

CALIFORNIA COASTAL COMMISSION

455 MARKET STREET, SUITE 228
 SAN FRANCISCO, CA 94105-2219
 VOICE (415) 904- 5200
 FAX (415) 904-5400
 TDD (415) 597-5885
WWW.COASTAL.CA.GOV



Th3a & 4a

Appeal Filed:	May 22, 2019
49 th Day:	Waived
Permit Filed:	October 28, 2019
180 th Day:	April 25, 2020
Extension ¹	September 25, 2020
Staff:	T. Luster-SF
Staff Report:	August 25, 2020
Hearing Date:	September 17, 2020

**STAFF REPORT: DE NOVO APPEAL
 and
 CONSOLIDATED COASTAL DEVELOPMENT PERMIT**

Appeal No:	A-3-MRA-19-0034
Local Government:	City of Marina
Decision:	Denial
Application No.:	9-19-0198
Applicant:	California American Water Company
Appellants:	California American Water Company, Brian LeNeve, Castroville Community Services District, and Commissioners Howell and Uranga
Project Location:	Wellfield at the site of the CEMEX, Incorporated sand mining facility in the City of Marina, Monterey County, and pipelines and associated infrastructure within the Cities of Marina and Seaside, the County of Monterey, and the Commission's retained jurisdiction.

¹ On April 16, 2020, Governor Newsom signed Executive Order N-52-20, which, among other things, suspended certain Coastal Act and Permit Streamlining Act deadlines for a period of 60 calendar days. Cal-Am also provided a 90-day extension, as allowed under the state's Permit Streamlining Act.

Project Description: Construct and operate a slant well field, associated water transmission pipelines and related infrastructure within the coastal zone to support a proposed desalination facility located inland of the coastal zone.

Staff Recommendation: **Denial** of De Novo Permit; **Denial** of Regular Permit

SUMMARY OF STAFF RECOMMENDATION

On November 14, 2019, the Coastal Commission held a public hearing but took no action on the California-American Water Company (“Cal-Am”) proposal to construct and operate the Monterey Peninsula Water Supply Project (“MPWSP”), referred to herein as the “Cal-Am Project” or “Project.” The proposed Project would provide potable water for customers in Cal-Am’s service area in the Monterey Peninsula region. It would also enable Cal-Am to stop its illegal water withdrawals from the Carmel River, which it is required to do by December 2021, pursuant to a cease-and-desist order from the State Water Resources Control Board.

The proposed Project would be located in several jurisdictions, both within and outside the coastal zone. The Commission is conducting a consolidated permit review for those components within the coastal zone that are within the certified Local Coastal Program (“LCP”) jurisdictions of the City of Seaside and the County of Monterey, as well as within the Commission’s retained jurisdiction in an area of deferred certification within the County and for components seaward of the mean high tide line. The Commission is also considering multiple appeals of the City of Marina’s denial of a CDP application for the well field and portions of two of the pipelines within the City’s certified LCP jurisdiction. The proposed Project would include six new slant wells within a Cal-Am easement in part of the CEMEX sand mining facility near the Monterey Bay shoreline in the City of Marina. The Project would also include conversion of a test slant well to a permanent well on the same site, as well as four main pipelines, with part of each in the coastal zone. The desalination facility, itself, would be constructed inland of the coastal zone and would discharge processed saline brine to an existing outfall operated by the regional wastewater treatment agency, Monterey One Water. This outfall line would need to be modified in order to discharge the brine.

The proposed Project has become extraordinarily controversial, spawning at least ten lawsuits over the Project’s more than eight-year history. It also raises significant Coastal Act and LCP issues, particularly regarding the Project’s substantial impacts to environmentally sensitive habitat areas (“ESHA”) and the need to consider whether a feasible and less environmentally damaging alternative to the Project exists. The Project also involves the most significant environmental justice concerns the Commission has considered since it adopted an Environmental Justice Policy in 2019. Responding to and resolving the Project’s issues and controversies is even more pressing, given the quickly approaching deadline for Cal-Am to find a replacement water source for its customers by December 2021.

Given these concerns, along with what staff believe are several areas of nonconformity to Coastal Act and LCP policies, the primary questions for the Commission to consider are whether another project, the Pure Water Monterey water recycling and aquifer storage project ("Pure Water project"), operated by Monterey One Water, can be expanded to provide a feasible and environmentally preferable alternative to the Cal-Am Project, and whether this alternative can provide sufficient water to this region for current and future uses while allowing Cal-Am to end its overdraft of the Carmel River. During CEQA review of Cal-Am's proposed Project, the California Public Utilities Commission ("CPUC") determined that the baseline Pure Water project would reliably provide water for Cal-Am so that Cal-Am's initially proposed desalination facility could be downsized from 10,700 acre-feet per year (or about 9.6 million gallons per day ("mgd")) to about 7,165 acre-feet per year (or about 6.4 mgd). The baseline Pure Water project is expected to provide about 3,500 acre-feet per year, and the currently proposed Pure Water Expansion would be an extended version of that same project and provide an additional 2,250 acre-feet per year.

At its November hearing, the Commission heard from the Commission staff, the applicant, took many hours of public testimony, and provided staff with questions it wanted addressed before bringing the matter back for consideration. In subsequent months, staff has taken a fresh, in-depth look at both the Cal-Am Project and the Pure Water Expansion alternative. Staff also sought answers to the Commission's questions, hiring an independent hydrogeologist to help address several specific questions regarding the proposed Project's effects on groundwater resources.

The proposed Project raises extremely difficult and complex issues. The record contains many competing technical reports and conclusions regarding groundwater impacts, water demand and supply projections, potential wetland impacts, rights to, and availability of, source water, and highly emotional and disparate views on the viability of the Cal-Am Project and expansion of the Pure Water project. The communities affected by these proposed projects, along with the elected members of water district Boards involved with these projects, are deeply divided about which project will provide adequate water for the area. Even now, after several years of study and after the Commission's November 2019 hearing, there remain some significant information gaps and unanswered questions on potential Cal-Am Project impacts, as well as issues concerning the Pure Water Expansion.

Staff believes, after weighing the evidence in the record at this time, that the Pure Water Expansion is a feasible alternative to Cal-Am's Project, will allow Cal-Am to cease its illegal water withdrawals from the Carmel River and meet the region's water needs, and is the preferable, least environmentally damaging alternative. The Pure Water Expansion would also result in fewer environmental and economic burdens to the communities of concern within Cal-Am's service area, would avoid environmental burdens to the City of Marina, and appears to have fewer significant hurdles to clear before it could be implemented. It is important to note that the Commission does not have the authority to actually approve, or require approval of, the Pure Water Expansion project. Rather, the Commission's role is to determine whether Cal-Am's Project is

consistent with relevant Coastal Act and LCP policies, whether there is a feasible alternative to the Project, and whether denial of the Project would harm the public welfare. Staff recommends finding that the Project is inconsistent with relevant Coastal Act and LCP policies and that the Commission may not approve the Project despite those inconsistencies because the PWM Expansion is a feasible, less damaging alternative that will adequately provide water and protect the public welfare.

Key issues, and staff's analysis in support of its recommendation, are provided in these Findings and are summarized below:

COASTAL ACT/LOCAL COASTAL PROGRAM ENVIRONMENTAL ISSUES & ANALYSIS

Sea Level Rise Projections

Cal-Am's proposed well field would be located several hundred feet inland of the shoreline, but in an area where relatively high rates of coastal erosion could endanger the wells. Projections based on the Commission's current sea level rise guidance documents show the wells could be affected by coastal erosion within the next 40 years or so and that the well heads could be buried due to the inland movement of the adjacent sand dunes by about 2040 to 2050. However, Cal-Am estimates that its wells would operate for only 20 to 25 years before they would need to be relocated due to the decreased water yields they experience as they operate. While this necessary relocation would allow the wells to avoid the expected coastal erosion and dune recession during their initial 20 to 25 years of operation, it is unclear where they could be relocated to avoid these hazards during their next cycle of operations. Cal-Am does not have legal interest in possible sites further inland, and while the wells could be moved to nearby locations parallel to the existing line of wells, that would put them at risk of coastal erosion and dune recession during the next 20-25 year operating cycle.

Additionally, a new principle adopted earlier this year by California directs regulatory agencies to consider a possible 3.5-foot increase in sea level by 2050, which is somewhat higher than the expected increases in the Commission's current sea level rise guidance. This would result in Cal-Am's proposed well field being subject to increased risks from coastal erosion and dune recession hazards several years sooner than anticipated in these previous projections (see Section II.H of these Findings).

Groundwater Resources

Much of the controversy surrounding Cal-Am's Project relates to whether its source water intake wells near the coast would adversely affect groundwater within the aquifers that provide the City of Marina's water supply and whether it would increase the rate of seawater intrusion in the area. The Commission hired an independent hydrogeologist to review the data collected and modeling done as part of Cal-Am's CEQA review and to conduct additional modeling to help answer these questions and to reduce the levels of uncertainty about these and other potential effects. This independent review determined that the Project would have limited to negligible effects on the rate of seawater intrusion in the area and that the wells' "capture area" for groundwater would likely not extend to near the City's wells; however, it also identified two new likely effects

– groundwater drawdown in areas that could adversely affect nearby wetlands, and a likelihood that Cal-Am would need to return more water to the groundwater basin than had been previously considered. These are further described below.

Wetlands

The above-mentioned wetland issue, which emerged after the Commission’s November 2019 hearing, is that Cal-Am’s pumping of groundwater could result in drawdowns beneath several dozen acres of nearby wetlands and vernal ponds. While Cal-Am’s CEQA review acknowledged some amount of drawdown would occur beneath these areas, it also asserted that the drawdown would not adversely affect them because they were not hydraulically connected to groundwater. However, recent analyses provided by the City of Marina suggest that some of these areas are dependent on the underlying groundwater, and the Commission’s July 2020 independent hydrogeologic review shows groundwater elevations decreasing by as much as about four feet beneath some of these wetlands and vernal ponds. If they are connected to groundwater, this amount of drawdown could cause adverse effects to up to several dozen acres of these important habitat areas.

Cal-Am submitted its own August 2020 analysis contending that its drawdowns would not affect these areas, but also recommended that additional field data and analysis be conducted to confirm this contention. Staff concurs that further investigation is needed to determine whether these wetland and vernal pond areas are hydrologically connected to the underlying groundwater. If they are connected, this aspect of the proposed Project would result in nonconformity with Coastal Act and LCP policies requiring protection of these wetland areas, which constitute ESHA. Staff believes that the lack of adequate information about these potential impacts to the area’s vernal pools does not allow the proposed Project to be found consistent with relevant Coastal Act wetland and ESHA policies and LCP ESHA policies (see Section II.G).

Terrestrial ESHA

The proposed Project could result in up to about 35 acres of both temporary and permanent impacts to terrestrial ESHA during construction and operation, much of it to relatively rare coastal dune habitat. Staff and Cal-Am do not agree as to the specific amount of acreage that will be disturbed and the amount of temporary versus long-term impacts to those areas, with some of these concerns not able to be resolved until pre-construction surveys more precisely identify expected types and areas of impacts. Regardless, neither the Coastal Act nor the LCP allows the disturbance and loss of ESHA that would result from Cal-Am’s Project. Staff therefore recommends that the proposed Project be found inconsistent with Coastal Act and LCP ESHA policies (see Section II.F).

