains water quality standards. The allocations of pollutant loadings from point sources are called wasteload allocations. In the absence of a TMDL, as is the case with the 303(d) pollutants listed for SMB, the permitting authority still must assess the need for effluent limits based on water quality standards and, where necessary, develop appropriate wasteload allocations and effluent limits for an individual discharge to ensure the discharger complies with all relevant water quality regulations and standards, and does not contribute to the degradation of a receiving waterbody. Therefore, compliance with the NPDES permit effluent limitations will ensure brine discharges comply with all water quality standards and do not contribute to the degradation of an impaired receiving waterbody.

Additionally, as described in detail in the Draft EIR Subsection 5.9.4 (page 5.9-55), West Basin would be required to implement a Monitoring and Reporting Program as part of the NPDES Permit. The Monitoring and Reporting Program requirements would ensure technical and monitoring data are provided to the LARWQCB to determine West Basin's compliance with NPDES effluent limitations (including any WQBELs for 303(d) listed constituents), to assess the need for further investigation or enforcement action, and to protect public health and safety and the environment. West Basin would also be subject to the monitoring and reporting requirements of the California Ocean Plan (described in Subsection 5.9.1). Monitoring requirements under the California Ocean Plan ensure that monitoring be conducted for salinity levels, benthic community health, aquatic life toxicity, and hypoxia and that the monitoring program be consistent with the requirements detailed in Appendix III of the Ocean Plan which specifies monitoring plan framework, scope, and methodological design for determining compliance. The performance standard(s) associated with the monitoring requirements of the California Ocean Plan are defined in Chapter III of the Ocean Plan (Part 4 (a)) and in Appendix III (Part 8) with definitions of terms provided in Appendix II.

Response LARWQCB-29

See response to comment LARWQCB-10.

Response LARWQCB-30

In response to the comment, a supplemental analysis was conducted for a linear diffuser configuration, consistent with the calculation procedures recommended by Roberts (2018) (see *Master Response: Supplemental Studies* and Final EIR Appendix 14 for additional details). The objective of the analysis was to identify a linear diffuser configuration that would comply with the required Ocean Plan criteria for desalination discharges: the salinity increment must be less than 2 parts per thousand (ppt) within the maximum allowable Brine Mixing Zone (BMZ) of 100 meters (328 feet), and the jets must be fully submerged and not impact the water surface. The supplemental dilution simulations assumed a diffuser port depth of 24 feet below sea level, and a port angle of 60°. The analysis identified a linear diffuser configuration that would minimize the extent of the BMZ and minimize the jet exit velocity in order to minimize mortality of organisms that may be entrained into the jets due to turbulence and shear.

Through the supplemental model analysis, two linear diffuser designs were identified that had a common port spacing and number of ports, and therefore diffuser length, that will meet the required environmental compliance criteria for all potential proposed operational discharge scenarios modeled. The supplemental analyses identified potential linear diffuser configurations that would require only the port diameters be changed when transitioning from the Local Project to the Regional Project (see Final EIR Section 11, *Refinements to the Project Description* for details relating to incorporation of the linear diffuser design into the proposed Project). For both diffuser designs, one port diameter is needed for the Local Project operational discharge scenarios and a different diameter for the Regional Project operational discharge scenarios. The dilution requirement for salinity for the linear diffuser designs was met at the point where the discharge plume would impact the seafloor for some of the modeled scenarios, and compliance is also demonstrated at the end of the near field.⁷

In response to the comment, the Draft EIR text on pages 5.9-50 through 5.9-53 relating to the Local Project compliance with Ocean Plan salinity requirements is revised as follows:

Salinity

A multiport diffuser system typically consists of a series of nozzles that create relatively high-velocity jets to increase brine mixing through enhanced entrainment of ambient seawater and maintain a reasonable water jet velocity within the seawater column. The area where the mixing takes place is called the BMZ¹⁹. In an open ocean environment with dynamic mixing from ocean currents, tidal and wave actions such as Santa Monica Bay, the use of a multiport diffuser system is effective in preventing dense, high-salinity water from accumulating on the seafloor.

⁷ After impacting the seafloor, the flow of the dense discharge plume becomes horizontal and proceeds away from the diffuser as a turbulent density current that continues to entrain surrounding seawater and continues to dilute. At some distance from the diffuser, this turbulence collapses under the influence of its own induced density stratification and active mixing essentially ceases. The region that encompasses the ascending plume, the descending plume, the impact point with the seabed and the horizontal flow up to the point of turbulence collapse, is called the near field.

The size and shape of the mixing zone depends upon the discharge rate, diffuser system design, initial salinity concentrations of the brine stream and the receiving water, and prevailing marine currents. The proposed multiport diffuser nozzles would be arranged in a ~~“rosette”~~ linear pattern (Figure 3-18c⁸). Brine from the Local Project desalination facility would be conveyed to the proposed diffuser via the existing ESGS concrete tunnel, as described in Section 3.4.1. Water depth at 2,078 feet offshore at the proposed diffuser location ranges from 28 to 34 feet. The proposed discharge structure design would consist of either a 44-foot-long linear diffuser with six 15.2-inch diameter ports, or a 93-foot-long linear diffuser with 14, 9-inch diameter ports (Figure 3-18c). For both linear diffuser design options, the port depth would be 24 feet below water surface and the diffuser port angle would be 60° from horizontal. ~~The diffuser has been designed with multiple ports inclined upward at a 46° angle²⁰ from the horizontal.~~ This orientation is intended to (1) ensure that the discharge to reduce jet exit velocity, meets California Ocean Plan salinity requirements, (2) reduce jet exit velocity and to reduce shear stress so that turbulence-induced mortality of organisms that may be entrained into the diffuser jets are minimized (see Section 5.11, *Marine Biological Resources*), and to (3) ensure that the discharge plume does not reach the ocean surface.

As described in Section 5.9.1, the California Ocean Plan limits the increase of salinity of receiving water from desalination plant discharges to a daily maximum of 2 parts per thousand (ppt) above natural background salinity. The owner or operator of a desalination facility must meet the salinity standard at the boundary of the BMZ, defined as the horizontal distance of 100 meters (328 feet) from the point of discharge. A significant impact related to water quality, water quality standards or Waste Discharge Requirements would occur if operational discharges from the Local Project resulted in a salinity level of 2 ppt above ambient salinity levels beyond the BMZ.

To determine whether the proposed discharge would comply with the California Ocean Plan BMZ salinity requirements, a brine plume mixing model that is consistent with the method approved by the SWRCB was conducted (Appendix ~~4C-14~~). **Table 5.9-5** summarizes two operational scenarios based on the conceptual design described in Section 3, which were evaluated using the mixing model. A detailed description of the mixing model methodology and results are included in **Appendix ~~4C-14A~~**. The model analysis assumes an ambient ocean water flow velocity of zero (i.e., conservatively assumes an absolutely still ocean environment where ocean currents and tides are absent and mixing of the discharge plume with the surrounding water occurs as a direct result of the use of the diffusers).

⁸ Draft EIR Figure 3-18c has been revised to reflect the linear diffuser design. The revised figure is included in Final EIR Section 11, Refinements to the Project Description.

**TABLE 5.9-5.
PROPERTIES OF EFFLUENT CONSTITUENTS FOR LOCAL PROJECT DISCHARGE SCENARIOS**

Project	Case ID	Brine			Washwater			Combined effluent			
		Flow (mgd)	Temp. (°C)	Salinity (ppt)	Flow (mgd)	Temp. (°C)	Salinity (ppt)	Flow (mgd)	Temp. (°C)	Salinity (ppt)	Density (kg/m ³)
Local	L1	20.9	17.6	68.0	4.5	17.6	34.0	25.4	17.6	62.0	1046.2
	L2	20.9	17.6	68.0	0.1	17.6	34.0	21.0	17.6	67.8	1050.8

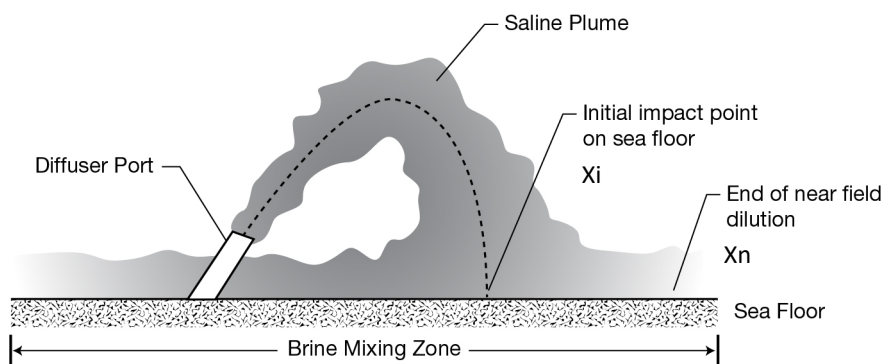
SOURCE: Roberts 2019⁸; Appendix 4C14A.

The size of a discharge plume and the extent of dilution depends, in part, on whether the plume is positively buoyant (light or rising), as occurs with typical wastewater discharges that have lower salinity and hence lower density than the ambient ocean water; or negatively buoyant (dense or sinking), as occurs for desalination brine discharges that have a higher salinity and hence higher density than the receiving ocean water. The latter represents the case applicable to this Project. Denser discharges are dispersed via an upward inclined jet that result in a plume that rises upward and then sinks down, making contact with the seafloor at some distance away from the diffuser nozzles (Figure 5.9-4). As the discharge plume ascends, the jet entrains ambient water, and the brine becomes diluted. Because the plume is denser than the receiving water, it reaches a terminal rise height and then falls back to the seafloor. Entrainment of seawater into the plume continues in the descending plume phase, promoting more mixing and dilution. After contacting the seafloor, the brine plume continues traveling horizontally and further entrains ambient seawater resulting in greater dilution. The region that encompasses the ascending plume, the descending plume, the point of impact with the seafloor, and the area of horizontal flow up to the point where momentum and turbulence-driven mixing dynamics cease is called the near field. The brine discharge model analysis estimated dilution ratios and salinity concentrations at where the plume contacts the seafloor (referred to as X_i) as well as at where the plume momentum from the nozzle becomes zero (referred to as X_n), representing the end of the near field (Figure 5.9-4). Given that the model assumes no additional mixing or dilution from ocean currents or tides, the model would not be able to predict additional dilution beyond where the plume momentum reaches zero.

Salinity Results and Discussion

The linear diffuser model analysis (Appendix 4C-14A) demonstrates that operational discharges from the Local Project would not exceed 2 ppt above ambient conditions at the BMZ boundary. In fact, the model analysis indicates that the 2 ppt salinity threshold would be met at a distance of 11.6 m (38 feet) between the point at which the brine plume makes contact with the seafloor (at X_i), and from the point of discharge (Table 5.9-6). Such a distance is well within the 100 meters (328 feet) from the point of discharge as prescribed in the California Ocean Plan and would translate to a circular area of approximately 0.1 acres around the diffuser. The terminal height would reach a maximum

of 19.5 feet above the seafloor for both scenarios and after descending and making contact with the seafloor, the model analysis indicates that the brine plume would continue entraining ambient seawater and further diluting until the plume momentum reaches zero (i.e., the edge of the near field (at X_n); at X_i between 45 and 63 feet (13.7 m to 19.2 m) from the point of discharge (Table 5.9-6) for all scenarios modeled. The salinity at the edge of the near field would decrease to 1.9 ppt above ambient, well within the distance of 100 meters (328 feet) prescribed in the California Ocean Plan. The total seafloor area from the diffuser to the edge of the near field (at X_n) would be an ~~area~~ circular area of approximately ± 0.3 and 0.5 acres (Appendix 4C14A). Thus, brine discharges from the Local Project would not exceed or violate the California Ocean Plan salinity standards or degrade water quality in terms of salinity; impacts related to salinity would be less than significant.



West Basin Ocean Water Desalination Project
SOURCE: Roberts 2019g; Appendix 14A 4C.