Fill in Coastal Waters

Cal-Am’s Project would involve placing materials that constitute “fill” in coastal waters, in the form of anchors on the ocean floor for monitoring buoys, modifications to equipment on an existing outfall, and potentially during work needed to replace a series of clamps on that outfall. For projects involving the placement of fill in coastal waters, Coastal Act

Section 30233 requires that the Commission consider whether there are feasible and less environmentally damaging alternatives to the proposed development that would avoid or minimize the need for fill. As described below, staff has identified such an alternative and is therefore recommending that Cal-Am's Project be found inconsistent with this provision of Section 30233.

Project Alternatives

The alternatives analysis required by Section 30233 (and by Section 30260 – see below) focuses primarily on one particular alternative to Cal-Am's proposed Project – the Pure Water Expansion project, which is an extension of the existing Pure Water project, a water recycling and aquifer storage and recovery project partially funded by Cal-Am and operated by Monterey One Water, the agency charged with managing the region's wastewater. The baseline Pure Water project started operating in March 2020 and is expected to provide Cal-Am with about 3,500 acre-feet of water each year as part of Cal-Am's water portfolio. The Pure Water Expansion project would be added to the Pure Water facility and would produce an additional 2,250 acre-feet per year for use by Cal-Am.

Staff's analysis compared the Cal-Am and Pure Water Expansion projects and found that the Pure Water Expansion provides a feasible and less environmentally damaging alternative to Cal-Am's proposed Project. This analysis is detailed in Section II.O of these Findings, and includes the following key considerations:

- **Adequate water supply:** Based on a detailed evaluation of different and somewhat competing descriptions of the area's current and projected future water demands, staff's analysis determined that either project would provide enough water for the area's expected demands and growth over the next twenty to thirty years, although Cal-Am's Project would provide far more water than needed, and at a much higher cost – about two to three times the cost of water from the Pure Water Expansion. The water supply and demand projections in Cal-Am's CEQA review were based on Cal-Am having an existing demand of about 12,000 acre-feet per year and a future demand of about 14,000 acre-feet per year. More recent data shows that Cal-Am's current demand is actually about 9,500 acre-feet per year and adding the Pure Water Expansion to Cal-Am's water supply portfolio would provide about 11,500 acre-feet per year – i.e., essentially the same 2,000 acre-feet for expected growth in the area's demand.
- **Adequate source water:** Cal-Am's Project would rely on intruded seawater and groundwater from within the Salinas Valley Groundwater Basin. There is no question about seawater supplying an adequate source water supply, but because the Basin prohibits the export of groundwater, some of the water Cal-Am plans to extract—i.e., the portion that is considered to be freshwater rather than intruded seawater—would need to be returned to the Basin as potable water. Under the terms of an agreement, Cal-Am would return this treated water to Castroville at very inexpensive rates, which Cal-Am's ratepayers would effectively subsidize. Staff's analysis showed that under some conditions, Cal-

Am's return water requirement could be two to three times greater than was identified in the CPUC review, which raises concerns about increased costs, particularly as they would affect the environmental justice issues described below, as well as concerns about project feasibility, since the highest projected return water amounts could represent almost a third of the Cal-Am Project's planned water production during some years. Additionally, Cal-Am's ability to use that groundwater would rely on Cal-Am obtaining appropriate rights for that water, which requires that no other legal users in the Basin be harmed by Cal-Am's water withdrawals. This cannot be determined until Cal-Am actually starts extracting groundwater, when its use would be subject to technical and legal review.

Commenters raised a different set of concerns about whether the Pure Water Expansion will have adequate source water. It would treat water from several different sources – treated wastewater, stormwater, agricultural water, etc. – some of which may be provided in lower volumes than anticipated because of changes in how those sources are produced or because of contractual issues with some of the producers. Concerns have been raised about whether there is adequate source water available to allow the Pure Water Expansion to provide a reliable long-term volume of water sufficient to meet the area's water needs. However, based on staff's evaluation of technical information provided by Monterey One Water and others, staff believe there is sufficient source water, including at least one certain source – i.e., no less than about 8,000 acre-feet per year of treated wastewater – to provide the approximately 3,000 acre-feet per year the Pure Water Expansion will need to produce its expected 2,250 acre-feet per year and satisfy the service area's water demand.

- **Feasibility concerns and uncertainties:** Both projects face hurdles and some degree of uncertainty. Cal-Am does not yet have a pipeline it needs to deliver water between its desalination facility and its service area. It has not obtained approval to use a pipeline it anticipated using and does not yet have the necessary approvals to build another pipeline that could distribute the water. Cal-Am must also obtain additional approvals and permits, possibly including additional CDPs, to install a corrosion-resistant liner inside the outfall it proposes to use, with the work needed to install the liner possibly resulting in additional adverse impacts to ESHA and to sensitive species. As noted above, there are also uncertainties about how Cal-Am would operate beyond the 20 to 25-year operating life of its wells, and whether it will be able to successfully obtain the appropriate water rights it needs to extract groundwater from the Basin. The Commission's independent hydrogeologic review also recommended additional modeling be done to better identify how much water Cal-Am would need to return to the Basin under different conditions.

For the Pure Water Expansion project, the main uncertainty is whether its baseline Pure Water project can overcome some early start-up issues and produce its expected amount of water. The Pure Water project started operating

in March 2020, but some of its wells are injecting water below their expected rate and some developed some shallow ground subsidence. Monterey One Water has identified solutions to these issues – primarily involving adding one or two additional wells, cleaning an existing well, and addressing the subsidence problems – which are fairly standard responses to these types of problems. Implementing the Pure Water Expansion would also require that Cal-Am seek and obtain approval from the CPUC for a Water Purchase Agreement that would be used to fund the Pure Water Expansion. Cal-Am successfully obtained such a purchase agreement for the baseline Pure Water project.

Another concern raised about the Pure Water Expansion is that it was intended to be a backup, rather than an alternative, to Cal-Am's Project. However, the CPUC's CEQA document acknowledged that in case of delays with the Cal-Am Project, the Pure Water Expansion would likely provide enough water for the area if Cal-Am's Project was delayed for five to fifteen years. With several issues causing delays with the Cal-Am Project – e.g., the above-referenced lack of a delivery pipeline and liner – and with current water demands being lower than described in that 2018 CEQA review, the Pure Water Expansion would be able to serve as either a backup or an alternative to the Cal-Am Project.

At this point, neither Cal-Am's proposed Project nor the Pure Water Expansion would be online by December 2021, which is Cal-Am's deadline to stop over-pumping from the Carmel River. However, staff believe the Pure Water Expansion has fewer and easier hurdles to overcome than the Cal-Am Project, and importantly, Cal-Am has sufficient water in storage to accommodate a year or two of delay and to allow it to stop its Carmel River over-pumping by its required December 2021 deadline.

Environmental Justice

Staff also conducted an in-depth environmental justice analysis and identified several communities of concern that would be affected by Cal-Am's proposed Project – Marina, Seaside, Sand City and Castroville. Overall, the analysis showed that there would be greater and more serious environmental justice issues arising from Cal-Am's Project than from the alternative Pure Water Expansion.

Cal-Am's proposed Project would be sited in part within the community of Marina, which is not in Cal-Am's service area but would be burdened with the adverse coastal resource impacts as discussed above and receive none of the Project benefits. Marina is already disproportionately affected by several other industrial uses, including a regional landfill, regional composting facility, regional sewage plant, a municipal airport, a contaminated site listed on the U.S. EPA's national priorities list, and the CEMEX sand mining facility, now scheduled to close.

Additionally, water from Cal-Am's desalination facility is expected to cost two to three times as much as the recycled water from the Pure Water Expansion. Water from Cal-Am's proposed Project could significantly raise water rates for low-income ratepayers in

Seaside and other low-income ratepayers throughout the service area, who worry that the cost of water could eventually push them out of their moderately priced coastal communities. Cal-Am offers a rate assistance program for low-income ratepayers; however, staff found that the program has eligibility requirements that create a barrier to access, has not reached all low-income customers, and provides a discount that has generally not been enough to offset the ongoing increases.

Finally, Cal-Am intends to offer discounted water to Castroville, a community of concern whose water supply from the underlying Salinas Valley Groundwater Basin has been diminished due to several decades of agricultural over-pumping resulting in increased levels of seawater intrusion. Castroville would benefit from Cal-Am's Project by receiving subsidized water that will keep its water rates low – about \$20.00 per month. However, this benefit will come at the expense to Cal-Am's customers in the disadvantaged community of Seaside and other low-income ratepayers in its service area that would have to absorb the higher costs. Cal-Am's discount to Castroville would not offset impacts to the underserved communities of Marina, Seaside, and others throughout the service area. In fact, staff found that there were seven times as many individuals in Marina and in Cal-Am's service area that would be burdened by the desalination facility as those in Castroville that would benefit (based on a federal low-income threshold). The Pure Water Expansion, with its water costs of one-third to one-half of Cal-Am's proposed Project, would benefit the communities of concern by not causing adverse environmental impacts to the City of Marina and by reducing the cost burdens to Seaside and other underserved Cal-Am ratepayers, albeit without the benefits to Castroville.

Coastal-Dependent Override Provision

As discussed above, staff is recommending that the proposed Project be found inconsistent with Coastal Act and LCP provisions regarding the protection of ESHA and the Coastal Act's 30233 "fill in coastal waters" policy. Generally, if a project is inconsistent with LCP or Coastal Act policies, and the inconsistencies cannot be addressed by requiring mitigation or alternatives, the Commission must deny a project. However, because Cal-Am's proposed Project is a coastal-dependent industrial facility, the Commission may consider approving it despite its nonconformity with provisions of the Coastal Act and LCP.

Coastal Act Section 30260, which is incorporated into the City of Marina's LCP, provides that the Commission may approve a CDP for a coastal-dependent industrial facility that is otherwise inconsistent with other Coastal Act Chapter 3 policies if it meets a three-part test: 1) alternative locations are infeasible or more environmentally damaging; 2) denial of the permit would adversely affect the public welfare; and, 3) the project's adverse environmental effects are mitigated to the maximum extent feasible. Application of the Section 30260 override provision is discretionary: if a project meets these three criteria, the Commission *may* approve the project, but is not required to do so. Conversely, if a project fails to meet one or more of the criteria, the Commission may not approve it.

In applying the three tests of Section 30260, Commission staff recommends the following:

Test 1: Are alternative locations infeasible or more environmentally damaging? As noted above, the Pure Water Expansion would provide enough water to meet Cal-Am's needs for the next twenty years or more and would cause fewer adverse environmental impacts, including few, if any on coastal resources, since it would be located outside the coastal zone. Cal-Am already plans to rely on the first phase of the Pure Water project to provide about a third of its current needed water supply. The Pure Water Expansion is consistent with the Project objectives applied to Cal-Am's proposed Project during its CEQA review and is also consistent with state requirements applicable to drinking water systems. Staff therefore recommends the Commission find that Cal-Am's proposed Project does not meet this first test of Section 30260, since there is a feasible, less environmentally damaging alternative to the proposed Project that could be constructed in a different location.

Test 2: Would denying the project adversely affect the public welfare? There is a clear need for a new water supply to serve the Monterey Peninsula area, as the area does not rely on imported water sources, and Cal-Am, since 1995, has been under an order from the State Water Resources Control Board to significantly reduce its withdrawals from the Carmel River and to end any withdrawals over its legal entitlement by December 2021. Cal-Am developed its proposed Project in order to supply its customers with adequate water while meeting the requirements of this Order. However, for several reasons, the public welfare would not be harmed by denial of this proposed Project:

- **Effects on public resources:** As noted above, Cal-Am's Project would result in adverse effects to coastal resources – for example, sensitive habitat areas – that would diminish the public benefit from those coastal resources. The alternative project would entirely avoid those coastal resource impacts.
- **Feasible alternative:** There is a feasible and less environmentally damaging alternative that can supply sufficient water to allow Cal-Am to meet its legal obligations and to supply its customers for the coming decades. This alternative also has fewer uncertainties associated with it and appears to be more likely to succeed in a shorter amount of time.
- **Public costs:** The costs of Cal-Am's proposed Project are substantially higher than other water sources, including the Pure Water Expansion, and would be borne by ratepayers and visitors to this coastal area.
- **Environmental justice:** Several communities of concern would be burdened by Cal-Am's Project due to the higher costs for water it would impose or due to expected or potential impacts resulting from the construction and operation of some Project components in areas of sensitive habitat or that provide public access to the shoreline.

Test 3: Are the project impacts mitigated to the maximum extent feasible?

Because Cal-Am's proposed Project does not meet either of the first two tests of Section 30260, there is no need to determine whether it meets the third test. However, there also remain significant questions about whether and how Cal-Am could mitigate the Project's impacts, so this finding is also not met at this point in time.

Legal Issues Raised Regarding the Commission's Jurisdiction

The Commission is not the first public agency to take action on this proposed Project. In September 2018, after a six-year rate-setting proceeding, the CPUC granted Cal-Am a Certificate of Public Convenience and Necessity and certified a Final EIR/EIS for Cal-Am's Project. That proceeding is now finished, although Cal-Am would need to return to the CPUC to obtain approval of a Water Purchase Agreement if it pursued the Pure Water Expansion, or possibly to modify its approved rates if the Cal-Am Project changed significantly—e.g., if Cal-Am's return water obligations ended up being greater than anticipated. During its proceeding, the CPUC also obtained an opinion from the State Water Board regarding the likelihood that Cal-Am could obtain water rights for the Project. The State Water Board does not need to issue permits for, nor does it have jurisdiction over, Cal-Am's planned withdrawals, but it does have expertise in water rights matters and is also interested in ensuring that Cal-Am complies with its cease-and-desist order.

The CPUC has exclusive jurisdiction to determine what rates Cal-Am may recover from its customers, and in making this determination, it analyzes water supply and demand forecasts. The Commission should consider the conclusions reached by the CPUC in its ratemaking and CEQA proceedings; however, it is not legally required to accept or use the CPUC's water supply and demand numbers or its environmental impact conclusions when conducting its own Coastal Act review. Rather, the Commission has the independent authority and duty to review these issues, based on current evidence, when determining whether denial of the proposed Project will harm the public welfare, whether there is a feasible alternative, and in making other Coastal Act findings.

Likewise, the Commission is not legally required to defer to the State Water Board's advisory opinion regarding Cal-Am's water rights for its proposed Project, although Commission staff does not disagree with that opinion in any event. If Cal-Am's Project were to proceed, the Regional Water Board would regulate Cal-Am's brine discharge to ensure that it met water quality standards, and the Commission could not take actions that conflicted with those water quality determinations. Given the recommendation of Project denial, though, that issue is not relevant at this time. Section II.C of the Findings contains a more complete description of these jurisdictional issues.

Staff Recommendation

For the reasons described above, and as described in detail in the proposed Findings, staff recommends that the Commission **deny** the proposed Project. The proposed motions and resolutions are on page 15

TABLE OF CONTENTS

I. MOTIONS & RESOLUTIONS	14
A. DETERMINATION FOR APPEAL A-3-MRA-19-0034.....	14
B. DETERMINATION FOR CDP 9-19-0918.....	14
II. FINDINGS & DECLARATIONS.....	15
A. PROJECT DESCRIPTION, LOCATION, AND OBJECTIVES.....	15
B. PROJECT BACKGROUND	19
C. JURISDICTION AND CONSOLIDATED PERMIT REVIEW.....	24
E. FINDINGS ON COASTAL DEVELOPMENT PERMIT DETERMINATION AND DE NOVO HEARING	27
F. ENVIRONMENTALLY SENSITIVE HABITAT AREAS – TERRESTRIAL.....	28
G. WETLANDS AND VERNAL POND ESHA	48
H. COASTAL HAZARDS.....	54
I. PROTECTION OF COASTAL WATERS AND MARINE RESOURCES	62
J. PROTECTION OF GROUNDWATER RESOURCES	68
K. ENERGY CONSUMPTION & CLIMATE CHANGE	74
L. PUBLIC ACCESS AND RECREATION.....	78
M. VISUAL RESOURCES	83
N. ENVIRONMENTAL JUSTICE.....	86
O. ASSESSMENT OF ALTERNATIVES	102
P. COASTAL-DEPENDENT INDUSTRIAL FACILITY OVERRIDE.....	147
III. CALIFORNIA ENVIRONMENTAL QUALITY ACT	154

EXHIBITS

Exhibit 1 – Project Location

Exhibit 2 – Project Layout

Exhibit 3 – Proposed Project Well Field

Exhibit 4 -- California Public Utilities Commission, Decision Approving a Modified Monterey Peninsula Water Supply Project, Adopting Settlement Agreements, Issuing Certificate of Public Convenience and Necessity and Certifying Combined Environmental Report, Decision 18-09-017, September 13, 2018.

Exhibit 5 – Special Status Species and Natural Communities That Could Be Significantly Impacted During Construction of the Proposed Facilities

Exhibit 6 – Construction Staging Areas, Habitat Types, and Special-Status Species with Potential to Occur

Exhibit 7 – Final EIR/EIS Summary of Terrestrial Biological Resources Mitigation Measures

Exhibit 8 – Cal-Am proposed Habitat Mitigation and Monitoring Plan, June 2020

Exhibit 9 – Map of Area Wetlands

Exhibit 10 – Coastal Hazards Technical Memorandum

Exhibit 11 – Independent Hydrogeological Review of Recent Data and Studies Related to California American Water’s Proposed Monterey Regional Water Supply Project, November 2019

- Exhibit 12** – Independent Evaluation, Modification, and Use of the North Marina Groundwater Model to Estimate Potential Aquifer Impacts, July 2020
- Exhibit 13** – Hydrogeologic Working Group Comments on Weiss Report, July 10, 2020.
- Exhibit 14** – Environmental Justice – Methodology for Identifying Communities of Concern
- Exhibit 15** – Monterey Peninsula Water Management District 2019 Update
- Exhibit 16** – Monterey Peninsula Water Management District 2020 Update
- Exhibit 17** – Monterey Peninsula Water Management District – Analysis of Available Well Capacity for 10-Year Maximum Daily Demand (MDD) and Peak Hour Demand (PHD)
- Exhibit 18** – Final Supplemental Environmental Impact Report for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project, April 2020, Appendix M: Source Water Operational Plan Technical Memorandum
- Exhibit 19** – California American Water Peer Review of Supply and Demand for Water on the Monterey Peninsula, Hazen and Sawyer, January 22, 2020
- Exhibit 20** – Expert Report and Recommendations of Peter Mayer, P.E., Regarding Water Supply and Demand for Water on the Monterey Peninsula, April 21, 2020 and Supplemental Report, July 1, 2020.

APPENDICES

- Appendix A** – Substantive File Documents
- Appendix B** – Ex Parte Forms
- Appendix C** – Correspondence Received

I. MOTIONS & RESOLUTIONS

A. DETERMINATION FOR APPEAL A-3-MRA-19-0034

Motion

I move that the Commission **approve** CDP A-3-MRA-19-0034 for the development proposed by the applicant.

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Deny CDP on Appeal

The Commission hereby denies a coastal development permit for the proposed development on the ground that the development will not conform with the City of Marina Local Coastal Program. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures and alternatives that would substantially lessen the significant adverse effects of the development on the environment.

B. DETERMINATION FOR CDP 9-19-0918

Motion

I move that the Commission **approve** Coastal Development Permit Application No. 9-19-0918 for the development proposed by the applicant.

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution

The Commission hereby denies a coastal development permit for the proposed development on the grounds that the development will not conform to the applicable policies of Chapter 3 of the Coastal Act. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures and alternatives that would substantially lessen the significant adverse effects of the development on the environment.

II. FINDINGS & DECLARATIONS

A. PROJECT DESCRIPTION, LOCATION, AND OBJECTIVES

California American Water Company (“Cal-Am”) proposes to construct and operate the Monterey Peninsula Water Supply Project (“MPWSP,” or “Project”) which would consist of a desalination facility, a well field, water transmission pipelines, pump station, and other related infrastructure to provide approximately 6,250 acre-feet per year (or about 6.4 million gallons per day)² of potable water to its customers in the Monterey Peninsula area (see Exhibit 1 – Project Location). The desalination facility itself would be located outside the coastal zone at a site about two miles inland within the jurisdiction of Monterey County. As described below in Section II.C – Jurisdiction and Consolidated Permit Review, these Findings include Commission consideration of several actions, including a consolidated CDP application for portions of the Project within the City of Seaside, the County of Monterey, and the Commission’s retained jurisdiction within a portion of the County that does not have a certified Local Coastal Program (“LCP”), along with de novo review of an appeal of the City of Marina’s decision to deny a CDP for portions of the Project within its certified LCP jurisdiction.

Project description

As described by Cal-Am and in the proposed Project’s Final Environmental Impact Report/Environmental Impact Statement (“Final EIR/EIS”) prepared by the California Public Utilities Commission (“CPUC”) and Monterey Bay National Marine Sanctuary (“MBNMS”), the primary components of the proposed Project within the coastal zone include a well field that would be located at the site of the CEMEX sand mining facility on the shore of Monterey Bay within the City of Marina’s LCP jurisdiction, several water transmission pipelines that would be located within the LCP jurisdictions of the Cities of Marina and Seaside and the County of Monterey, and an existing outfall that Cal-Am would modify, which is located within the City of Marina’s LCP jurisdiction and the Commission’s retained jurisdiction (see Exhibit 2 – Project Layout). All of these main components would be located in whole or in part within environmentally sensitive habitat areas (“ESHAs”) or would result in effects on other coastal resources, as described in the Findings below.