Figure 5.9-4
Characteristics of an Inclined Dense Jet

**TABLE 5.9-6.
OPTIMUM PORT LINEAR DIFFUSER CONFIGURATIONS FOR EACH LOCAL PROJECT FLOW SCENARIO WHERE PORT DEPTH OF 20 FEET AND SALINITY INCREMENT LESS THAN 2 PPT AT THE JET IMPACT POINT SALINITY INCREMENT AT THE END OF THE NEAR FIELD \leq 2 PPT**

Project	Case ID	Number of ports	Diffuser Details			Impact Point			Salinity Increment (ppt)	Layer thickness, v_L (ft)	BMZ ¹		UM3 predictions at top	
			Port diameter (in)	Jet velocity (ft/s)	Diffuser length (ft)	Dilution S_i	Length X_i (ft)	Distance, X_n (ft)			Area (acres)	Average dilution, S_{ta}	Entrained flow (mgd)	
Local: 6 Port Diffuser	L1	6	15.2	5.2	44	8.9	16.9	3.2	4.9	63	0.42	3.6	66	
Local: 14 Port Diffuser	L1	14	9.0	6.4	93	14.1	15.9	2.0	4.6	60	0.51	5.56	116	
	L2	14	9.0	5.3	93	10.6	11.9	3.2	3.5	45	0.34	4.24	68	

¹ The BMZ boundary is at the end of the near field. Flow properties there are the near field properties (Figure 5.9-4).
SOURCE: Roberts 2019; Appendix 14A.

Project	Case ID	Effluent			Nozzle conditions			Dilution		Salinity Increment		Impact Point Length (ft)	Near Field Length (ft)		
		Flow (mgd)	Salinity (ppt)	Density (kg/m ³)	No.	Diam. (in)	Angle (deg)	Flow (cfs)	Velocity (ft/s)	At Impact Point, S_i	At Near Field, S_n			At Impact Point, S_i	At Near Field, S_n
Local	L1	25.4	62.0	1046.2	4	15.0	46	9.8	8.0	14.3	14.9	2.0	1.9	38	149
	L2	21.0	67.8	1050.8	4	12.4	46	8.1	9.7	17.3	18.0	2.0	1.9	38	149

NOTES:
 S_i and S_n refer to salinity and dilution at the point the plume contacts the seafloor (impact point) and at the edge of the near field, respectively (Figure 5.9-4).
SOURCE: Roberts 2018; Appendix 4C.

The Draft EIR text on pages 5.9-58 through 5.9-60 relating to the Regional Project compliance with Ocean Plan salinity requirements is modified as follows:

Screened Ocean Intake and Concentrate Discharge Structures

As described in Section 3.4.1, expansion of the Local Project to the Regional Project would involve expanding the Local Project intake and discharge structures to accommodate the 60 MGD Regional Project desalination facility. The intake structure would be modified through the installation of 8 additional wedgewire screens to pre-installed risers (comprising 12 total for the Regional Project), as described in Section 3.4.1. The Local Project diffuser structure would be modified through the ~~removal~~ replacement of the existing ~~four duckbill~~ diffusers (either six or 14 depending on diffuser design) and the ~~installation of eight smaller diameter duckbill~~ with larger diameter diffusers (Section 3.4.1). The ~~eight duckbill~~ diffusers for either linear diffuser design would be inclined upwards at a ~~26~~ 60° angle from the horizontal (~~reduced as compared to the Local Project~~) to meet California Ocean Plan salinity requirements and to maintain a submerged discharge plume.

Salinity

As described for the Local Project, a significant impact related to water quality, water quality standards or Waste Discharge Requirements would occur if operational discharges from the Regional Project resulted in salinity concentrations greater than 2 ppt above ambient salinity levels at the edge of the BMZ, which would be an exceedance of the receiving water salinity limitation detailed in Chapter III.M.3 of the Ocean Plan (see Section 5.9.1). The methodology and assumptions for assessing Regional Project salinity impacts are the same as described for the Local Project and are presented in detail, with the results, in Appendix ~~4C-14A~~. **Table 5.9-7** summarizes two Regional Project scenarios which were used in the mixing model to evaluate compliance. The model analysis assumes a port depth of ~~20~~ 24 feet below sea surface, ~~eight~~ and all discharge ports at a ~~26~~ 60° angle. Additionally, zero water flow or movement from ocean current and tides is assumed, consistent with the California Ocean Plan methodology for assessing salinity increases from desalination facilities.

**TABLE 5.9-7.
PROPERTIES OF EFFLUENT CONSTITUENTS FOR REGIONAL PROJECT DISCHARGE SCENARIOS**

Project	Case ID	Brine			Washwater			Combined effluent			
		Flow (mgd)	Temp. (°C)	Salinity (ppt)	Flow (mgd)	Temp. (°C)	Salinity (ppt)	Flow (mgd)	Temp. (°C)	Salinity (ppt)	Density (kg/m ³)
Regional	R1	62.7	17.6	68.0	13.5	17.6	34.0	76.2	17.6	62.0	1046.2
	R2	62.7	17.6	68.0	0.3	17.6	34.0	63.0	17.6	67.8	1050.8

SOURCE: Roberts 2019⁸; Appendix 14A4C.

Salinity Results and Discussion

Assuming the most conservative scenario, the model analysis (Appendix ~~4C-14A~~) demonstrates that operational discharges from the Regional Project would meet the

California Ocean Plan salinity standard (**Table 5.9-8**). Also, the operational discharges would remain below the water surface (i.e., the plume would remain submerged), consistent with California Ocean Plan requirements. The California Ocean Plan salinity limit of 2 ppt above ambient would be met at the point of initial dilution impact with the seafloor (at Xi, see Figure 5.9-4), located 66 feet from the diffuser (representing a circular area of approximately 0.3 acres around the diffuser) for the assessed operational discharge scenarios. Meeting the 2 ppt salinity requirement at 66 24.8 feet (29.9 7.6 m) from the point of discharge with the 14-port diffuser configuration, would be well within the California Ocean Plan allowable distance of 328 feet or 100 meters (the maximum allowable BMZ). As the discharge plume continues to entrain ambient seawater and further continues to dilute within the near field, salinity at Xn would be reduced to 1.7 equal to or less than 2 ppt (Table 5.9-8) above ambient for all scenarios modeled. The edge of the near field (Xn) would be located 203 70 to 76 feet from the diffuser for the 14-port configuration, representing an circular area of approximately 3 0.7 acres around the diffuser. Furthermore, as described for the Local Project, the computed salinities would occur only along the seabed. Salinities would decrease with height in the water column and would be above ambient salinity concentrations only near the seabed (Appendix 4C-14A).

**TABLE 5.9-8.
OPTIMUM LINEAR DIFFUSER PORT CONFIGURATIONS FOR EACH REGIONAL PROJECT FLOW SCENARIO WHERE PORT DEPTH OF 20 FEET AND SALINITY INCREMENT LESS THAN 2 PPT AT THE JET IMPACT POINT SALINITY INCREMENT AT THE END OF THE NEAR FIELD \leq 2 PPT**

Project	Case ID	Number of ports	Diffuser details			Impact Point			BMZ ¹		UM3 predictions at top		
			Port diameter (in)	Jet velocity (ft/s)	Diffuser length (ft)	Dilution Si	Length Xi (ft)	Salinity Increment (ppt)	Layer thickness, yi (ft)	Distance, Xn (ft)	Area (acres)	Average dilution, Sia	Entrained flow (mgd)
Regional: 6 Port Diffuser	R1	6	23.6	6.5	44	8.9	26.2	3.2	7.6	98	0.89	3.6	198
Regional: 14 Port Diffuser	R1	14	13.9	8.0	93	14.3	24.8	2.0	7.2	76	0.74	5.62	352
	R2	14	13.9	6.6	93	10.7	18.7	3.2	5.4	70	0.65	4.30	208

¹ The BMZ boundary is at the end of the near field. Flow properties there are the near field properties (Figure 5.9-4).
SOURCE: Roberts 2019; Appendix 14A.

Project	Case ID	Effluent				Nozzle conditions				Dilution		Salinity Increment		Impact Point Length (ft)	Near-Field Length (ft)
		Flow (mgd)	Salinity (ppt)	Density (kg/m ³)	No.	Diam. (in)	Angle (deg)	Flow (cfs)	Velocity (ft/s)	At Impact Point, Si	At Near Field, Sn	At Impact Point, Si	At Near Field, Sn		
Regional	R1	76.2	62.0	1046.2	8	13.4	26	14.7	15.0	14.3	16.9	2.0	1.7	66	203
	R2	63.0	67.8	1050.8	8	11.1	26	12.2	18.1	17.2	20.3	2.0	1.7	66	203

SOURCE: Roberts 2018; Appendix 4C.

~~The incremental salinity increase from operational discharges would meet the 2 ppt threshold at the impact point, 66 feet from the diffuser for both Scenario R1 and R2. Therefore, the area where salinity concentration would be greater than 2 ppt would be restricted to a small area (less than 0.3 acre) around the diffuser and above the seafloor, which would attenuate rapidly with distance from the nozzle.~~

The analysis of the proposed Regional Project operational discharges indicates that, for ~~both~~ all scenarios modeled, the discharge of brine would meet California Ocean Plan salinity standards. The Regional Project would therefore, not exceed or violate the California Ocean Plan salinity standards or degrade water quality in terms of salinity; impacts related to salinity would be less than significant.

Response LARWQCB-31

In response to the comment regarding compliance with the Ocean Plan, the Draft EIR text on page 5.9-58 is revised as follows:

As described for the Local Project, a significant impact related to water quality, water quality standards or Waste Discharge Requirements would occur if operational discharges from the Regional Project resulted in salinity concentrations greater than 2 ppt above ambient salinity levels at the edge of the BMZ, which would be an exceedance of the receiving water salinity limitation detailed in Chapter III.M.3 of the Ocean Plan (see Section 5.9.1).

Response LARWQCB-32

West Basin is fully committed to meeting the mitigation requirements outlined in the Ocean Plan. The Ocean Plan Chapter III.M.2.e.(1)(c) explains that the regional water board may determine that the construction-related disturbance of a project does not require mitigation because the disturbance is temporary and the habitat is naturally restored. As noted in the Draft EIR Subsection 5.11.4, dredging activities could be expected to result in the temporary loss of soft sediment benthic habitat, associated marine infauna and epifauna, and habitat used as foraging area for marine invertebrates and fish, including any special-status fish species utilizing the proposed Project marine study area. But because of the limited area of soft sediment habitat and associated marine community that would be affected by dredging activities, the abundance of comparable habitat and suitable foraging habitat within the proposed Project marine study area, and the anticipated quick recovery to pre-dredging conditions and productivity, it would appear that the habitat would be naturally restored. As such, pursuant to the OPA, West Basin would assert to the regional water board that the proposed Project does not require mitigation because the disturbance is temporary and the habitat is naturally restored. This same reasoning applies to the CEQA impact analysis, and the impact from dredging is determined to be less than significant under CEQA and no mitigation is required.