Well field: The well field would consist of seven slant wells that would extract up to about 16 million gallons per day (“mgd”) of a mix of seawater from beneath the bay floor, intruded seawater from beneath the shoreline, and brackish water that includes a blend of seawater and freshwater from the underlying aquifer system. The proposed well field is within an approximately 30-acre easement Cal-Am purchased within the CEMEX sand mining facility, which is located in an extensive area of coastal dunes along the shoreline of Monterey Bay in the northern portion of the City of Marina (see Exhibit 3 –

² Water planning documents generally refer to water use as measured in acre-feet per year or in gallons per day. A million gallons per day equals about 1,100 acre-feet per year. In the Monterey area, which has one of the lowest rates of residential water use in the state, water use averages about 0.2 acre-feet per year, or under 200 gallons per day, for a single-family home. For purposes of these Findings, water supply and demand figures will be presented in acre-feet per year and well field operations will be presented as million gallons per day.

Proposed Project Well Field). Parts of the site have been used for sand mining since 1906, though the site continues to provide significant areas of sensitive habitat along with areas disturbed due to mining activities.

The wells would be located on several fenced well pads, each containing one or two wells. Each location would include a concrete well pad, an enclosure for electrical equipment, mechanical piping, and a rip-rap basin for disposing of pumped water during maintenance activities. Each location would be within a graded area of between about 5,200 and 6,000 square feet. The well field would also include two surge tanks. The overall developed area for these components would total up to just under an acre within the CEMEX site. The well field would also include about 2,000 linear feet of graded access road providing access to each well pad from the existing CEMEX access road.

Desalination facility: Cal-Am would transport water from the well field through its proposed Source Water Pipeline to its desalination facility that would be located outside the coastal zone and adjacent to a regional wastewater treatment facility operated by Monterey One Water (formerly the Monterey Regional Water Pollution Control Agency). Cal-Am would treat the source water from the well field to create two main streams of potable water – the majority would be sent several miles south in new and existing pipelines to Cal-Am’s customers in the Monterey Peninsula area, and up to several hundred acre-feet per year could be sent several miles north to the community of Castroville.³ The facility would also create an approximately 10 mgd brine discharge that would be routed to an existing ocean outfall currently used by the wastewater treatment facility.

Water delivery pipelines: The proposed Project includes four new pipelines within the coastal zone:

- The Source Water Pipeline would extend east from the well field at the CEMEX site, which is within the City of Marina’s LCP jurisdiction, and enter the County’s LCP jurisdiction. It would run parallel to the CEMEX access road to the intersection with Lapis Road, where it would turn north to the intersection of Del Monte Boulevard, where it would turn to the southeast and run about 800 feet to the intersection of Charles Benson Road. Most of these pipeline segments would be within the right-of-way of the Transportation Agency for Monterey County (“TAMC”). The pipeline would then turn east and exit the coastal zone and continue to the desalination facility. A total of 5,365 linear feet of this 42-inch pipeline would be within the County’s coastal zone.
- The Desalination Water Pipeline would be constructed along part of the same route as the Source Water Pipeline. Starting at the desalination facility, it would run west along Charles Benson Road and then enter the County’s coastal zone at the same location described above and follow the same alignment as the Source Water

³ Part of the potable water would also be sent north through a new pipeline to the City of Castroville pursuant to a Settlement Agreement that ensures any “non-seawater” – i.e., the proportion of water the slant wells remove from the aquifer that is not fully seawater – is returned to the groundwater basin. This project component is described in more detail in Sections II.J and II.O below.

Pipeline along Del Monte Boulevard and Lapis Road and continue further south to the City of Marina. About 7,207 linear feet of this pipeline would be within the coastal zone.

- The Transmission Main Pipeline would connect to the Desalination Water Pipeline to transport water further south to an existing pipeline in the City of Seaside that Cal-Am would rely on to transport the water to its customers in the Monterey Peninsula area.⁴ Several thousand feet of this Transmission Main Pipeline would be within the coastal zone.
- The Castroville Pipeline would connect to the Desalination Water Pipeline at Lapis Road and run to the north until it leaves the coastal zone. A portion of the pipeline would be attached to the Monte Road Bridge to cross the Salinas River. This location is just outside the coastal zone, though construction would occur within the coastal zone.⁵

Outfall modifications: Cal-Am would direct its brine discharge from the desalination facility through an outfall owned by Monterey One Water, a public agency in Monterey County. The outfall is currently used to discharge treated wastewater from Monterey One's regional wastewater treatment facility in northern Monterey County to about 11,000 feet offshore in Monterey Bay. The outfall terminates at a diffuser that is about 1,000 feet long and that has over 100 ports through which the discharge reaches ocean waters. Cal-Am may be required to modify the diffuser system so that its discharge conforms to Ocean Plan requirements.⁶ Cal-Am would also install monitoring buoys anchored to the seafloor to provide baseline and ongoing data related to water quality and biological resources in the area of the discharge.

Cal-Am must also install, prior to starting desalination facility operations, about 20 corrosion-resistant clamps within the nearshore portion of the outfall to replace existing clamps that would not provide sufficient protection to the outfall from the desalination brine. This installation would involve work on the beach and possible placement of fill in coastal waters. Additionally, Cal-Am must install an approximately two-mile long liner within the existing wastewater outfall to prevent its facility's discharge from corroding the outfall line. Pursuant to an agreement between Cal-Am and Monterey One Water, the liner would be installed by Monterey One Water. The CPUC included this Project component as a required mitigation measure in its Final EIR/EIS and analyzed the

⁴ A dispute exists over whether Cal-Am currently has approval to use this existing pipeline. The pipeline's majority owner, the Marina Coast Water District, has determined that the pipeline does not have sufficient capacity for Cal-Am's proposed use, though Cal-Am disagrees with that determination and asserts that it has the authority to use the pipeline. This issue is described further in the Assessment of Alternatives in Section II.O below.

⁵ The coastal zone boundary runs along the centerline of the bridge, and the pipeline would be installed inland of the boundary.

⁶ The Regional Water Quality Control Board is reviewing Cal-Am's proposed project to determine whether it would be consistent with Ocean Plan requirements applicable to seawater desalination facilities. See Section II.I of these Findings.

foreseeable impacts of the liner work. However, Cal-Am did not include this aspect of the work needed for this Project in its CDP application. Because it is not certain how Monterey One would undertake this liner work, there is not a complete, final description of the work at this point. However, the Final EIR/EIS described and analyzed the probable impacts of this work, and Cal-Am has since provided information to the Commission showing another potential method for completing the work. In order to ensure that these Findings describe all potential aspects of and impacts from the Project, the potential impacts of this work, based on currently known information, is generally described herein. The outfall liner would need further approvals from Monterey One Water and possibly other agencies, including the City of Marina.

Project timing

Project construction would occur over an approximately two-year period. Cal-Am anticipates that its desalination facility would have an operating life of about 60 years (until about 2080) and that the slant wells would have operational lives of 20 to 25 years (until about 2040 to 2045), at which point Cal-Am anticipates drilling new slant wells to continue supplying source water for its facility. Coastal resource issues related to the slant wells' expected operating life are described below in Sections II.H and II.O of these Findings.

Project objectives

The Project's primary purpose is to provide Cal-Am a source of water to serve its customers' current and future demands while reducing Cal-Am's reliance on water from the Carmel River.

As stated in the Final EIR/EIS, the primary Project objectives are:

- 1) Develop water supplies for Cal-Am's Monterey District service area to replace existing Carmel River diversions in excess of Cal-Am's legal entitlement of 3,376 acre-feet per year, in accordance with SWRCB Orders 95-10 and 2016-0016;
- 2) Develop water supplies to enable Cal-Am to reduce pumping from the Seaside Groundwater Basin from approximately 4,000 to 1,474 acre-feet per year, consistent with adjudication of the groundwater basin, natural yield, and improvement of groundwater quality;
- 3) Provide water supplies to allow Cal-Am to meet its obligation to pay back the Seaside Groundwater Basin by approximately 700 acre-feet per year over 25 years as established by the Seaside Groundwater Basin Watermaster;
- 4) Develop a reliable water supply for the Cal-Am Monterey District service area, accounting for the peak month demand of existing customers;
- 5) Develop a reliable water supply that meets fire flow requirements for public safety;
- 6) Provide sufficient water supplies to serve existing vacant legal lots of record;
- 7) Accommodate tourism demand under recovered economic conditions;
- 8) Minimize energy requirements and greenhouse gas emissions per unit of water delivered; and
- 9) Minimize project costs and associated water rate increases.

The Final EIR/EIS also included the following Secondary Project objectives:

- 1) Locate key project facilities in areas that are protected against predicted future sea-level rise in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts;
- 2) Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build out demand in accordance with adopted General Plans; and
- 3) Improve the ability to convey water to the Monterey Peninsula cities by improving the existing interconnections at satellite water systems and by providing additional pressure to move water over the Segunda Grade.

B. PROJECT BACKGROUND

This section discusses two main components of the area's history and background relevant to the proposed Project – a recent history of water issues in the Monterey area and background on the site of Cal-Am's proposed well field at the CEMEX sand mining facility. It refers to several entities involved in the area's relatively complex water management and delivery systems, including the following:

- **California-American Water Company (“Cal-Am”)**: Cal-Am, the applicant and one of the appellants in this matter, is a private, investor-owned company that supplies water for areas on and near the Monterey Peninsula. Its service area includes the Cities of Monterey, Seaside, Sand City, Carmel-by-the-Sea, and Del Rey Oaks, and nearby portions of Monterey County. Cal-Am's rates are regulated by the California Public Utilities Commission (“CPUC”), which in 2018 approved Cal-Am's request to include the costs of its proposed desalination project in its water rates.
- **Monterey Peninsula Water Management District (“MPWMD”)**: MPWMD is a public agency whose main functions are to augment the regional water supply through integrated management of surface and ground water, conservation, and water reuse and reclamation. MPWMD's service area overlaps Cal-Am's to a large degree, and includes areas within the Cities of Carmel-by-the-Sea, Del Ray Oaks, Monterey, Pacific Grove, Seaside, and Sand City, along with other nearby areas. For purposes of these Findings, one of MPWMD's important functions is to assist Cal-Am in developing a legal water supply.⁷
- **Monterey One Water**: Monterey One Water is a regional, public agency primarily involved with collection, conveyance, and treatment of waste water within its service area, which includes much of the region between Moss Landing to the north, Pacific Grove to the west, and Salinas to the east. For purposes of these Findings, one of Monterey One Water's important roles is its management of the Pure Water project, which provides the foundation for the Pure Water Expansion that the Commission has identified as a feasible alternative to Cal-Am's proposed Project.

⁷ See MPWMD's website at <https://www.mpwmd.net> (accessed August 6, 2020).

- **Marina Coast Water District (“MCWD”)**: MCWD provides potable water to about 35,000 people in and near the City of Marina. Over the next several decades, it is projected to serve about twice that number of people, due to the expected development of the nearby former Fort Ord Army Base. MCWD obtains its water from wells within the Salinas Valley Groundwater Basin, the same aquifer system that Cal-Am would use as the source for its proposed well field.
- **Castroville Community Services District (“CCSD”)**: CCSD provides water and sewer service, along with storm water management, street maintenance, and other services to the community of Castroville in northern Monterey County. It relies primarily on water provided by wells withdrawing water from the Salinas Valley Groundwater Basin. The CCSD is outside of Cal-Am’s service area, but would be involved in Cal-Am’s proposed Project because it would receive potable water from Cal-Am based on a Return Water Agreement developed among Cal-Am and other entities within the Salinas Valley Groundwater Basin. This is more fully described in Sections II.N and II.O of these Findings.
- **Monterey County Water Resources Agency (“MCWRA”)**: MCWRA manages, protects, stores, and conserves water resources in Monterey County. It operates a number of facilities in the area to store and convey various water supplies and is involved in flood control, managing seawater intrusion, and stream maintenance programs.

Recent History of Water Issues in Monterey Area

The Monterey area has had long-standing difficulties with its water supply. The area has no imported water sources, and local supplies have sometimes been insufficient to provide the expected amount of water. Over the past several decades, a number of water supply projects have been proposed, but for various reasons have not reached fruition.

Cal-Am has provided water to the Monterey Peninsula area since 1966. Its primary source of water has been a series of wells along the Carmel River that draw water from the aquifer underlying the river. Cal-Am also shares a network of wells in the Seaside Groundwater Basin with other water users.

In 1995, the State Water Resources Control Board (“State Water Board”) issued an order (Order 95-10)⁸ that substantially reduced the amount of water Cal-Am was able to legally withdraw from the Carmel River. Cal-Am had previously been pumping an annual average of about 10,370 acre-feet per year from the river, but the State Water Board determined that Cal-Am had a legal right to withdraw no more than 3,376 acre-feet annually. The State Water Board’s Order required Cal-Am to take any of several steps to address this issue – obtain the necessary appropriative rights, obtain water from other sources that would allow it to reduce its use of Carmel River water, and/or

⁸ See State Water Resources Control Board, Order No. WR 95-10, Order on Four Complaints Filed Against the California-American Water Company, Carmel River, Monterey County, July 6, 1995.

obtain water from other entities that have the rights to use Carmel River water. The Order also directed Cal-Am to reduce its Carmel River Basin water use in part by maximizing its use of water from the Seaside Groundwater Basin.

Around the same time, the Monterey Peninsula Water Management District (MPWMD) proposed constructing a new dam on the Carmel River; however, local voters rejected the dam's financing plan and the dam was not built. Shortly thereafter, two species in the Carmel River watershed were listed as "threatened" under the federal Endangered Species Act – the red-legged frog in 1996 and the steelhead trout in 1997, which severely limited any future consideration of dams on the river.

In 1998, state legislation directed the CPUC to develop a water supply plan for the Monterey Peninsula that did not include a dam.⁹ In 2002, the CPUC completed its plan, known as "Plan B", which included a 9,400 acre-foot per year desalination facility at Moss Landing and an Aquifer Storage and Recovery ("ASR") system that would store about 1,300 acre-feet per year of Carmel River water in the Seaside Basin. Plan B served as the basis for a 2004 application by Cal-Am to the CPUC for the proposed Coastal Water Project, which included a desalination facility at the Moss Landing Power Plant, transmission pipelines from Moss Landing to the Monterey Peninsula, a reservoir, pump stations, and ASR facilities. During the CPUC's review, the State Water Board's Division of Water Rights in 2009 issued a Cease-and-Desist Order to Cal-Am that required Cal-Am to significantly reduce its Carmel River withdrawals by 2016, thereby increasing the urgency of selecting and constructing a water supply project.¹⁰ Nonetheless, several concerns were raised about the desalination facility's proposed use of a power plant open water intake and the resulting significant adverse effects on marine life, the distance of the facility from the service area, and the associated increased transmission costs, among others. These concerns led to the development of alternative water supply proposals, including one developed by regional stakeholders known as the "Regional Water Project, Phase I." This alternative proposed moving the desalination facility closer to the Monterey Peninsula and using vertical and slant wells instead of an open water intake. In December 2010, the CPUC certified an Environmental Impact Report for this Regional Water Project and approved several agreements among stakeholders that established project partner responsibilities regarding construction, ownership, operations, maintenance, and payments. However, in 2012, the CPUC voted to end its review of the project due to several problems and disputes.

⁹ AB 1182 required the CPUC to consult with Cal-Am and a number of affected parties to prepare a contingency water supply plan that did not rely on a new dam.

¹⁰ The Order established a schedule for Cal-Am to reduce its Carmel River well water withdrawals from its 2009 volume of 10,730 acre-feet per year to no more than 3,376 acre-feet per year by 2016.

In 2013, Cal-Am and other stakeholders proposed the initial version of the currently proposed Project, the Monterey Peninsula Water Supply Project (MPWSP or Project) as a replacement for the defunct Regional Water Project. In April 2013, Cal-Am filed an application with the CPUC for the MPWSP, which included slant wells that would be located at the CEMEX site, a desalination facility to be located about two miles inland adjacent to a regional wastewater treatment facility, pipelines, and the other related facilities needed to produce and deliver water to Cal-Am's service area on the Monterey Peninsula. The CPUC, in conjunction with the Monterey Bay National Marine Sanctuary, prepared a joint Environmental Impact Review/Environmental Impact Statement ("Final EIR/EIS") to meet requirements of the California Environmental Quality Act and National Environmental Policy Act. In September 2018, the CPUC certified the Final EIR and issued its Certificate of Public Convenience and Necessity for the proposed Project (see Exhibit 4).

The decision allowed Cal-Am to recover reasonable construction and operational costs of its proposed Project from ratepayers. It also required Cal-Am to construct a smaller desalination facility than it had initially proposed – a 6.4 mgd facility instead of a 9.6 mgd facility – and to purchase water from the Pure Water project, a water recycling and aquifer recovery and storage project that was being developed by two public water agencies, the Monterey Peninsula Regional Water District and Monterey One Water. This Pure Water project is now operating, and as described below in Section II.O – Assessment of Alternatives, would serve as the base project for the Pure Water Expansion that the Commission has identified as a feasible and less environmentally damaging alternative to Cal-Am's proposed Project.

Cal-Am then submitted two CDP applications: one to the City of Marina for Project components proposed within the City's coastal zone, and another, consolidated CDP application for components of the proposed Project within the Commission's retained jurisdiction and those within the coastal zone of the County of Monterey and the City of Seaside. In March 2019, the City denied Cal-Am's request for a permit and Cal-Am and others appealed that decision to the Commission. In November 2019, the Commission found substantial issue existed with respect to the appeal, but continued both the de novo appeal and the consolidated permit review until a subsequent hearing, now scheduled for September 17, 2020.

Background and history of the CEMEX sand mining facility: As noted above, the location of Cal-Am's proposed well field has been used for sand mining for over a century, most recently by its current owner, CEMEX. The site includes sedimentation ponds, sand mining equipment and related infrastructure, accessways, and stockpile areas, some of which have remained in relatively the same location for several decades and some of which have moved within the site due to changing production levels, shifts in the surrounding dunes, changes in sand delivery to the site from the Bay, and other factors. In the mid-1980s, the Monterey Peninsula Water Pollution Control Agency (now Monterey One Water) constructed the outfall Cal-Am proposes to now use along the southern portion of the CEMEX site.

In July 2017, the Commission, CEMEX, the City of Marina, and the State Lands Commission approved a Settlement Agreement that will result in an end to sand mining at the site, transfer of the site to another entity, and development and implementation of a plan to conduct extensive restoration at the site to improve dune habitat and provide public access opportunities. This Agreement acknowledges that existing legal interests on the site would remain in effect, which at the time included Cal-Am's option to purchase or obtain an easement over the portion of the site needed for Cal-Am's proposed well field and pipelines. Cal-Am has since exercised its option and has obtained an approximately 30-acre easement on the CEMEX site.

C. JURISDICTION AND CONSOLIDATED PERMIT REVIEW

Project components would be located in several local jurisdictions both within and outside of the coastal zone, as well as within the Commission's retained permit jurisdiction. As noted above, the desalination facility and segments of the water transmission pipelines would be located outside the coastal zone within the County of Monterey's jurisdiction. The pipelines would be located within the certified LCP jurisdictions of Monterey County and the Cities of Seaside and Marina, and within an area of deferred certification where the Commission has permit jurisdiction. The Project's proposed well field would be located largely within the City of Marina's LCP jurisdiction, while those subsurface portions of the wells that extend seaward beyond the mean high tide line, along with modifications to the existing outfall, would be within the Commission's retained permit jurisdiction. All Project components within the coastal zone and outside the City of Marina are being evaluated herein pursuant to consolidated permit review, as provided by Coastal Act Section 30601.3. The standard of review for these components is Chapter 3 of the Coastal Act.

The other Project components that are within the City of Marina's LCP jurisdiction are evaluated herein pursuant to appeals of the City's decision denying Cal-Am's CDP application to construct and operate slant wells, a water transmission pipeline, and associated infrastructure that would be located within the City's LCP jurisdiction.¹¹ On November 14, 2019, the Commission found that substantial issue existed with respect to these appeals. The standard of review for these Project components is the City's certified LCP, which consists of its Local Coastal Land Use Plan (LCLUP) and its Local Coastal Program Implementation Plan (LCPIP). The relevant policies and measures of these documents are codified in the Chapter 17.41 of the City's Municipal Code under "Coastal Zoning" and are implemented through requirements and development standards identified in the Ordinance. In addition, the Commission analyzes whether Project components located between the first public road and the sea are consistent with the public access and recreation policies of the Coastal Act.

Cal-Am and some other commenters have questioned the Coastal Commission's jurisdiction to analyze, as part of its Coastal Act review, water rights, water supply and demand, the public need for the Project, and some related issues. Cal-Am asserts that "only the CPUC has the authority to make binding determinations as to the levels of supply and demand within Cal-Am's service area." It also asserts that "the issue of water rights is not for the Commission to decide," and that the Commission should defer to the State Water Board on questions related to water rights and water quality. As explained below, the Commission, CPUC, and State Water Board all have separate, but sometimes overlapping roles, with regard to Cal-Am's proposed Project.

¹¹ On March 7, 2019, the City's Planning Department denied Cal-Am's CDP application. Cal-Am appealed the decision to the City Council, but then withdrew that appeal and instead appealed directly to the Commission. On May 13, 2019, the City issued its Final Local Action Notice, which started a 10-working day appeal period, during which the Commission received five valid appeals. Pursuant to Coastal Act Section 30621, the Commission must hear an appeal within 49 days of the date an appeal is filed, unless the applicant waives that 49-day period, which Cal-Am did on May 30, 2019.