Response LARWQCB-33

The use of data in Table 5.11-8 has been clarified by distinguishing the source of data used in each column (either MBC and Tenera 2008 or Tenera 2014). As a result, the Draft EIR text on

page 5.11-51 is modified as follows:

TABLE 5.11-8
FISH LARVAE USED FOR APF CALCULATION, THEIR CONTRIBUTION TO THE LARVAL COMMUNITY AND TO THE APF CALCULATION, PROPORTIONAL MORTALITIES (P_m), AND SIZE OF LARVAE

Fish Taxa		Contribution to larval community ¹ (%)	Contribution to APF calculation ¹ (%)	P _m Local ^{1,2}	P _m Regional ^{2,3}	Mean Size of Larvae ⁴ (mm)
Atherinopsidae	Silverside	14	25	3.45x10 ⁻³	1.04x10 ⁻²	9.9/9.1
Engraulidae	Anchovy	13	23	2.38x10 ⁻⁴	7.15x10 ⁻⁴	8.9
<i>Genyonemus lineatus</i>	White Croaker	11	20	4.55x10 ⁻⁴	1.37x10 ⁻³	2.4/2.9
<i>Hypsoblennius spp.</i>	Combtooth Blenny	6.5	0.2	4.33x10 ⁻⁴	1.30x10 ⁻³	NA /2.35
<i>Citharichthys spp.</i>	Sanddab	5	2	1.62x10 ⁻⁴	4.88x10 ⁻⁴	NA
<i>Paralichthys californicus</i>	California Halibut	1.8	6	2.60x10 ⁻⁴	7.80x10 ⁻⁴	2.0/NA
Gobiidae	CIQ Goby	1.5	1	2.39x10 ⁻³	7.19x10 ⁻³	NA
<i>Paralabrax spp.</i>	Sea Bass	1.3	5.5	5.41x10 ⁻⁴	1.63x10 ⁻³	NA
<i>Parophrys vetulus</i>	English Sole	1.25	2	1.19x10 ⁻⁴	3.58x10 ⁻⁴	NA
<i>Pleuronichthys guttulatus</i>	Diamond Turbot	0.43	1.5	3.35x10 ⁻³	1.00x10 ⁻²	NA
<i>Seriphus politus</i>	Queenfish	0.07	1.5	5.41x10 ⁻⁵	1.63x10 ⁻⁴	NA
Sciaenidae	Unid. Croakers	NA	12.6	7.36x10 ⁻⁴	2.21x10 ⁻³	2.9

SOURCE: HDR 2018., Tenera 2014.

NOTES: NA = Not Available; ¹Data based on Tenera and MBC 2008. ²Mean of 41 and 45 MGD intake; ³Mean of 123 and 136 MGD intake; ⁴Project marine study area/SCB; data based on Tenera 2014

Response LARWQCB-34

See *Master Response: CEQA and Ocean Plan Compliance*. In addition, the Draft EIR Table 5.11-9 has been modified to include a 1 percent reduction in ocean water intake entrainment on the APF calculation in accordance with OPA, and associated clarifications made to the text on page 5.11-52.

The Draft EIR text on page 5.11-52 is revised as follows:

It should be noted that these APF calculations do not take into account the use of wedgewire screens, potentially excluding larvae that are > 1 mm in size, or the intake flow rate, and or the potential exclusion of larvae that are > 1 mm in size. For example, Tenera 2014 (see Draft EIR Appendix 4A) concluded that the entrainment of Silverside fish larvae, which account for approximately 14 percent of the Project marine study area larval fish population (Table 5.11-8), would be excluded from entrainment because ~~of their mean size being 9 mm, and because~~ larvae below 7 mm in size did not occur in the Project marine study area (Table 5.11-8, Tenera 2014). Tenera (2014) also concluded that entrainment of other fish larvae that were > 1 mm in size would be substantially reduced, if not eliminated. Tenera (2014) assumed 100 percent entrainment for each of the 12 fish

species used in their calculations of mortalities and in the estimation of APF. However, as evidenced from the size distribution of silverside larvae, using data on larval sizes could refine the potential for larval entrainment. Unfortunately, data on larval sizes only existed for 6 of the 12 species used by Tenera (2014). By assuming reduced entrainment for larvae > 1 mm in size for these 6 species, and 100 percent entrainment for the 6 species where data on larval size was lacking, the APF declined by ~11 percent (Table 5.11-9). If reductions in entrainment of larvae was extrapolated to all 12 out of the 12 fish species, APF would decline by ~24 percent (Table 5.11-9).

That potential reductions in larval entrainment by wedgewire screens can occur has been noted by the SWRCB, which cited a study at the Diablo Canyon Nuclear power plant in the technical support for OPA 2015 where use of wedgewire screens reduced larval entrainment 4.6 to 15.8 percent over the open intake. However, this study did not employ reduced flow in its assessment of entrainment reductions; with reduced intake flow entrainment of larval fish could be even less (OPA 2015). Other studies cited by the SWRCB demonstrated reductions in entrainment as high as 66 percent. It should be noted that the majority of these studies focused on larval fish body length and not head diameter in assessing percentages of potential reductions occurring when using wedgewire screens. It was because of this uncertainty in the effectiveness of wedgewire screens that the SWRCB concluded that, “Additionally, even though wedgewire screens can reduce entrainment mortality of juvenile and adult fish and essentially eliminate impingement mortality, intake-related mortality will be site and species-specific. Empirical studies on wedgewire screen efficacy may be required to test the models that have been designed to estimate entrainment. There also may be a need to empirically measure entrainment at individual desalination facilities.” Consequently, the calculation of APF for an unscreened ocean intake located offshore of the ESGS (HDR 2018) potentially overestimates the loss of productivity to the marine ecosystem from entrainment, since most of the entrainment would be restricted to larvae < 1 mm in diameter or fish larval head size (Tenera 2014).

The Draft EIR text on page 5.11-54 is revised as follows:

**TABLE 5.11-9
AREA PRODUCTION FOREGONE (APF) ESTIMATES FOR OPEN AND 1 MM WEDGEWIRE SCREENED OCEAN INTAKE FOR THE WEST BASIN DESALINIZATION PROJECT LINEAR DIFFUSER**

Intake	APF Estimates for an Unscreened Intake¹ (acres)	<u>APF Estimates for a Wedgewire Screened Intake with a 1% reduction in entrainment (acres) consistent with the CA Ocean Plan</u>	APF Estimates for a Wedgewire Screened Equipped Intake Accounting for Exclusion of certain > 1 mm larvae² (acres)	APF Estimates for a Wedgewire Screened Equipped Intake with 100% Exclusion of Silverside Larvae³ (acres)	<u>APF Estimates for a Wedgewire Screen Intake with a 24% reduction in Entrainment⁴ (acres)</u>
Local (41 MGD) ⁵	16.4	<u>16.2</u>	14.52	14.2	<u>12.5</u>
Local (45 MGD) ⁶	18.1	<u>17.9</u>	16.03	15.64	<u>13.8</u>
Regional (123 MGD) ⁵	49.1	<u>48.7</u>	43.659	42.53	<u>37.3</u>
Regional (136 MGD) ⁶	54.4	<u>53.8</u>	48.325	47.107	<u>41.3</u>

Intake	APF Estimates for an Unscreened Intake ¹ (acres)	APF Estimates for a Wedgewire Screened Intake with a 1% reduction in entrainment (acres) consistent with the CA Ocean Plan	APF Estimates for a Wedgewire Screened Equipped Intake Accounting for Exclusion of certain > 1 mm larvae ² (acres)	APF Estimates for a Wedgewire Screened Equipped Intake with 100% Exclusion of Silverside Larvae ³ (acres)	APF Estimates for a Wedgewire Screen Intake with a 24% reduction in Entrainment ⁴ (acres)
--------	-------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

SOURCE: ¹ HDR 2018 ⁴Tenera 2014. All calculations include 1:10 scaling of estuarine: midwater habitat for non-estuarine fish species (Allen and Pondella 2006).

NOTES: ² APF wedgewire screen values are based on estimated reductions in entrainment of asserted certain fish and invertebrate larvae, depending on the spectrum of larval sizes for each species. (from a spectrum of larval sizes for each species) when a 1.0-mm Wedgewire Screen is utilized and as presented in Tenera 2014.

³ APF wedgewire screen values are calculated by excluding entrainment of Silverside larvae based on data in Tenera et al. 2014. All calculations include 1:10 scaling of estuarine: midwater habitat for non-estuarine fish species (Allen and Pondella 2006).

⁴ Estimated mortality reductions if data existed for 12 out of 12 species used for APF calculation and all species have some reductions in entrainment.

⁵ Treated waste washwater is internally recycled.

⁶ Treated waste washwater is NOT internally recycled.

Mitigation Measure BIO-M2 was written such that a commitment to direct or indirect ecological enhancement would be provided, or funds placed in a State-approved fee-based mitigation program, in order to address the uncertainty in the evaluation of the ecological impacts of screened ocean intakes. The proposed site-specific entrainment studies contained in Mitigation Measure BIO-M2 are intended to more precisely determine the level of impact to marine ecosystems from operation of a screened ocean intake and use of discharge diffuser jets.

Response LARWQCB-35

Regardless of the magnitude of the impact of entrainment, adequate mitigation to restore or enhance marine or coastal habitat, as calculated by the LARWQCB and not the Applicant, must be implemented pursuant to OPA, which mandates that impacts on all marine life be mitigated. Therefore, the Draft EIR concludes that implementation of Mitigation Measure BIO-M2 would reduce proposed Project-related entrainment impacts of all marine taxa, to less than significant after implementation of mitigation measures. The Draft EIR also recognizes that based on the absence of suitable habitat in the proposed Project marine study area, the absence of substantial larval densities of special-status species in the proposed Project marine study area, and the natural life history of special-status species of concern present in the proposed Project marine study area, the potential for entrainment of these special-status species is negligible to non-existent and the impact would be less than significant.

To clarify, the last sentence of paragraph 2 in the Draft EIR on page 5.11-53 is revised as follows:

Therefore, the implementation of **Mitigation Measure BIO-M2** would reduce Project related entrainment impacts of ~~non-special-status~~ all marine taxa, to less than significant after mitigation.

Response LARWQCB-36

The Draft EIR text on page 5.11-59 and in Table 5.11-12 on page 5.11-60 accurately cite Roberts (2018) regarding the potential impact of diffuser jet induced shearing mortality. The studies discussed on Draft EIR page 5.11-59 demonstrate that the potential for shear induced mortality on planktonic organisms <1 mm in size is species/taxon specific and most likely not as definitive as portrayed in OPA 2015. Using the results of these studies, Table 5.11-12 illustrates the potential range of ecological effect, as determined by the different the area of production foregone (APF) values. The Draft EIR, in its assessment of potential Project-related shear stress impacts (Draft EIR pages 5.11-58 through 5.11-60), did not state that the reduced APF values presented in Draft EIR Table 5.11-12 were actual APF estimated impacts of the proposed Project. The intent was to demonstrate the inconsistency between what is currently allowed in OPA and what recent scientific studies are establishing relative to shear-induced mortality of planktonic organisms and to provide support for the approach outlined in Mitigation Measure BIO-M2 to mitigate marine ecosystem impacts from ocean water intake entrainment and diffuser induced shear stress mortality resulting from the proposed Project. The Draft EIR analysis of shear stress induced mortality of planktonic organisms and the stated approach outlined in Mitigation Measure BIO-M2 are both entirely consistent with the findings of Roberts (2018).

Nevertheless, in response to comment LARWQCB-52, a supplemental study was prepared by Roberts (2019; see Final EIR Appendix 14) that applies the methodology described in Roberts (2018), for determining the best diffuser design for the proposed Project. The study, Modeling Linear Diffusers for Brine Disposal, evaluates a linear array that includes nozzles set at a 60-degree angle to enhance dilution and minimize shear stress mortality from entrainment. See *Master Response: Supplemental Studies*. As a result of the linear diffuser design, the Draft EIR text on page 5.11-58, and Draft EIR Table 5.11-12, have been revised to reflect the range of APF associated with a 6-port, and a 14-port linear diffuser array:

Shear Stress

Mortality due to turbulence-induced shearing stress from the discharge of brine can impact plankton, particularly thin-shelled bivalve and gastropod veligers (Jessopp 2007; Zhang et al. 2017). Shearing stress from discharge of water through multiport diffusers has been modeled in a number of scientific studies and has been found to vary depending on a variety of factors, including the angle of the diffusers and water discharge velocities (Foster et al. 2013; Roberts 2018). The discharge of the brine entrains ambient seawater into a turbulent discharge plume wherein marine organisms face a greater risk of shear-induced damage and mortality. For the Local Project, Roberts (2019) used a preliminary and evolving methodology (which has not yet been approved) to estimate that approximately ~~119-126~~ 66 - 116 MGD of ambient seawater would become entrained by the turbulent discharge of the Project's outfall (see Appendix ~~D314A~~). If it is assumed that all organisms entrained into the turbulent discharge flow will suffer mortality, then the estimated APF of this entrainment would vary from ~~47-50~~ 26.3 - 46.3 acres due to the large volume of water that would be entrained by the discharge (**Table 5.11-12**). This could be considered a potentially significant impact.

However, the ocean produces a substantial amount of natural turbulence due to the action of wind and waves (Mann and Lazier 1991). This “background” turbulence is typically manifested at length scales > 1 mm, depending on forcing intensities. The Project-induced turbulence that needs to be mitigated would occur at length scales of < 1 mm (Roberts 2018). If the APF calculation is adjusted for Project-induced turbulences, i.e. by excluding some organisms > 1 mm for which there exists data, then the APF can initially decrease from ~~47–50~~ 26.3 - 46.3 acres to ~~39–42~~ 21.7 - 38.2 acres for the Local Project (Table 5.11-12).

Additionally, all of the organisms < 1 mm in size are not expected to be affected to the same extent by shear stress due to their natural elasticity and in the case of some invertebrate larvae, the hardness of their shells. Recent studies of turbulence-induced shearing mortalities on invertebrate organisms demonstrate that a number of taxa, including polychaetes, barnacles, cyprids and bryozoans show no effects from turbulent transport at velocities as high as 3 m/s (Jessopp 2007). At a velocity of 3 m/s, which is comparable to the discharge velocities of the Local Project, predicted to vary from 2.7 - 3.3 m/s (8 - 10 feet/s), the impact of turbulence-associated shear mortality would principally affect thin-shelled veligers such as those of *Mytilus edulis* and the gastropod *Littorina littorea* (Jessopp 2007). For these types of organisms, shear-induced mortalities vary from 15 to 35 percent of the population (Jessopp 2007; Zhang 2017). Because these types of veligers typically comprise a varying proportion of the plankton < 1 mm in size, taking the mortality of the total plankton population to be the midpoint of this range (25 percent) would represent a worse-case scenario for invertebrates and for fish eggs and larvae, which are typically more elastic and can be expected to withstand minimal levels of shear stress compared to thin shelled mollusks. Applying a 25 percent mortality rate to the discharge entrainment APF calculations further reduces the estimated APF acreage to ~~9.8–10.4~~ 5.4 - 9.5 for the Local Project (Table 5.11-12). However, although the OPA requires mitigation, it is unclear from current policy guidance how to calculate a scientifically accurate ~~fair~~ compensation at this time. The RWQCB is currently evaluating methodologies.

As discussed above concerning ocean water intake entrainment, the potential magnitude of entrainment from the Project’s brine discharge is uncertain, primarily due to limited and pertinent scientific data concerning invertebrate and larval fish mortality that may actually occur from discharge turbulence. Scientific data that can be applied (Jessopp 2017; Zhang 2017) indicate that turbulence-induced mortality on invertebrates and fish larvae in the open ocean is far less than 100 percent and could be 15 percent or lower. As also discussed above for Project related intake entrainment, although the potential overall magnitude and effect of discharge turbulence-induced entrainment of larvae < 1 mm may be in question, the potential effect of injured or killed marine fish and invertebrates may still have a significant impact on the marine ecosystem.

Regardless of the magnitude of the impact of discharge-induced entrainment, it would be expected to be reduced through the application of mitigation to restore or enhance marine or coastal habitat, which could include a local coastal marsh restoration Project such as

the Ballona Wetlands Restoration Project. Therefore, the implementation of Mitigation Measure BIO-M2 would reduce Project related entrainment impacts of non-special-status taxa, to less than significant after mitigation.

Finally, as mentioned above, the potential for entrainment of special-status taxa would be negligible to non-existent. For example, the lack of veliger larvae or juvenile fish stages of black abalone and giant sea bass in any of the studies of plankton conducted in the last decade in the Project marine study area (Tenera and MBC 2008; Tenera 2014), the lack of kelp beds or other suitable habitat which provide the primary food source of both black abalone and Giant sea bass (Butler et al. 2009) in reasonable proximity to the intake and discharge tunnels, and the survivability of either taxa larvae to travel the requisite distance to the Project site from existing supporting habitat, as well as the > 1 mm egg and larval body size of giant sea bass, all support a determination of a very low to non-existent potential for substantial larval densities to be effected by Project entrainment that would pose a significant risk to the survivability and recovery of these species. Therefore, potential entrainment impact would be less than significant with implementation of Mitigation Measure BIO-M2.

TABLE 5.11-12
AREA PRODUCTION FOREGONE (APF) ESTIMATES FOR TURBULENT DISCHARGE-ASSOCIATED MORTALITY FOR THE WEST BASIN DESALINIZATION PROJECT LINEAR DIFFUSER

Intake	Estimated Entrained Flow (MGD)¹	100% Mortality Discharge APF² (acres)	< 1 mm Mortality Discharge APF³ (acres)	25% < 1 mm Mortality Discharge APF⁴ (acres)
Local (41 MGD)	119	47.5	39.2	9.8
Local (45 MGD))	126	50.3	41.6	10.4
Regional (123 MGD))	678	270.8	223.6	55.9
Regional (136 MGD)	693	276.7	228.5	57.13

<u>Intake Volumes</u>	<u>Estimated Entrained Flow (MGD)¹</u>		<u>100% Mortality Discharge APF² (acres)</u>		<u>< 1 mm Mortality Discharge APF³ (acres)</u>		<u>25% < 1 mm Mortality Discharge APF⁴ (acres)</u>	
	<u>6-Port</u>	<u>14-Port</u>	<u>6-Port</u>	<u>14-Port</u>	<u>6-Port</u>	<u>14-Port</u>	<u>6-Port</u>	<u>14-Port</u>
<u>Local (41 MGD)⁵</u>	66	116	26.3	46.3	21.7	38.2	5.4	9.5
<u>Local (45 MGD)⁶</u>		68		27.1		22.4		5.6
<u>Regional (123 MGD)⁵</u>	198	352	79.1	140.6	65.2	116	16.3	29.0
<u>Regional (136 MGD)⁶</u>		208		83		68.5		17.1

NOTES:

¹ Volume of estimated entrained flow from Roberts 2018⁹.

² Mortality assessed as 100% of organisms of all size classes in the entrained flow;

³ 100% of organisms < 1mm in size with a proportional percentage of organisms > 1 mm being affected based on Tenera 2014;

⁴ Assumes 25% mortality of organisms < 1 mm in size, based on observed mortalities of marine taxa from Jessopp 2007 and Zhang et al. 2017. Entrainment includes 1:10 scaling of estuarine:midwater habitat for non-estuarine fish species (Allen and Pondella 2006).

⁵ Treated waste washwater is internally recycled.

⁶ Treated waste washwater is NOT internally recycled.

Regarding the Water Board approval of the approach for evaluating shear stress mortality, see *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-37

See *Master Response: CEQA and Ocean Plan Compliance* and response to comment LARWQCB-35.

Response LARWQCB-38

See response to comment LARWQCB-36.

Response LARWQCB-39

As stated in the Draft EIR on page 5.11-59, the Ballona Wetland restoration project represents one potential direct or indirect ecological habitat restoration project that could provide the needed mitigation required by the proposed Project to account for ocean water intake and diffuser shear stress mortality impacts on marine ecosystems. See also response to comment LARWQCB-13 and *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-40

See response to comment LARWQCB-13.

Response LARWQCB-41

See responses to comments LARWQCB-12 and SLC-30. Although no fee-based mitigation program is currently known or available at present, that may not be the case if and when the Project moves forward with permitting and construction in the future.

Response LARWQCB-42

The Draft EIR evaluates locating the desalination facility on the Chevron Marine Terminal Alternative site (Draft EIR Subsection 7.2.2) and comingling the discharge with the existing secondary treated effluent discharged through an existing 0.7-mile outfall. The Draft EIR concludes that: (1) the Chevron Marine Terminal Alternative site, at roughly 3 acres, would be too small for the Local Project; (2) West Basin would not have site control and site availability is uncertain; and (3) the existing NPDES permit allows Chevron to discharge up to 27 MGD and it is unclear as to whether or not the Chevron outfall has the available excess capacity to support the additional flows produced by the Project (21 to 25 MGD for the Local Project, see EIR Table 5.9-5) in addition to Chevron's existing average discharge flow of 7.375 MGD (Order No. R4-2017-0189, NPDES NO. CA0000337). As such, the alternative was found to be infeasible and not subject to further consideration pursuant to CEQA. With respect to the availability and capacity of the Chevron outfall, LARWQCB may require additional information through the Water Code determination process. However, for purposes of CEQA, the alternative evaluation in the Draft EIR complies with CEQA.

Response LARWQCB-43

As explained in the Draft EIR Subsection 7.2.2 starting on page 7-31, the Chevron Marine Terminal site, at roughly 3 acres, would be too small even for the Local Project, and as such, no further consideration of this alternative site is necessary. Because the Chevron outfall may not have available capacity (see response to comment LARWQCB-42), a new outfall as well as a new intake could be required for the proposed Project. And unlike the proposed Project, the Chevron Marine Terminal Alternative would not include the installation of the feedwater pipeline and discharge pipeline in existing abandoned tunnels. Instead, the feedwater and discharge pipelines would be installed belowground (horizontally directionally drilled or open-trench construction) to eventually terminate offshore at a similar or greater depth as the existing ESGS tunnels. As a result, the Chevron Marine Terminal Alternative would likely result in more severe construction-related impacts to the seafloor compared to the proposed Project, and the habitat and organisms it supports (see Draft EIR page 7-32). CEQA Guidelines Section 15126.6(d) explains that if an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. See also *Master Response: Supplemental Studies*.

Response LARWQCB-44

As lead agency, West Basin has conducted a thorough assessment of alternative locations and available technologies for both the treatment plant and the ocean water intakes, which is documented in Section 7 of the Draft EIR. Regarding LARWQCB permitting requirements under the Clean Water Act and Ocean Plan, see *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-45

In response to this comment, West Basin conducted supplemental assessments of the feasibility of horizontal directional drilling (HDD) technologies at the ESGS location. These studies have been added to the Final EIR as Appendix 13B and 13C, augmenting and updating the previous

information provided in Appendix 2A of the Draft EIR that evaluated the feasibility of utilizing subsurface intakes. See the *Master Response: Supplemental Studies*. The findings of these supplemental studies confirm West Basin's conclusions in the Draft EIR and provide support for future regulatory decisions.

Response LARWQCB-46

See response to comment LARWQCB-45.

Response LARWQCB-47

See *Master Response: CEQA and Ocean Plan Compliance*. Additionally, see response to comment LARWQCB-34.

Response LARWQCB-48

The Existing Marine Habitats and Communities section of the Draft EIR (pages 5.11-12 through 5.11-36) presents information on marine biological resources throughout the greater SMB, including RBGS, as well as for the ESGS Project Study Area specifically. All this information, and the information contained in Appendix 4A, is germane for informing potential Project-related environmental effects. See also response to comment LARWQCB-9.

Response LARWQCB-49

The missing appendices of the Tenera 2014 wedgewire screen Intake Effects Assessment Report are provided as Final EIR Appendix 4A.

Response LARWQCB-50

See response to comment LARWQCB-34 and *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-51

See response to comment LARWQCB-34 and *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-52

A supplemental analysis was conducted for a linear diffuser configuration (see Final EIR Appendix 14), consistent with the calculation procedures recommended by Roberts, 2018. See also *Master Response: Supplemental Studies* and responses to comments LARWQCB-30 and -36.

Response LARWQCB-53

Appendix 14A in the Final EIR presents a supplemental model analysis of dilution conducted for linear diffuser configurations consistent with the calculation procedures recommended by Roberts (2018). As part of the supplemental dilution analysis, the dilution requirement for salinity is now demonstrated to be met at the end of the near field while also minimizing the jet exit velocity and therefore shear stress and turbulence-induced mortality of organisms that may be entrained into the diffuser jets. See response to comment LARWQCB-30 for additional details.