The Commission has the authority and duty to analyze whether aspects of the Project within the coastal zone are consistent with the Coastal Act and/or the City of Marina's LCP. As a responsible agency under CEQA, the Commission must also consider the Final EIR/EIS certified by the CPUC, analyze the environmental effects of the portions of the Project within the coastal zone, and consider whether there are feasible mitigation measures or alternatives available that would lessen or avoid any such significant impacts.¹² As part of its Coastal Act review in this case, the Commission must consider whether the Project will have groundwater effects, whether there are feasible project alternatives, whether denial of the Project would adversely affect the public welfare, and whether the Project would cause an unequal distribution of environmental burdens. (See Coastal Act §§ 30231, 30233, 30260, 30604(h).) To make these findings—and particularly the public welfare and feasibility findings—the Commission needs to consider whether the Project's full water supply is needed and whether an alternative water supply project is feasible and would provide sufficient water. It also must consider whether there are uncertainties regarding Cal-Am's water rights or other issues that might cause Cal-Am's Project to be unsuccessful or significantly delayed, thereby affecting whether approval of the Project, versus an alternative, would truly benefit the public welfare.

In analyzing these issues, the Commission should consider, and may rely on, information and conclusions reached by the CPUC in its ratemaking proceeding for Cal-Am, and on advice provided by the State Water Board. The CPUC has exclusive jurisdiction to set rates for regulated water utilities, and also has expertise in water supply and demand issues as well as the fairness of water customers' rates. The State Water Board has expertise in water rights and water quality issues, and it advised the CPUC on water rights issues during the CPUC's proceedings. The Commission, however, is not legally required to accept and use the CPUC's water supply and demand numbers; rather, the Commission has independent authority to review the issues above based on current evidence in order to make the necessary findings under the Coastal Act. Unlike some energy projects within the jurisdiction of the State Energy Commission, over which the Commission has a statutorily prescribed, and more limited, role (see Coastal Act § 30413), the Coastal Act does not limit the Commission's role with respect to projects that also fall under the CPUC's jurisdiction. The CPUC has exclusive jurisdiction to determine whether to issue a certificate of public convenience and necessity and permit Cal-Am to recover certain rates from its customers if it builds this project. However, other agencies, including the Commission, may conduct their own analyses of water demand and supply if it is pertinent to their own decision-making pursuant to their own authority.¹³

¹² The Commission need not create a separate document to carry out its CEQA obligations; rather, the Commission uses its certified regulatory program in lieu of needing to adopt a separate environmental impact report or other CEQA document. (See Pub. Res. Code § 21080.5; 14 Cal Code Regs. § 15251(c).) Thus, the analysis in these Findings satisfies any CEQA obligations the Commission has.

¹³ For example, the Monterey Peninsula Water Management District is responsible for water supply and demand planning on the Monterey Peninsula and has written a letter to the Coastal Commission

The Coastal Act does prescribe limits on the Commission's jurisdiction vis-à-vis the State Water Board, stating that the Commission may not act in a manner that conflicts with any determination by the State or a Regional Water Board "in matters relating to water quality or the administration of water rights." (Coastal Act § 30412(b).) However, the Commission's action here complies with that provision, as it does not impose a conflicting water quality limit on Cal-Am's Project nor deal with the State Water Board's administration of water rights. Indeed, as the State Water Board acknowledged in its advice letter to the CPUC, the Board does not issue permits for projects that seek to obtain ocean water or percolating groundwater, nor does it adjudicate appropriative groundwater rights.¹⁴ At the CPUC's request, it did issue an opinion regarding Cal-Am's potential to obtain groundwater rights, but that was provided in an advisory capacity and "is not binding on any party or entity."¹⁵ In any event, the Commission's discussion of Cal-Am's potential ability to obtain groundwater rights does not conflict with the State Water Board's advisory opinion on that issue, as both agencies acknowledge there is uncertainty regarding the extent to which Cal-Am will be able to develop such rights. The Regional Water Board also has not yet issued any permit that would authorize Cal-Am's proposed ocean discharge, so Commission denial of the Project does not conflict with any such permit.

Other Agency Approvals & Consultations

The Project would be additionally subject to the following discretionary permits and approvals:

- **Monterey One Water:** Cal-Am will need to obtain authorization from Monterey One Water for connection to, and use of, the agency's ocean outfall.
- **Monterey County:** Cal-Am obtained an encroachment permit from the County for construction of its pipelines within County jurisdiction. It also received a use permit from the County that allowed Cal-Am to start construction of the desalination facility; however, that permit has been stayed by the County Superior Court.
- **State Lands Commission:** Cal-Am will need to obtain a lease of state tidelands from the State Lands Commission. Cal-Am has submitted a lease application that is currently under review by State Lands Commission staff.
- **Central Coast Regional Water Quality Control Board ("Regional Water Board"):** Cal-Am will need to obtain a National Pollution Discharge Elimination System ("NPDES") Permit allowing it to discharge brine through the MRWPCA outfall and to modify that outfall to allow the discharge. Cal-Am will also need to obtain approval from the Regional Water Board to ensure Cal-Am's use of groundwater from the Salinas Groundwater Basin is consistent with the Regional Water Board's adopted Basin Plan.

encouraging it to deny Cal-Am's Project in part because it disagrees that the region's demand is as high as stated in the CPUC's proceedings.

¹⁴ See https://www.cpuc.ca.gov/Environment/info/esa/mpwsp/feir-eis/Individual_Appendices/Appendix_B2.pdf, pp. 33, 35, 53, 116.

¹⁵ Id., p. 53.

- **California Department of Transportation (“CalTrans”)**: Cal-Am has obtained encroachment permits from CalTrans for the segments of its pipelines that would be constructed within CalTrans rights-of-way.
- **Transportation Agency of Monterey County (“TAMC”)**: TAMC has approved an Easement Purchase Agreement with Cal-Am for portions of the pipelines within TAMC rights-of-way.
- **Monterey Bay National Marine Sanctuary**: The Sanctuary issued a Record of Decision for its Final Environmental Impact Statement, though Cal-Am will also be subject to authorization from the Sanctuary to allow discharges into Sanctuary waters and drilling and disturbance of submerged lands within the Sanctuary.¹⁶
- **Other landowners**: Cal-Am is negotiating with several private landowners along sections of its proposed pipeline routes, several of whom have stated that they would not consider providing approval until after the Coastal Commission’s decision on the proposed Project.

Tribal consultation: During the Project’s CEQA review, the CPUC requested information from the Native American Heritage Commission (“NAHC”) regarding potential tribal cultural resources that the Project might affect. The NAHC did not identify any such resources, though provided a list of Native American contacts that might have additional information about such resources. The Project area is within the traditional lands of the Ohlone/Costanoan-Esselen Nation. Coastal Commission staff contacted the Nation requesting consultation, though did not receive a response. The Final EIR/EIS notes, however, that consultation would be ongoing throughout the Project.

E. FINDINGS ON COASTAL DEVELOPMENT PERMIT DETERMINATION AND DE NOVO HEARING

Because the Commission found, in November 2019, that the appeal of the City of Marina’s denial of Cal-Am’s CDP application for portions of the proposed Project within the City’s LCP jurisdiction raises substantial issue, the Commission now reviews that portion of the Project de novo. Cal-Am has also applied for a consolidated CDP for portions of its proposed Project within the Commission’s retained jurisdiction and within the certified LCP jurisdictions of the City of Seaside and the County of Monterey. The findings below address all portions of the Project within these jurisdictions, using the Coastal Act as the standard of review for those Project components within the Commission’s consolidated permit jurisdiction and using the City of Marina’s certified LCP and Coastal Act public access and recreation policies as the standard of review for Project components within the City’s LCP jurisdiction.

¹⁶ The Sanctuary also served as lead agency under the National Environmental Policy Act (“NEPA”) for the project’s Environmental Impact Statement.

F. ENVIRONMENTALLY SENSITIVE HABITAT AREAS – TERRESTRIAL

Coastal Act Section 30240 states:

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

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

Coastal Act Section 30107.5 states:

Environmentally sensitive area” means 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.

Relevant City of Marina LCP Provisions

LCLUP Policy 19:

Promote reclamation and protection of native dune habitat and vegetation.

LCLUP Policy 25:

Protect the habitat of recognized rare and endangered species found in the Coastal dune area.

LCLUP Policy 26:

Regulate development in areas adjacent to recognized rare and endangered species or their habitats so that they will not threaten continuation of the species or its habitat.

LCLUP Policy 41:

Give priority to coastal-dependent development on or near the shoreline and to ensure environmental effects are mitigated to the greatest extent possible.

LCLUP Exhibit A states:

Primary habitat. This term includes all of the environmentally sensitive habitat areas in Marina. These are as follows:

1. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as “rare and endangered.”

3. All native dune vegetation, where such vegetation is extensive enough to perform the special role of stabilizing Marina's natural sand dune formations.
4. Areas otherwise defined as secondary habitat that have an especially valuable role in an ecosystem for sensitive plant or animal life., as determined by a qualified biologist approved by the City. [Resolution No. 2001-118 (October 16, 2001); approved by CCC November 14, 2001]

Secondary habitat. This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation:

1. The potential/known localities of rare and endangered plant species as shown on LUP p. 71 ("Disturbed Vegetation" map).
2. The potential wildlife habitats as shown on LUP p. 75 ("Potential Wildlife" map).
3. Any area within 100 feet of the landward boundary of a wetland primary habitat area.

Rare and endangered species. This term will apply to those plant and animal species which are rare, endangered, threatened or are necessary for the survival of such species. The Environmental Analysis Report prepared for the Marina Local Coastal Program identified such species in the dune habitat areas. While future scientific studies may result in addition or deletion of species, the list presently includes:

1. Smith's Blue Butterfly (*Shijimiaeoides enoptes smithi*)¹⁷
 2. Globose Dune Beetle (*Coelus globosus*)
 3. Black Legless Lizard (*Anniella pulchra nigra*)
 4. Salinas Kangaroo Rat (*Dipodomys Heermanni Goldmani*)
 5. Seaside Painted Cup (*Castilleja latifolia* ssp. *Latifolia*)
 6. Monterey Spine Flower (*Chorizanthe pungens* var. *pungens*)
 7. Eastwood's Ericameria (*Ericameria fasciculata*)[sic]¹⁸
 8. Coast Wallflower (*Erysimum ammophilum*)
 9. Menzies' Wallflower (*Erysimum menziesii*)
 10. Coastal Dunes Milk Vetch (*Astragalus tener* var. *titi*)
 11. Dune Gilia (*Gilia tenuiflora* var. *arenaria*)
 12. Wild Buckwheat (*Eriogonum latifolium*)*
 13. Wild Buckwheat (*Eriogonum parvifolium*)*
 14. Bush Lupine (*Lupinus* ssp.)+
- * only within the range of Smith's Blue Butterfly.
+ only within the range of the Black Legless Lizard.

¹⁷ This name has been updated since publication of the LCP – it is now *Euphilotes enoptes smithi*.

¹⁸ The correct spelling is *Ericameria fasciculata*.

LCLUP Habitat Protection Policies include:

Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by a qualified biologist to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site.

Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long-term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.

Potential secondary or support habitat areas to the primary habitats identified on the site should also be defined. Secondary habitat investigation should include identification of the role and importance of the secondary area to the primary habitat area and should stress the impact of use or development in the secondary area on the primary habitat. All development in this area must be designed to prevent significant adverse impacts on the primary habitat areas. In concert with State law, City ordinances shall require environmental review and appropriate mitigation of identified impacts for all development in the Coastal Zone, including the assurance of long term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.