Response LARWQCB-54

Final EIR Appendix 14A presents a supplemental model analysis of dilution conducted for linear diffuser configurations consistent with the calculation procedures recommended by Roberts (2018). The supplemental dilution simulations for a linear diffuser design assumed a port depth of 24 feet below sea level, and a diffuser port angle of 60°. See response to comment LARWQCB-30 for additional details.

Response LARWQCB-55

The commenter is referred to responses to comments LARWQCB-37, LARWQCB-39, and LARWQCB-40.

Response LARWQCB-56

See *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-57

Replication of the P_m calculations (including PE values) using data from the Tenera 2008 report is included in Appendix B of the AMS Technical Memo-Comparison of 316(b) Data from SMB, California (AMS 2019). See also *Master Response: CEQA and Ocean Plan Compliance*.

Response LARWQCB-58

The commenter is referred to response to comment LARWQCB-34.

Response LARWQCB-59

The commenter is referred to responses to comments LARWQCB-4 through LARWQCB-13.

Response LARWQCB-60

West Basin has conducted supplemental assessments of the feasibility of HDD technologies at the ESGS location. See Final EIR Appendices 13B and 13C, and response to comment LARWQCB-45. As lead agency, West Basin has evaluated a proposed Project that does not include a hybrid intake system. If the West Basin Board of Directors certifies the EIR, approves the Project and directs staff to pursue permitting, and if during the permitting process the LARWQCB considers a hybrid intake system that includes a subsurface contribution, additional analysis may be required at that time.

Response LARWQCB-61

As lead agency, West Basin has evaluated a proposed Project located at the ESGS site. As part of the CEQA Alternatives analysis, the Draft EIR evaluates other site locations and technologies that could avoid significant impacts of the proposed Project. The Draft EIR Section 7 alternatives analysis complies with CEQA alternatives assessment requirements. If during permitting the LARWQCB or another permitting agency requires additional analysis of alternative locations to site the treatment plant and intakes, West Basin will work with the regulators to provide the information. In addition, this Final EIR includes a supplemental technical study that compares

316(b) studies conducted at neighboring coastal power generating sites to evaluate how the ESGS location compares to other locations within the SMB. Final EIR Appendix 12 concludes that the ESGS site is superior to other locations within the SMB. See *Master Response: Supplemental Studies*. See responses to comments LARWQCB-6 through LARWQCB-9.

Response LARWQCB-62

The Draft EIR Appendix 11 evaluates the feasibility of constructing a brine discharge pipeline to Hyperion Water Reclamation Plant to co-mingle brine with the existing secondary-treated wastewater effluent. The study comports with the Ocean Plan requirements to evaluate the possibility of co-mingling brine with existing ocean discharges. While the study concludes that the construction of a pipeline would be difficult, but technically feasible, the study also concludes that future wastewater flows in the Hyperion outfall are not sufficiently reliable to support the dilution benefits associated with co-mingling. Furthermore, since the publication of the Draft EIR, the Mayor of the City of Los Angeles announced on February 21, 2019, that the City will recycle 100 percent of its wastewater by 2035, further assuring that any co-mingling of brine with wastewater at the Hyperion plant would be infeasible. As a result, significant alterations to the outfall diffuser would be required similar to the proposed outfall location. Since West Basin does not own the Hyperion facility, the study concluded that it would be infeasible to obtain permission from the City of Los Angeles to retrofit the existing outfall to accommodate ocean water desalination brine.

The EIR complies with the Ocean Plan's requirements to investigate the feasibility of using existing outfalls to co-mingle brine. Because co-mingling is infeasible, West Basin proposes to utilize a multi-port diffuser that would allow the brine to meet the Ocean Plan water quality thresholds.

Response LARWQCB-63

West Basin notes that the LARWQCB may reach different conclusions as part of its analysis of feasible measures to minimize intake and mortality of all forms of marine life in its permitting process. West Basin notes the LARWQCB contact information provided for future correspondence.

Letter NAHC: Native American Heritage Commission

Response NAHC-1

West Basin notes the introductory text provided by the Native American Heritage Commission (NAHC). Responses to subsequent comments are addressed in responses to comment NAHC-2 through NAHC-4.

Response NAHC-2

As identified in the Draft EIR on page 5.4-47, no tribal cultural resources were identified as a result of Assembly Bill (AB) 52 consultation; therefore, no mitigation is required under CEQA.

Response NAHC-3

Mitigation Measure CUL-3 has been revised to include specific details regarding the Most Likely Descendent (MLD) process, including the 48-hour time limit on recommendation of disposition of remains (see response to comment SLC-14). Regarding the comment on the MLD timeline, the 48-hour time limit is included on page ii in Appendix 7A: “The MLD shall complete the inspection within 48 hours of notification by the NAHC.”

Response NAHC-4

West Basin consulted with California Native American tribes as described in Subsection 5.4.4 (pages 5.4-47 to 5.4-50) and documented in Appendix 7C of the Draft EIR.

West Basin notes the attached summary of AB 52 requirements. The AB 52 consultation efforts are summarized in the Draft EIR on page 5.4-20. As identified in the Draft EIR on page 5.4-47, no tribal cultural resources were identified as a result of AB 52 consultation.

West Basin notes the NAHC contact information for any future correspondence regarding this comment letter.

Response to Letter SLC: California State Lands Commission

Response SLC-1

The commenter's statement identifying their role as a trustee agency for the proposed Project, as well as the brief description of the background of the California State Lands Commission (SLC), is noted for the record. West Basin acknowledges that a lease from the SLC will be required for portions of the proposed Project encroaching on state sovereign land. See Draft EIR Table 3-11.

Response SLC-2

West Basin acknowledges the Project summary, and notes all subsequent comments are responded to in responses to comments SLC-3 through SLC-31.

Response SLC-3

Should the proposed Project be approved, the concrete plugs installed in the intake and discharge tunnels by NRG Energy (NRG) will be demolished from the onshore end during construction of the desalination plant; specifically, during construction of the Intake Pump Station. Final EIR Section 11, *Refinements to the Project Description*, Subsection 3.5.1, describes the demolition process. The offshore components of the existing intake and outfall pipelines would not be affected by the concrete plugs and would be accessed during construction from floating barges and support vessels with dive teams, as described in Draft EIR Subsection 3.5.2. The impacts of offshore construction are evaluated throughout Section 5 of the Draft EIR. West Basin would work with NRG to resolve any facility ownership issues prior to submitting a lease application to the California Coastal Commission.

Response SLC-4

In response to this comment, the following text is added to the Draft EIR Subsection 3.7.4 (see Final EIR Section 11, *Refinements to the Project Description*):

3.7.4 Offshore Facility Maintenance

Operation of the Local Project screened ocean intake and concentrate discharge facilities would require periodic inspections of the submerged components. During normal plant operations, periodic maintenance trips estimated at less than one per month, would be required for divers to inspect the diffuser and the intake screens, and to ensure that excessive biofouling does not develop. A crew of up to five divers would make up to 11 trips over the course of the year, on a 40-50-foot dive vessel. The 400- 500-hp vessel would travel to the project site from the POLA or POLB and would work a 10-hour day including round-trip travel. Should macro foulants be found, divers would use tools, such as brushes and chisels, to mechanically remove large foulants attached to the screens.

Response SLC-4a

Emissions for marine vessels during offshore construction activities are included in Appendix 3 as noted on page 5.2-30 of the Draft EIR and summarized in Table 5.2-11. The addition of monthly maintenance activities would contribute minor sources of operational air emissions

associated with workers commuting to the marina and boat engine emissions during the 1 or 2 days' worth of work per month. The use of one or two boats to access the mooring locations at the end of the discharge tunnels once a month or less often would not exceed emissions thresholds of significance for criteria pollutants and greenhouse gas (GHG). The contribution of emissions from maintenance activities would be less than significant. Furthermore, views of maintenance boats once per month would not contribute adversely to the views of the ocean that currently includes mooring vessels at the marine oil terminal. Maintenance boats would not adversely impact aesthetics.

Response SLC-5

The Draft EIR Project Description text on page 3-22 is revised (see Final EIR Section 11, *Refinements to the Project Description*) as follows:

Construction of the ocean intake and concentrate discharge system would require approximately ~~three (3)~~ one (1) years, and is anticipated to occur in parallel with ocean water desalination facility construction. Work is anticipated to occur 5 days per week during daylight hours, although marine construction activities could require up to 72 hours of continuous construction in desirable sea conditions. Nighttime lighting would be low intensity (ideally, sodium), properly shrouded and installed/positioned to minimally illuminate the decks for the safety of onboard personnel, and not the ocean waters.

The Draft EIR page 5.9-43 correctly states that in-water construction activities would extend over a 12-month period.

The Draft EIR Table 3-5 presents a schedule of onshore activities and Table 3-7 presents a schedule of offshore activities. As noted above, Draft EIR page 3-22 acknowledges that offshore construction “is anticipated to occur in parallel” with onshore facility construction.

Draft EIR page 5.1-11 (Aesthetics, Light and Glare) is also revised as follows:

Construction would occur over ~~24~~ 12 months . . .

Therefore, the Draft EIR text on page 5.1-11 correctly explains that “[t]emporary mooring of barges would be visible for months at a time” and because these boats would be similar in character to the existing boats that use the nearby harbors and marinas, and because these activities would be temporary, impacts to scenic vistas would be less than significant. Similarly, the Draft EIR text on page 5.12-17 (Noise) indicates that “operation of the equipment on the barges would be largely imperceptible onshore, masked by the sounds of the surf. Offshore construction noise impacts to sensitive receptors onshore would be less than significant.” Because work vessels employed by the proposed Project would be required to have state-of-the-art deck lighting that does not cause unnecessary lighting of ocean waters, the temporary, short-term, and unlikely scenario of nighttime work would not be expected to result in anything but negligible effects on marine biological resources (see also response to comment CCC-16).

Draft EIR page 5.14-8 (Recreation) explains that no interruption of surfing, swimming, kayaking, and paddle boarding would occur during construction of the offshore facilities because activities would be approximately 2,000 feet from the shore. Temporary anchor buoys would be located outside the surf zone, marked for visibility in compliance with the required Anchor Plans, and monitored by construction personnel to ensure that kayakers and boaters stay clear. In addition, mitigation measure HAZ-4 requires the preparation of a Marine Safety Plan that would apply to all marine activities, and would include a transportation plan for barges, tugboats, crewboats, and other vessels, as well as plan for navigational marking and lighting. All elements of the Marine Safety Plan shall be in compliance with U.S. Coast Guard regulations.

Response SLC-6

The Draft EIR Project Description text on page 3-23 is revised (see Final EIR in Section 11, *Refinements to the Project Description*) as follows:

Installation of the intake screen and discharge diffuser would require removing and ~~reconfiguring~~ re-installing an estimated 2,000 tons of riprap around the existing intake structure and similarly approximately 2,000 tons of riprap around the discharge pipeline tower structure. The riprap surrounding both the intake and discharge towers ~~would~~ may be removed and temporarily stockpiled on the seafloor. Assuming the rock would be stockpiled in a roughly 3-foot to 4-foot high by 100-foot diameter mound with 2 horizontal to 1 vertical (2H:1V) slopes, the estimated area of seafloor that would be temporarily covered is approximately 4,000 square feet (or slightly less than 0.1 acre).

The 100-foot-diameter circle showing the footprint of the temporary stockpile area is included on revised Figures 3-24 and 3-25; see Final EIR Section 11, *Refinements to the Project Description*.

Alternatively, if stockpiling on the seafloor is infeasible, EIR Subsection 3.5.2 (see Final EIR Section 11, *Refinements to the Project Description*) explains that a typical 200-foot-long by 50-foot-wide ocean-going deck barge with a capacity of approximately 2,500 tons could be loaded with the removed riprap and towed to the Port of Los Angeles and stored in the marine contractor yard temporarily while offshore construction operations are undertaken.