Available evidence indicates that dune vegetation is more resilient than previously thought, and areas damaged by illegal use or negligence shall be considered restorable and eligible for restoration.

Where habitats of rare and endangered species are located on any parcel, owners and/or operators shall, at such time that development is proposed, develop and execute a Management Plan which will protect identified rare and endangered plant and animal communities. Each plan shall be drawn up by a qualified biologist in co-operation with the property owner/developer.

LCLIP Regulations for Coastal Conservation and Development District Policy (b)(2): Regulations for coastal conservation and development uses shall be specified in the Coastal Development Permit. The permit-issuing body may approve Permit applications if the following factors, where relevant, are found to apply: ...

- b. Development is limited to already-disturbed areas.
- c. Rare and endangered plant and animal habitats are adequately protected
- d. Grading and roadway construction and are the minimum necessary for the development. ...
- g. All significant adverse environmental effects are either avoided or adequately mitigated.

Summary

Cal-Am's proposed Project would disturb up to several dozen acres of ESHA or would otherwise adversely affect, or have the potential to adversely affect, a number of sensitive plant and animal species (see Exhibit 5 – Special Status Species and Natural Communities That Could Be Significantly Impacted During Construction of the Proposed Facilities). The project's primary area of long-term ESHA disturbance would be at the site of Cal-Am's proposed well field on the CEMEX site within the City of Marina's LCP jurisdiction, where the initial construction activities would result in adverse effects to up to about nine acres of coastal dune habitat, all of which is considered ESHA. There would also be post-construction and operational impacts resulting from building concrete pads at the six well head locations that would cover a total of about an acre of that habitat, along with the ongoing activities needed to maintain those well sites every few years, which would disturb about six acres of ESHA. Cal-Am expects the wells to have operating lives of about 20 to 25 years, as well operations generally result in lower yields over time. They would also eventually be affected by coastal erosion and dune recession and would need to be relocated at that time, likely further from the shoreline, which would result in additional ESHA impacts, as the ESHA at the site currently extends several thousand feet further inland. Changing the locations in response to lower yield could allow Cal-Am to move the wells close to their current positions, but parallel to the shoreline instead of further inland, but that, too, would result in additional ESHA impacts and would subject them to higher risk of coastal erosion and dune recession. In other parts of the Project footprint within the Commission's consolidated permit jurisdiction in the County of Monterey, City of Seaside, and the area of deferred certification, Cal-Am's installation of its various pipelines could result in construction-related impacts to up to about two dozen acres of ESHA and other areas that include known or potential occurrences of sensitive plant and animal species, their habitats, and/or communities.¹⁹

The Findings below first assess impacts to terrestrial ESHA within the City of Marina, where the standard of review, for purposes of the appeal of the City's denial of Cal-Am's CDP application, is the City's LCP. The Findings next assess other affected areas within the coastal zone of Monterey County, the City of Seaside, and the Commission's retained jurisdiction, where the standard of review, under the Commission's consolidated permit review, is Chapter 3 of the Coastal Act and specifically Section 30240, which establishes allowable and prohibited uses in ESHA and areas adjacent to ESHA. The Findings then separately evaluate expected and potential impacts to vernal ponds within the City of Marina, which the City's LCP includes in its definition of ESHA.

¹⁹ The project's Final EIR/EIS included mitigation measures meant to avoid some of these impacts, but they allow for the impacts to occur if project activities cannot avoid affecting these sensitive areas and species that may be identified during pre-construction surveys. Until those detailed studies occur, it is not known how extensive the actual impacts to ESHA would be.

The Commission's Findings below show that the Project components both within the City of Marina and within the Commission's consolidated permit review jurisdiction are not consistent with Coastal Act and LCP provisions that require development within ESHA to be dependent on the protected habitat resources. Proposed project components within the City are additionally not consistent with LCP provisions requiring that habitat of rare and endangered species be protected, that development be designed to avoid impacts to ESHA, and that the adverse effects of allowable development be mitigated to the greatest extent possible. However, because the proposed Project is a coastal-dependent industrial facility, the Commission finds that the Project can be considered for approval, despite its non-conformity to these ESHA policies, pursuant to Coastal Act Section 30260, which allows for approval of such facilities that are otherwise inconsistent with relevant Coastal Act policies. The LCP similarly allows for approval of otherwise non-consistent coastal-dependent industrial development if it is a use allowed pursuant to Coastal Act 30260.²⁰ The Findings regarding ESHA are provided immediately below and Section II.P of these Findings provides the Commission's determination regarding Coastal Act 30260.

ESHA within the City of Marina

Cal-Am's proposed well field and a portion of its Source Water Pipeline would be located on a 30-acre easement and an access easement within the CEMEX site in the City of Marina (see Exhibit 3 – Proposed Project Well Field). The Commission's 2014 Findings regarding Cal-Am's test well project at this same location determined that this area consisted of Environmentally Sensitive Habitat Area ("ESHA"). More recent surveys conducted pursuant to the CPUC's CEQA review confirmed the continuing presence of several special-status species within the proposed well field, and a July 2017 site visit by the Commission's ecologist concluded with a recommendation that the full site be considered ESHA.

ESHA determination under the LCP: The City's LCP establishes two types of habitat – "primary" and "secondary" – and describes the different levels of required habitat protection and allowable uses in each. The LCP states that primary habitat "includes all of the environmentally sensitive habitat areas in Marina" and defines it as being the "potential locale for rare and endangered plant [sic] and animal species and identified, at the time of development, by a qualified biologist as supporting rare and endangered plant and animal species." The LCP further states that "primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas." The LCP's "primary habitat" definition and its related provisions are similar to the Coastal Act's definition of ESHA, which is "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

²⁰ In an unpublished decision stemming from a challenge to the Commission's approval of Cal-Am's test wells, the Sixth District Court of Appeal upheld the Commission's finding that Section 30260 is incorporated in the City's LCP.

developments.”²¹ The LCP’s use limitations in those primary habitat areas are also similar to the Coastal Act’s, in that both allow only those uses that are dependent on the habitat resources. Because the LCP’s policies derive from the authority of the Coastal Act, we read its policies regarding primary habitat to be consistent with those of the Coastal Act.²²

The LCP’s other category – secondary habitat – is defined as those areas “adjacent to primary habitat on which the primary habitat area is dependent or from which the primary area can be influenced by drainage, erosion, human, equestrian or vehicle use or other factors.” The LCP requires that direct and potential impacts to both primary and secondary habitat be fully mitigated. While the LCP includes maps of areas presumed to be primary or secondary habitat, it notes that the actual determination of habitat type and category for a particular location must be based on a site-specific biological study.²³

For several reasons, the area of coastal dune habitat where the proposed well field would be located is considered an area of primary habitat, and therefore ESHA. First, and as detailed below, although it would be in a previously disturbed area of the CEMEX site that consists largely of compacted and sparsely vegetated sand dunes, it nonetheless provides habitat for at least three threatened or endangered species, as described below. Additionally, a number of other special-status species are known to exist or have the potential to exist within the footprint or in adjacent areas of the dunes. The presence of these special-status species confirms that the proposed Project footprint includes primary habitat and is therefore ESHA.

This type of dune habitat is easily disturbed by human activity. Nonetheless, and as described herein, even though this area is disturbed, degraded dune habitat generally has the ability to restore itself or be restored. The proposed well field area consists of the same substrate as the rest of the dune habitat and is contiguous to less disturbed or undisturbed areas. Barring ongoing disturbance or development, the well field site would soon be colonized by dune biota, either from the adjacent areas or from buried seed stock. The presence of the above-noted threatened or endangered species in the

²¹ See Coastal Act Section 30107.5.

²² The LCP derives its statutory authority from the Coastal Act, and all of its provisions, including the policies above, must be read consistent with and understood to conform to the Coastal Act as a matter of law (*McAllister v. California Coastal Commission* (2009) 169 Cal.App.4th 912, 931).

²³ The LCLUP policies regarding Rare and Endangered Species – Habitat Protection includes the following statement: “In Marina’s Coastal Zone, the foredune, dune and grassy inland areas all contain potential habitat for rare and endangered plants and animals. The precise range for each plant and animal is not known because intensive site-specific study throughout the area was not financially possible. However, the potential for various rare and endangered habitats has been identified and mapped (see Environmental Capability section) to provide a guide to the locations where more intensive study is required. Because site-specific study is needed in many areas before any development can take place the following policies apply to all of the areas indicated on the map or meeting the definitions of Exhibit “A” as being potential habitats for rare and endangered plants and animals.”

proposed Project area provides further evidence that this degraded and historically manipulated area still provides valuable coastal dune habitat and could likely support other rare or threatened species if not further disturbed.

Further, the City's LCP acknowledges that disturbed dune habitat is resilient and relatively easy to restore.²⁴ The LCP also requires that the reclamation and protection of native dune habitat be promoted, and that habitat for rare and endangered species, such as this dune habitat, be protected (see LUP Policies 19 and 25). The Commission, too, has previously found that even degraded dunes can provide habitat for rare and threatened dune species and that degraded dune areas can constitute ESHA.²⁵ Thus, interpreting the LCP's definition of primary habitat consistent with the Coastal Act, the Commission finds that the coastal dune area in which the well head portions of the proposed Project would be located constitutes ESHA and meets the description of primary habitat under the LCP.

As noted above, the LCP limits uses within primary habitat to those dependent on the resources,²⁶ and any development within those areas is limited to that which is sited and designed to not interfere with the natural functions of the habitat. The LCP also requires that all adverse effects in primary habitat be fully mitigated. Although the project is proposed to be located in portions of the CEMEX site that have been subject to disturbance, the entire area in which the well field would be located is primary habitat and ESHA under the LCP. The proposed Project is not a resource-dependent use, so it cannot be approved consistent with the LCP's habitat protection policies. Importantly, the Final EIR/EIS identified the project's inconsistency with these LCP provisions as a significant and unavoidable impact.²⁷

Site background and habitat characteristics: The CEMEX site consists primarily of central foredune habitat, which is one of the most important, vulnerable, and geographically constrained environmentally sensitive habitat types in California. The California Natural Diversity Database ("CNDDDB") classifies it as "critically imperiled," this qualifying it as ESHA.²⁸ Dunes form only under certain conditions where adequate sand supply and appropriate wind energy and direction allow. They are a dynamic habitat subject to extremes of physical disturbance, drying, and salt spray. The winds and shifting sands in dune habitat can cause the habitat characteristics and the species at

²⁴ See the fourth paragraph of the LCLUP Habitat Protection Policies.

²⁵ See, for example, Commission actions in the Asilomar Dunes system (including Youssef (CDP 3-11-068) and Goins (CDP 3-11-020)), City of Grover Beach LCP Amendment 1-12, Part 1 (Grover Beach Lodge), Koligian (Commission denial of CDP application A-3-PSB-10-062), and California Department of Parks and Recreation (CDP 3-11-003)

²⁶ LCLUP Habitat Protection Policy, paragraph 2.