Response SLC-7

Emissions for marine vessels during offshore construction activities are included in Appendix 3, as noted on page 5.2-30 of the Draft EIR and summarized in Table 5.2-11. The estimates provide a worse-case analysis of marine vessel emissions based on conservative assumptions of construction methods including the transportation of 2,000 tons of riprap to and from the offshore construction area. The transportation of riprap on a barge is described on page 3-23. Worse case construction durations are included in Table 3-7. Similarly, GHG emissions are summarized in Table 5.7-3 reflecting worse case total GHG emissions for marine construction activities described in the Project Description. The Draft EIR notes on page 5.14-8 in Section 5.14, *Recreation*, that offshore construction would be far enough out to shore to avoid impacts to recreation. Boating traffic impacts are addressed on page 5.8-19. Mitigation Measure HAZ-3 and HAZ-4 require an anchoring plan and marine safety plan that would specifically address

anchoring impacts to marine wildlife and marine vessel traffic safety. The Draft EIR provides worse-case assessments for these issues based on the construction methods presented in Section 3.

Response SLC-8

Additional riprap would not be necessary. Final riprap placement would remain within the original footprint. The Draft EIR text on page 5.11-42 is revised as follows:

Once the modifications to the screened ocean intake and outfall structures are completed, the temporarily removed armor rock would be replaced to anchor and protect the new seafloor-based intake and outfall structures. Additional armor rock may be required which would provide more artificial hard substrate than is currently present at the Project site.

Response SLC-9

Additional riprap would not be necessary; therefore, no additional marine vessels would be needed.

Response SLC-10

The Draft EIR text on page 3-13 was meant to refer to either the cast-aside materials, or the materials that had been stockpiled on a barge or at the Port of Long Beach. In response to the comment, the Draft EIR Project Description text on page 3-13 is revised (see Final EIR in Section 11, *Refinements to the Project Description*) as follows:

Once installed, the exposed end of the tunnel would be resealed and covered either with the east-aside dredged material and the stockpiled riprap would be put back around the discharge tower.

Response SLC-11

In response to several comments received on the Draft EIR, a supplemental analysis that evaluated a linear diffuser configuration, consistent with the calculation procedures recommended by Roberts (2018) was conducted as part of the Final EIR (see *Master Response: Supplemental Studies* and Final EIR Appendix 14 for additional details; see also response to comment LARWQCB-30). The objective of the analysis was to identify a linear diffuser configuration that would comply with the required Ocean Plan criteria for desalination discharges. As a result, the Draft EIR text of the Project Description on page 3-13 is revised (see Final EIR in Section 11, *Refinements to the Project Description*) as follows:

Once the new pipelines are installed, a multi-port diffuser system consisting of a pipe manifold with multiple duckbill diffuser ports would be installed directly onto the side of the existing discharge tower and extend approximately 120 feet south. A total of eight duckbill fourteen 9-inch diameter diffuser ports would be installed during construction of the Local Project^{2A}; however, only four ports would be used for the Local Project (see Section 3.6 below). The diffuser ports would be positioned approximately 15.5 feet apart,

with seven diffuser ports on opposite sides (14 total) of the discharge pipe (~~Figure 3-25~~) at approximately 8 feet above the ocean floor and approximately 20 feet below the ocean surface (see **Figure 3-18c**). They would be designed at ~~different~~ a 60° upward angles for ~~lower~~ to allow for ~~velocity discharge~~ rapid dilution and reduction of salinity, consistent with ~~in order to substantially reduce turbulence mortality while achieving the~~ California Ocean Plan ~~dilution requirements~~.

Footnote 5A: The same fourteen diffuser ports would also be utilized for the Regional Project, although at a diameter of 13.9 inches to accommodate the higher flow rate.

Accordingly, Draft EIR text on page 3-32 is also revised as follows:

8. The diffusers would be installed on the ~~concrete lid~~ new discharge manifold pipe header, with flexibility in their number and placement for both the local and regional flow demand.

Response SLC-12

In response to the comment, the Draft EIR text on page 4-15 is revised to indicate that a Supplemental EIR for the Poseidon Huntington Beach Desalination Project was certified by the SLC in October 2017, as follows:

Currently, the Huntington Beach project is pending permits/approvals from the Coastal Commission and Regional Water Quality Control Board, and the State Lands Commission ~~has initiated~~ certified an Supplemental EIR in October 2017 prior to ~~considering~~ issuing a lease for the intake and discharge tunnels.³

³ ~~The NOP was released November 18, 2016.~~

Response SLC-13

The geoarchaeological review presented in the Draft EIR on page 5.4-24 assesses the likelihood for encountering subsurface archaeological deposits during construction of the offshore proposed Project components. Additionally, the impacts discussion for the screened ocean intake and discharge on pages 5.4-30 and -36 of the Draft EIR addresses the possibility for encountering submerged archaeological resources that may qualify as historical resources or unique archaeological resources. See response to comment SLC-14.

Response SLC-14

Mitigation Measures CUL-1 and CUL-3 have been revised as follows to include provisions for the inclusion of a maritime archaeologist as part of any onshore or offshore ground disturbing activity. This would include geophysical surveys required under Mitigation Measure HAZ-1 if the surveys disturbed ocean sediments.

CUL-1: Prior to onshore and offshore ground-disturbing activities, West Basin shall retain a Qualified Archaeologist defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior 2008). The Qualified Archaeologist shall be responsible for implementation of all cultural

resources mitigation measures and will oversee Cultural Resource Monitors (CRMs) to monitor Project-related ground-disturbing activities. The CRMs shall have demonstrable monitoring experience and familiarity with the types of resources that may be encountered during Project-related ground-disturbing activities.

West Basin shall ensure that the Qualified Archaeologist oversees construction monitoring, mitigation, and curation activities necessary; fulfills all the requirements of these measures; ensures that the Qualified Archaeologist obtains technical specialists and CRMs; and ensures that the Qualified Archaeologist evaluates any cultural resources that are newly discovered.

A current schedule of anticipated Project activity shall be provided to the Qualified Archaeologist on a weekly basis during ground disturbance.

CUL-3: All Project related ground-disturbing activities occurring within the onshore and offshore geological formations that have the potential to contain buried archaeological deposits shall be subject to archaeological and Native American monitoring. Prior to ground-disturbing activities, West Basin shall prepare a CRMMP that summarizes monitoring methodology for both onshore and offshore components, identifies specifically the portions of the Project that require monitoring based on archaeological sensitivity of the geological formation underlying the Project components, and provides general and specific measures treatment to minimize potential impacts to inadvertent discoveries of archaeological resources. The CRMMP shall include inspection procedures developed by the Qualified Archaeologist in coordination with West Basin. The CRMMP shall include provisions for the inclusion of a Qualified Maritime Archaeologist to accompany any diving personnel to identify the presence of archaeological resources within anchorage locations and to monitor any associated sediment disturbance.

The CRMMP shall include protocol to be carried out in the event human remains are uncovered during Project construction. All work within 50 feet of any identified human remains shall be immediately halted, and the Los Angeles County Coroner shall be contacted to evaluate the remains and follow the procedures and protocols set forth in CEQA Guidelines Section 15064.5(e)(1). If the County Coroner determines that the remains are Native American, the California Native America Heritage Commission (NAHC) will be contacted by telephone within 24 hours of the find, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC 5097.98 (as amended by AB 2641). The NAHC shall then identify a Most Likely Descendant (MLD) of the deceased Native American. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods. Per PRC 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98), with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains.

Copies of the CRMMP shall reside with the Qualified Archaeologist, each monitor, and West Basin.

Response SLC-15

Mitigation Measure CUL-4 has been revised as follows to include the language recommended by the SLC regarding submerged archaeological sites or submerged historical resources.

CUL-4: The Qualified Archaeologist and the CRMs shall have the authority to halt construction if previously unknown cultural resource sites or materials are encountered. All construction activities within 50 feet of the find shall halt, and redirection of ground disturbance shall be accomplished under the direction of the construction supervisor. In the event cultural resources are discovered during any offshore construction activities, Project personnel shall halt all activities in the immediate area and notify both the California State Lands Commission and a Qualified Maritime Archaeologist to determine the appropriate course of action. The Qualified Archaeologist shall determine what, if any, data recovery or other ~~mitigation~~ treatment is needed. The final disposition of archaeological and/or historical resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. Should cultural resources be identified during the geophysical survey and/or monitoring of offshore components, a Qualified Maritime Archaeologist shall be retained to prepare the treatment plan, and the appropriate permits will be obtained from the State Lands Commission. Construction in the area shall not resume until the Qualified Archaeologist has completed data collection activities and the resource has been recorded.

Response SLC-16

Mitigation Measures CUL-8 and CUL-10 have been clarified to ensure that the Paleontological Resources Monitoring and Mitigation Plan identifies the depths and the specific portions of the proposed Project where paleontological monitoring should occur based on geological formation underlying the onshore and offshore Project components. See response to comment SLC-18 and MBCH3-40. If it is determined that offshore construction would impact Quaternary alluvial deposits depending on the depth of excavation, paleontological monitoring and reporting will occur per Mitigation Measures CUL-6 through CUL-11. Additionally, as shown in response to comment SLC-15, Mitigation Measure CUL-4 has been revised to require that SLC will be notified in the event of all offshore cultural resources discoveries.

The comment notes that the analysis of paleontological resources assumed an offshore construction depth of only 10 feet, whereas the Project Description indicates a deeper offshore excavation is possible. In response to this comment, the following modification has been made to text on page 5.4-39 of the Draft EIR.

Screened Ocean Intake and Concentrate Discharge

Local Project screened ocean intake and concentrate discharge construction ~~would not~~ may involve excavations greater than 10 feet or that extend into older Quaternary alluvial deposits. Therefore, Local Project screened ocean intake and concentrate discharge construction ~~would not~~ may destroy a unique paleontological resource or site or unique geologic feature ~~and no impact would occur.~~ However, with implementation of Mitigation Measures CUL-6 through CUL-11, impacts would be less than significant.

The EIR concludes that Impact 5.4-3 would result in less than significant impacts with mitigation. The proposed modification to the EIR clarifying that offshore construction may exceed 10 feet does not change the overall conclusion that excavation activities may affect paleontological resources, requiring mitigation to ensure less than significant impacts. The Draft EIR identifies on page 5.4-27 that paleontological resources may exist offshore below 13 feet. To clarify that excavation deeper than 10 feet offshore may affect these formations, mitigation measure CUL-8 has been modified to include offshore construction activities.

CUL-8: Prior to the start of onshore or offshore ground-disturbing activities, West Basin shall ensure that the Qualified Paleontologist prepares a PRMMP in accordance with SVP guidelines. The PRMMP shall summarize paleontological resources monitoring methodology, identify at which depth and the specific portions of the Project where monitoring shall occur based on geological formation underlying the onshore and offshore Project components, and provide general and specific treatment to minimize potential impacts to inadvertent discoveries of paleontological resources. The final disposition of paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities.

Table 5.4-4 is modified as shown below:

**TABLE 5.4-4
SUMMARY OF IMPACT CUL 5.4-3 PALEONTOLOGICAL RESOURCES**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-3: Impacts on paleontological resources.			
Local Project			
Construction	LTSM	<u>LTSM</u> NI	LTSM
Operation	NI	NI	NI
Regional Project			
Construction	LTSM	NI	LTSM
Operation	NI	NI	NI
NOTES: NI = No Impact, no mitigation proposed LTSM = Less than Significant impact with mitigation			

Response SLC-17

West Basin will coordinate with the SLC’s Offshore Geophysical Survey Permit Program for any permits resulting from geophysical surveys that occur as a result of the proposed Project. As a result, Table 3-11, which lists regulatory permits and approvals, is revised in the Draft EIR on page 3-38 as follows:

**TABLE 3-11
PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS***

Agency/Department	Permit/Approval	Required for
State Agencies		
California State Lands Commission (CSLC)	<u>Offshore Geophysical Survey Permit</u>	<u>Geophysical surveys in the ocean bottom and marine environment</u>

Response SLC-18

The following summary for Public Resources Code Section 6313 has been included in Subsection 5.4.1 and CUL-8 has been revised as follows to include the SLC's recommended language. West Basin welcomes coordination with SLC staff and legal counsel. For changes to Mitigation Measure CUL-3 see response to comment SLC-14 above.

California Public Resources Code Section 6313

PRC Section 6313(a) states that title to all abandoned shipwrecks, archaeological sites, and historic resources on or in the tide and submerged lands of California shall be in the custody and subject to the control of the State Lands Commission. The Commission may transfer title, custody, or control to other state agencies or recognized scientific or educational organizations, institutions, or individuals by appropriate legal conveyance. PRC Section 6313(d) requires permits be granted by the Commission for salvage operations involving submerged archaeological sites or submerged historic resources when the proposed salvage activity is justified by an educational, scientific, or cultural purpose, or the need to protect the integrity of the site or the resource. All activities permitted under subdivision (d) shall be accomplished under the direct supervision of a person who meets the qualifications required of a professional marine archaeologist as stated in PRC 6313(e)(2). The Commission shall provide for the disposition of all objects or other materials recovered as part of salvage operations, which may include provisions for display in museums, educational institutions, and other appropriate locations available to the public.

Response SLC-19

In response to the commenter's concerns regarding the timing of the Energy Minimization and GHG reduction plan (GHG Plan) in Mitigation Measures GHG-1, specifically that the GHG Plan be made available no later than 60 days before the start of construction, to allow sufficient time for agency review, the Draft EIR text on page 5.7-30 is revised as follows:

GHG-1: West Basin shall prepare an Energy Minimization and GHG Reduction Plan no later than 60 days prior to the start of Project construction activities.

In addition, the Draft EIR text on page 5.7-31 is modified as follows:

3) GHG Mitigation Options – The Energy Minimization and GHG Reduction Plan shall include GHG mitigation strategies that shall, at minimum, be sufficient to offset the Project's incremental GHG emissions over the net ~~zero~~ carbon neutral threshold of significance and shall be verifiable and feasible to implement over the Project life. The GHG Reduction Plan shall indicate how reductions will be achieved on an annual basis starting with operational year 1.

These changes presented in the mitigation measure do not result in a decrease in the effectiveness of the proposed measure, do not result in an increase in the severity of the identified impact after mitigation, and do not preclude meaningful review and comment.

Response SLC-20

Different intake pumps would not be required if the tunnels were used without the five new pipe inserts.

Response SLC-21

The Best Management Practices (BMPs) included on page 5.9-45 of the Draft EIR are based on the standardized permit requirements issued by state and federal⁹ agencies which are routinely included to reduce suspended sediments during dredging. Naturally occurring oceanographic conditions would be expected to quickly disperse any generated turbidity plume. These BMPs include the use of silt curtains, gunderbooms,¹⁰ dredging operation controls, such as longer cycle times to reduce the speed at which a loaded dredge bucket is pulled through the water column, elimination of multiple bites with the dredge bucket, and using environmental dredge buckets. These BMP's are appropriately listed in Section 5.9 *Hydrology and Water Quality* (Draft EIR page 5.9-45) because they are required by regulatory agencies and also reduce potential impacts to less than significant levels.

Response SLC-22

The intake and discharge tunnels are part of the baseline condition. Although they would be used to convey intake and discharge water via pipelines, they won't be significantly modified as result of the proposed Project. It is therefore not appropriate to include these features in the supplemental Coastal Hazards Analysis. See also *Master Response: Supplemental Studies*.

Response SLC-23

The anchoring of all work vessels involved in proposed Project-related offshore construction activities would be confined to the 8-acre offshore construction area illustrated in Draft EIR Figure 3-15. In further response to this comment, the Draft EIR text on page 5.11-39 is revised as follows:

The temporary stockpiling of dredged sediments, ~~and~~ temporary removal and replacement of armor rock, and anchoring by Project work vessels, can be expected to result in the temporary disturbance of both soft-bottom and artificial hard-bottom habitats in the offshore Project work area.

Response SLC-24

As suggested by the commenter, the Draft EIR text on page 5.8-24 of Mitigation Measure HAZ-3 is revised as follows:

⁹ The Draft EIR text explains that dredge BMPs would include those required by the USACE Section 10 permit conditions.

¹⁰ An aquatic filter barrier system that draws water through a fabric barrier at low velocity.

HAZ-3: West Basin shall prepare an Anchoring Plan that applies to all ships, barges, and other ocean-going vessels and describes procedures for deploying, using, and recovering anchorages. The Anchoring Plan shall include, but not be limited to, the following elements:

- A brief overview of the Project objectives.
- Description of anchor set and anchor leg (wires, winches, and other support equipment).
- Description of vessels to be anchored and support tugs to be used.
- Description and delineation of safety zone and anchor zone, including identification and mapping all areas of kelp, seagrasses, and hard substrate found within the work area. The anchoring plan shall ensure that these marine habitats of special significance shall not be impacted by the placement of vessel and buoy anchors, by dragging of anchors, buoy lines or cables, by riprap placement, or by sidecasting of dredging spoils.
- Identification of Contractor Vessels and Buoys, including daylight and nighttime marking schemes.
- Anchoring procedures.
- Local notice to U.S. Coast Guard and mariners.

All elements of the Anchoring Plan shall be in compliance with U.S. Coast Guard regulations.

Response SLC-25

The Draft EIR Subsection 3.5.2 describes the preferred method of pile installation as driving the piles into the seafloor with a vibratory driver/extractor, and acknowledges an impact hammer may be used to set the pile to final depth. It is anticipated that a total of 10 to 20 steel or fiberglass piles would be installed over 10 working days (or 15 calendar days) depending on weather. Each pile would require about 1 to 2 hours of driving as well as several hours for rigging and placement. In response to this comment, the Draft EIR Project Description text on page 3-25 is revised (see Final EIR Section 11, *Refinements to the Project Description*) as follows:

Although not anticipated, if difficult driving is encountered at the site and installation of the pile meets refusal, the use of an impact hammer may be warranted to drive the pile the last few feet to final design tip elevation (Time duration <1 hour. Assume 50 blows per piling, 2 piles driven per day, XLogR = 15, pulse duration = 0.8 seconds, 2.0 weighting factor adjustment).

Response SLC-26

Seismic reflection geophysical surveys were conducted offshore of the coast at El Segundo on September 3, 2015, to delineate geologic features below the seafloor; see Appendix I of the Draft EIR Appendix 2A. The survey provided sufficient information upon which to ascertain whether a vibratory pile driving hammer can be used to install proposed Project anchor piles. Vibratory hammers can be used to set pilings in almost all types of sediment with the exception of rock. The surface sediment composition of the seafloor in the vicinity of the El Segundo Generating Station tunnels is mainly fine-medium-grained sand, gravel, and cobbles (the Old Dunes Sands Aquifer)

overlying a thin layer of clay and silts (the Manhattan Beach Aquitard) which overlies the Gage Aquifer, consisting of fine-medium to gravelly sand; see Draft EIR Appendix 2A, Table 3.1. Vibratory hammers are regularly used in coastal pier repairs, even in locations where subsurface outcroppings of rock are present. The existing geologic evidence suggests that the use of a vibratory hammer offshore would be feasible.

As described in the Draft EIR Section 5.11, *Marine Biological Resources*, in the discussion of Pile-Driving and Other Sources of Underwater Noise Section (Draft EIR pages 5.11-45 through 5.11-50), the frequency and amplitude of underwater noise is primarily a direct function of the pile-driving method employed (vibratory or impact hammer) and the diameter and composition of the piling. Large diameter steel pilings generally generate higher decibel noise than wood, concrete or composite fiberglass pilings. The proposed Project proposes to use fiberglass composite pilings or very small diameter steel pilings, as discussed in the Draft EIR on page 3-25 and pages 5.11-45 through 5.11-50, and to primarily use a vibratory installation method. Both of these piling types generate very low amplitude noise underwater, as demonstrated in Draft EIR Table 5.11-6. The Huntington Beach Desalination Project referenced by the commenter proposed to use 12-inch steel H-piles and an impact hammer installation method, which would generate high amplitude underwater noise. The Huntington Beach Desalination Project estimated that installation of H-piles would generate impulsive cumulative sound exposure level (SEL) underwater noise levels as high as 203 decibels (dB) at 230-meter distance (CSLC 2017). As cited on page 5.11-46 in the Draft EIR, Table 5.11-6, footnote 2, a recent underwater noise monitoring study in Florida that employed a combination of vibratory and impact hammers to install 16-inch fiberglass composite pilings reported peak SELs of 149 dB at 10 meters' distance decreasing to 120 dB at 371 meters' distance (Iafrate et al. 2016). The peak dB reading is attributed to the impact hammer portion of the pile installation (Iafrate et al. 2016). This data was used to estimate potential underwater noise levels for the proposed Project.

Recently revised and updated specifications concerning installation of the anchor piles for the proposed Project indicate that no more than 50 strikes by an impact hammer would be required to set the anchor piles to final depth. Consequently, Table 5.11-7 has been updated to reflect this change. Also, for impulsive and nonsound sources, the results listed in revised Table 5.11-7 reflect cumulative SEL values for both vibratory (non-impulsive) and impact (impulsive) hammer use. The Draft EIR Table 5.11-7 is modified as follows:

**TABLE 5.11-7
ESTIMATED VIBRATORY AND IMPACT HAMMER PILE-DRIVING SOUND LEVELS AND DISTURBANCE TO CRITERIA LEVELS**

		Distance to Sound Level Thresholds (meters) for Non-impulsive <u>Vibratory Hammer</u> Sound Sources ²								
Pile Type	Equipment Type	<u>SEL Cumulative Threshold</u> ⁴		150 dB (Fish-Behavioral) ^{3,4}	<u>SEL Cumulative Threshold</u> ^{3,4}					Attenuation Equipment
		187 dB (Fish ≥2g)	183 dB (Fish < 2g)		199 dB (Low-Frequency Cetaceans)	198 dB (Mid-Frequency Cetaceans)	173 dB (High-Frequency Cetaceans)	201 dB (Phocid Pinnipeds)	219 dB (Otariid Pinnipeds)	
12-inch Steel Pipe Pile ¹	Vibratory	4-0.0	4-0.0	12	20 2.3	408 0.1	29.5 2.1	42.4 1.2	0.9 0.1	None
13-inch Steel Pipe Pile ^{1,5}	Vibratory	1.0	4-2.0	25-22.0	20 4.3	408 0.2	29.5 3.8	42.4 2.3	0.9 0.2	None
16-inch Steel Pipe Pile ¹	Vibratory	1.0	4-2.0	4.0	58.5 5.1	5.2 0.3	86.5 4.4	35.6 2.7	2.5 0.2	None
16-inch Fiberglass/concrete pile ¹	Vibratory	0.0	1.0	1.0	4.3 1.8	0.4 0.1	6.4 1.6	2.6 1.0	0.2 0.1	None
		Distance to Sound Level Thresholds (meters) for Impulsive <u>Impact Hammer</u> Sounds Sources ²								
Pile Type	Equipment Type	<u>SEL Cumulative Threshold</u>		150 dB (Fish-Behavioral) ^{3,4}	<u>SEL Cumulative Threshold</u> ^{3,4}					Attenuation Equipment
		187 dB (Fish ≥ 2 g)	183 dB (Fish < 2 g)		183 dB (Low-Frequency Cetaceans)	185 dB (Mid-Frequency Cetaceans)	155 dB (High-Frequency Cetaceans)	185 dB (Phocid Pinnipeds)	203 dB (Otariid Pinnipeds)	
12-inch Steel Pipe Pile ³	Impact	6-1.0	44 1	100	4.4 1.8	0.1	2.2	0.7 1.0	0.0 0.1	None
13-inch Steel Pipe Pile ^{3,4,5}	Impact	0 10.0	0 18.0	215	29.2	1.0	34.8	15.7	1.1	None
16-inch Steel Pipe Pile ³	Impact	3 2.0	5 3.0	63	2.7 4.8	0.2 0.2	5.5	4.7 2.5	0.4 0.2	None
16-inch Fiberglass/concrete pile ³	Impact	0 1.0	1.0	76	0.2 1.2	0.0 0.0	0.5 1.4	0.4 0.6	0.0 0.0	None

NOTES:

- 1 Vibratory pile driving hammers have been documented to reduce underwater noise levels a minimum of 14-15 dB and up to 28-29 dB, depending on the pile type, water depth, and type of hammers being used (Caltrans 2015). Estimating the potential underwater noise attenuation distances for steel pipe and fiberglass/concrete pilings using a vibratory hammer, underwater noise levels documented for impact hammers were reduced by 14 dB.
 - 2 NOAA 2018b, NOAA 2016b; NMFS 2016; Caltrans 2015, AMS 2018
 - 3 Time duration for using an impact hammer to set any pilings to desired depth assuming the vibratory hammer cannot, by itself, achieve required anchor depth was <1 hour. Calculations assumed 4,440 50 blows per piling, 2 piles per day, XLogR = 15, pulse duration = 0.8 seconds, 2-5 2_0 weighting factor adjustment.
 - 4 In calculating the potential SEL cumulative or behavioral threshold distances for fish, if no RMS values available for pile driving calculation, the mean of Peak dB and SEL dB values used. If no SEL value available for the pile driving calculation, then the RMS values is used.
 5. Data for the installation of the 13-inch steel pilings reflect very shallow water conditions on the Mad River in Arcata, CA and appear to reflect unique underwater noise reflective conditions.
-

Additionally, as a result of these changes to Table 5.11-7, the text in the Draft EIR on Page 5.11-47 is revised as follows:

As illustrated in Table 5.11-7, underwater sound levels high enough to potentially cause acute damage to fish is 4 2 meters for a vibratory hammer and ~~14~~ 18 meters for an impact hammer, depending on the pile composition and diameter used for the piling. Cumulative SEL levels resulting in behavioral changes sound levels, depending on the type of pile hammer used, range between 12 and 215 meters. ~~Level A SEL Cumulative harassment~~ SEL Cumulative harassment underwater sound levels for marine mammals range between 0.1 and ~~108~~ 34.8-meters, depending on the species, piling composition and diameter, and type of hammer used. Ambient underwater noise for a major harbor like San Francisco is estimated at approximately 150 dB (CalTrans 2009) and 138 dB for coastal locations (Wilson et al. 1997; Fabre and Wilson 1997).

Additionally, the References in the Draft EIR page 5.11-77 are modified as follows:

Caltrans, 2009. Technical Guidance for Assessment and Mitigation of Hydroacoustic Effects of Pile Driving on Fish, https://tethys.pnnl.gov/sites/default/files/publications/Caltrans_2009_Guidance_Manual_for_noise_effects_on_fish.pdf, Accessed August 30, 2019.

As presented in the revised Table 5.11-7, which does not change the findings presented in the Draft EIR, because of significant differences in anchor piling design and installation methods between the proposed Project and the commenter's referenced Project in Huntington Beach (SLC 2017), the underwater noise levels and potential impacts to marine taxa between the two Projects are not comparable. As such, the commenter's concern that the underwater noise impact for the current Project would be significant and unavoidable, because the underwater noise analysis for the Huntington Beach Desalination Project was determined to be significant and unavoidable, is not supported by the evidence.

Response SLC-27

The Draft EIR Table 5.11-7 is inadvertently missing two references. The first reference is National Oceanic and Atmospheric Administration (NOAA) 2018b. The NOAA underwater acoustic worksheet was used to calculate impulsive and non-impulsive sound generations and potential travel distances. The second reference, Applied Marine Sciences (AMS) 2018, is the assembled worksheet that calculates potential distances underwater noise would travel for the different piling types considered for the proposed Project, under impulsive and non-impulsive pile driving scenarios. As a result, the Draft EIR Table 5.11-7, Note #2 is modified as follows:

NOTES:

² NOAA 2018b, NOAA 2016b; NMFS 2016; Caltrans 2015; AMS 2018

Additionally, the References in the Draft EIR page 5.11-80 are modified as follows:

Applied Marine Sciences, 2018. Populated NOAA 2018 Acoustic Technical Guidance Excel Spreadsheets for West Basin Desalination Project.

National Oceanic and Atmospheric Administration (NOAA), 2018b. User Manual for Optional Spreadsheet Tool - 2018 Acoustic Technical Guidance. Available at: <https://www.fisheries.noaa.gov/action/user-manual-optional-spreadsheet-tool-2018-acoustic-technical-guidance>.

Response SLC-28

The analysis of underwater noise from proposed Project pile-driving activities presented in the Draft EIR Subsection 5.11.4 is based on the current conceptual design of the offshore intake and discharge structures and represents the worst-case scenario, given the fact that using vibratory pile driving is feasible at this location and no more than 50 strikes by an impact hammer would be required to set the anchor piles to final depth; see response to comment SLC-26. The actual construction of these structures will not occur for several years and may change slightly once detailed design engineering is completed. Additionally, the technology and operational options available to pile-driving activities to reduce the generation of underwater noise is advancing as concerns about its effect on marine taxa increases. Mitigation Measure BIO-M1 was drafted to ensure that should the anchor pile design change, new pile installation technology becomes available, or BMPs become improved, the proposed Project would comply with a pile installation that would ensure minimal effects to fish and marine mammals from underwater noise. Mitigation Measure BIO-M1 would also ensure that even with no changes to pile installation technology or Project requirements for anchor piles, all design, underwater noise generation, and construction effects would be reviewed again by the Project sponsor, in order to implement measures to prevent effects to marine taxa, regardless of whether permitting were to occur through the U.S. Army Corps of Engineers (USACE) or the National Marine Fisheries Service (NMFS).

Response SLC-29

In response to the comment that establishing a 500-meter safety zone (buffer) around the sound source for protection of marine mammals and sea turtles in the event that sound levels are unknown or cannot be adequately predicted may not be sufficiently protective, Mitigation Measure BIO-M1, has been modified such that 500-meters is the minimum size of the safety zone and that the size of the safety zone may be increased if requested by NOAA or the USACE when permits for proposed Project pile-driving are issued by them, as follows:

The plan shall incorporate, but not be limited to the following BMPs:

- Pile -driving shall be conducted only between June and November to avoid gray whale migration, unless NMFS in their Section 7 consultation with the USACE determines that the potential effect to marine mammals is less than significant.
- A ~~1,600 foot (500 meter)~~ safety zone at least 1,600 feet (500 meters) in size shall be established and maintained around the sound source for the protection of marine mammals and sea turtles in the event that sound levels are unknown or cannot be adequately predicted. If NOAA or the USACE requests that the size of the safety zone be increased when NOAA or the USACE issues a permit for Project pile-driving, then the larger of the NOAA-requested or USACE-requested safety-zone size will be established and maintained around the sound source.

- Work activities shall be halted when a marine mammal or sea turtle enters the ~~1,600-foot (500-meter)~~ safety zone, and shall cease until the mammal has been gone from the area for a minimum of 15 minutes.
- A “soft start” technique shall be used in all impact hammer sourced pile driving, giving marine mammals an opportunity to vacate the area.
- A NMFS-approved biological monitor will conduct daily surveys before and during impact hammer pile driving to inspect the work zone and adjacent Santa Monica Bay waters for marine mammals. The monitor will be present as specified by NMFS Fisheries during the pile-driving phases of construction.
- In-water sound level monitoring will be conducted during all pile driving activities.^[11]

Other BMPs will be implemented as necessary, such as bubble curtains or an air barrier, to reduce underwater noise levels to NMFS established acute and chronic levels within the safety zone. Alternatively, West Basin may consult with NMFS directly and submit evidence to the satisfaction of the Environmental Review Officer. In such case, West Basin shall comply with NMFS recommendations and/or requirements.

Although humpback whales do occasionally occur within Santa Monica Bay (SMB), their occurrence close to shore where pile driving activities would be conducted, is less than the potential for the occurrence of gray whales. At present, approximately 20,000 California gray whales migrate seasonally between Alaska and Mexico, with many of the females accompanying newly born calves swimming closer to shore on their northward migration, potentially bringing them closer to the inshore location of proposed Project-related pile driving activities. Humpback whales in SMB tend to occur in the deeper water depths and over submarine canyons where food prey tends to congregate. Recent assessments of humpback whales occurring in SMB indicate that when they occur in SMB, they are observed near the Redondo submarine canyon and Point Vincente (Bearzi et al. 2011). The other requirements for pile driving activities outlined in mitigation measure BIO-M1 will suffice to address the unexpected occurrence of a humpback whale near offshore construction activities and prevent any harm or harassment to the animal.

See also response to comment MBCH3-78.

Response SLC-30

As discussed in *Master Response: CEQA and Ocean Plan Compliance*, for the purposes of CEQA, the relevant threshold of significance is consistency with the 2015 Ocean Plan Amendments (OPA) requirements since it is the Los Angeles Regional Water Quality Control Board, which will ultimately make the California Water Code Section 13142.5(b) determination (the “Water Code determination”). Nevertheless, the analysis of potential ocean water intake entrainment as well as discharge shear stress impacts on marine plankton (Draft EIR pages 5.11-49 through 5.11-54 and 5.11-58 through 5.11-60, respectively) clearly illustrates that the

¹¹ This BMP was added in response to comment CDFW-13.

scientific data and the methodology proposed for estimating ocean sited desalination impacts on planktonic organisms in OPA currently necessitates a range of area of production foregone (APF) calculations. Studies that have been conducted since the drafting of OPA (Jessopp 2017; Zhang 2017), and cited in the Draft EIR (Draft EIR page 5.11-59), indicate that the use of 1.0 mm sized Wedgewire screens and intake flow rates <0.5 fps could reduce entrainment of planktonic organisms by 20 percent or more. Similarly, the potential shear stress impact to planktonic organisms could be reduced by 25 percent or more and only effect specific taxa that are <1 mm in size. Because of this uncertainty in potential effect to marine ecosystems from proposed Project-related entrainment and brine discharge shear stress, no specific APF mitigation estimate for these impacts was committed to in Mitigation Measure BIO-M2.

Mitigation Measure BIO-M2 commits West Basin to conduct site-specific scientific studies of both the entrainment of planktonic organisms into the wedgewire screen equipped ocean intake and of potential shear stress impacts on planktonic organisms from the brine discharge. The results of these studies would then be used to accurately estimate proposed Project-related impacts to marine ecosystems in the form of APF calculations, as required by OPA. The proposed Project is committed to mitigating these impacts by providing either direct or indirect habitat restoration consistent with the requirements of the California Ocean Plan Chapter III.M.2.e.(3) or by providing monetary payments to an appropriate State-approved fee-based mitigation program consistent with California Ocean Plan Chapter III.M.2.e.(4), or a combination of the two.

As indicated in Mitigation Measure BIO-M2, the proposed Project is fully committed to compensating for all Project-related intake water entrainment and discharge-related shear stress mortality resulting from its operations, as determined by scientifically valid and applicable assessment studies. However, it is premature to commit to providing financial compensation or habitat restoration for APF estimates based on a “worse-case” 100 percent mortality of all planktonic organisms. Moreover, such an APF estimate is at least two to three times higher than actual impacts caused by the proposed Project. As recently discussed in *High Sierra Alliance v. County of Plumas* (2018) 29 Cal. App. 5th 102, CEQA does not require a lead agency to assume an unlikely worst-case scenario in its environmental analysis.

Response SLC-31

West Basin notes the Commission’s role in the proposed Project as a responsible and trustee agency and acknowledges contact information provided for future correspondence.