²⁷ See Final EIR/EIS, Section 4.6 – Terrestrial Biological Resources.

²⁸ The CNDDDB ranks this habitat type as G1 S1.2, which makes it "critically imperiled" both globally and within the state.

any given location to change on a relatively short or shifting timescale, so a particular area of dune habitat may have relatively higher or lower resource values over time. The changing and often harsh conditions found in coastal dune habitat support plant and animal species that have evolved strategies adapted to these conditions – for example, many dune plants have seeds that can remain dormant for extended periods of time until conditions allow for them to germinate. Many of the plant and animal species adapted to these geographically constrained and relatively harsh conditions have become uncommon and are considered rare, endangered, or have a similar special status. At the same time, their ability to withstand these conditions or to remain dormant for long periods, allows dune habitat, even severely disturbed dune habitat, to either be restored or to restore itself relatively easily. The habitat values in dune areas are therefore best understood in terms of the overall complex of dunes of which they are a part, and the Commission has typically found coastal dune habitat to be ESHA even when it is disturbed, due to its rarity, its important ecosystem functions, and its support of sensitive species.²⁹

Despite more than 100 years of active sand mining, the coastal dune habitat at the CEMEX site provides habitat for over two dozen sensitive species, including several listed as endangered or threatened. The habitat within and adjacent to Cal-Am's proposed well field and pipeline route primarily includes the Central Dune Scrub vegetation community, which also qualifies as ESHA in part due to its CNDDDB ranking,³⁰ and which includes a number of plant and animal species of special concern that have evolved and adapted to the desiccating, salt-laden winds and nutrient poor soils of this area. Between 2012 and 2016, consultants for Cal-Am and the CPUC conducted several biological surveys of the site.³¹ These biological investigations, along with a 2017 site visit by the Commission's ecologist, identified several special-status plant and animal species present within or adjacent to the proposed Project area.³² Species present on the site that are listed as threatened or endangered include:

- **Monterey spineflower** (*Chorizanthe pungens* var. *pungens*), an annual herb listed as federally-threatened under the Endangered Species Act (ESA). It also has a California Rare Plant Rank of 1B.2. It has been observed throughout the CEMEX site, including the proposed well field area.
- **Smith's blue butterfly** (*Euphilotes enoptes smithi*), a federally-endangered species, also ranked by CDFW as S1, is obligate to two host plant species throughout its life cycle – coast buckwheat (*Eriogonum latifolium*) and seacliff

²⁹ This has been the Commission's approach to dune protection at other locations, for example, in the Asilomar Dunes area in Pacific Grove and the in the Del Monte Forest.

³⁰ The CNDDDB ranks this habitat type as G2 S2.2, which is "imperiled" at both the global and state levels.

³¹ See survey dates and findings in Section 4.6 – Terrestrial Biological Resources of the project's Draft EIR/EIS.

³² Along with direct observation during site visits, the presence of sensitive species was supported by historical documentation describing the presence of various sensitive species and communities at the site.

buckwheat (*E. parvifolium*) – that grow in these coastal dunes. While the butterfly's flight season is only from mid-June to early September each year, larvae consume the plants' flowers and seeds and pupate directly on or beneath the plants, where they overwinter until the following flight season. The surveys identified both the butterfly and coast buckwheat within the CEMEX site, including along the access road where Cal-Am's Source Water Pipeline would be built.

- **Western snowy plover** (*Charadrius nivosus nivosus*), is listed as threatened under the federal ESA and is considered a Species of Special Concern and ranked S2 by the CDFW. The shoreline along the CEMEX site is within designated critical habitat for the species and much of the site provides nesting, roosting, or foraging habitat. Nests are more common in the foredunes or on the beach, but also have been found inland of the foredune area where the well field would be located and where they may become more common as shores continue to erode and succumb to sea level rise.

The site also serves as habitat for a number of other special-status species, including several plants on California's Rare Plant Inventory. The sand-loving wallflower (*Erysimum ammophilum*) is eligible for state listing and is considered rare, with a moderate to high degree and immediacy of extirpation (California Rare Plant Rating [CRPR] of 1B.2). It has been observed within the proposed well field area. The site also includes ocean bluff milkvetch (*Astragalus nuttallii* var. *nuttallii*; CRPR 4.2) and branching beach aster (*Corethrogyne leucophylla*; CRPR 3.2), which are included on the California Rare Plant Inventory as species of concern. Other special-status species are known to occupy nearby areas or have the potential to occur at the project site, though they were not identified within the project footprint during these surveys. Plant species include the federally-endangered Robust spineflower (*Chorizanthe robusta* var. *robusta*; CRPR 1B.1), the state- and federally-endangered Menzies' wallflower (*Erysimum menziesii*; CRPR 1B.1), the federally-endangered and state-threatened Sand gilia (*Gilia tenuiflora* ssp. *arenaria*; CRPR 1B.2), and the state-endangered Seaside bird's-beak (*Cordylanthus rigidus* var. *littoralis*; CRPR 1B.1). Two reptiles – the California legless lizard (*Anniella pulchra*; S2) and the coast horned lizard (*Phrynosoma coronatum*; S3), which are considered Species of Special Concern – could also be present. Most recently, Cal-Am reported occurrences of Peninsula coast range shoulderband snail (*Helminthoglypta nickliniana awania* – S1), globose dune beetle (*Coelus globosus* – G1G2/S1S2), and American badger [burrows] (*Taxidea taxus* – S3; CDFW SSC).³³

Native plants found within the area include California sagebrush (*Artemisia californica*), coast buckwheat (*Eriogonum latifolium*), deerweed (*Acmispon glaber*), California lilac (*Ceanothus* spp.), mock heather (*Ericameria ericoides*), silver dune lupine (*Lupinus chamissonis*), and sandmat manzanita (*Arctostaphylos pumila*; CRPR 1B.2). The site also includes native foredune species, such as beach evening primrose (*Camissonia*

³³ See Exhibit 8 – Cal-Am's proposed Habitat Mitigation and Monitoring Plan, June 2020.

cheiranthifolia), yellow sand verbena (*Abronia latifolia*) and beach bur (*Ambrosia chamissonis*). The access road to the CEMEX site has adjacent stands of Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance), which is not necessarily considered a rare plant community though particular vegetation associations within it can meet that designation. Ongoing sand mining and processing operations appear to have contributed to invasive vegetative species dominating several areas within the CEMEX site, particularly iceplant (*Carpobrotus* spp.). In some areas, a thick cover of iceplant has helped prevent establishment or re-establishment of native species.

Location and impacts of proposed Project components within ESHA: Cal-Am's well field would be located on an area of this coastal dune habitat immediately landward of the foredunes that separate the well sites from the shoreline. This habitat had been disturbed during earlier sand mining activities at CEMEX when this area had been used for storage. The mining activities are now confined to a much smaller area and are scheduled to end this year, pursuant to provisions of a 2017 Settlement Agreement between CEMEX, the Coastal Commission, State Lands Commission, and the City of Marina (Order CCC-17-CD-02, or "Settlement Agreement").

This Settlement Agreement requires CEMEX to stop sand mining by December 31, 2020, conduct reclamation activities, and transfer the property to a non-profit or government entity with a deed restriction that ensures protection of the site for public access, open space, and habitat. The future uses anticipated at the site are restoration, low-impact passive recreation, public access, and public education. The Settlement Agreement also recognized existing legal rights at the site, which included a recorded easement and option for Cal-Am to use and eventually purchase or acquire an easement over the approximately 30-acre area on which it planned to build the well field, along with a 30-foot wide easement along the CEMEX access road for the Source Water Pipeline. In 2018, Cal-Am exercised this option to obtain a permanent 30-acre easement and the access easement.

Within this 30-acre easement, Cal-Am would disturb about nine acres during construction of six separate well pads, an access road, and part of the Source Water Pipeline, which would continue inland along the easement. Cal-Am expects that several of these acres – those that would be used for staging and materials storage – would be restored within five years after construction is complete. Cal-Am has suggested these be considered temporary impacts and be subject to a reduced mitigation requirement. However, the Commission generally considers such impacts to be temporary only where 1) the vegetation is recovered to a comparable age, size, structure, and cover relative to pre-construction conditions within 12 months of disturbance, and 2) the proposed activities do not include significant ground disturbance such as grading, trenching, or others that would kill vegetation, disrupt native seedbanks, alter topography or soil horizons, etc. Due to the type of proposed activities and the expected five-year recovery period, these impacts would not be considered temporary. Additionally, the expected need to conduct maintenance at the well sites every few years would result in ongoing impacts to about six of these acres, which could lead to ongoing disturbance during the expected recovery periods. Further, there would likely

be more future losses due to the need to relocate the wells after their expected 20- to 25 year operating lives or due to sea level rise and coastal erosion. These impacts are further detailed below:

- **Well and access road construction:** This work would involve use of heavy equipment, including drill rigs and motor vehicles, that would cause soil compaction, noise effects, potential for fuel spills, crushing of native vegetation, and disturbance of seed banks within the work site. Each well site would be developed within a graded area of a few thousand square feet and would include concrete pads, electrical equipment, and other similar project components. Cal-Am would grade, but not pave, a road to allow access to the well sites. As noted above, the Commission generally considers impacts to be temporary if the affected area is restored within about 12 months; however, in this instance, these adverse construction-related effects would be more than temporary, as they are expected to take about 15 months, with the follow-up restoration expected to take up to five years.³⁴ Additionally, because the drilling work for each well needs to be done continuously, Cal-Am would likely need to meet its expected project deadlines by doing some of this work during all or parts of the breeding and nesting season of the Western snowy plover, thereby disturbing individuals that may be close to the construction area or preventing individuals from using nearby areas for nesting. While these direct and indirect impacts to plovers could be avoided by conducting all work during non-breeding/nesting season (i.e., from October 1 to February 28), the Final EIR/EIS anticipates that Cal-Am would be conducting work during breeding/nesting seasons and includes a number of mitigation measures meant to reduce potential impacts that could occur to nearby plovers or active nest sites.³⁵ Smith's blue butterflies similarly stand to be subjected to disturbance and impacts across all stages of their life history (larvae, pupae and adult) given their obligation to their sessile host plants.

Spoils from well drilling: Cal-Am expects to remove about 1,000 cubic yards of spoils during well drilling and its CDP application had initially proposed spreading the spoils evenly in an approximately two-inch thick layer throughout eight nearby acres of ESHA. However, Commission staff identified this spoils spreading as an avoidable impact and recommended that Cal-Am consider transporting the spoils offsite to an appropriate disposal location. Cal-Am's June 30, 2020 letter to Commission staff modified this spoils spreading approach and confirmed that Cal-Am would dispose of these spoils at the nearby Monterey Peninsula Landfill. This would represent a de minimus reduction in the Landfill's capacity, as Cal-Am has

³⁴ Mitigation measures in the Final EIR/EIS would require temporary impacts to be restored within a five-year period following the impact.

³⁵ The Final EIR/EIS provides that well construction should be conducted during non-breeding season unless otherwise allowed by the U.S. Fish and Wildlife Service. It presumes, though, that construction will occur during that season and includes a number of mitigation measures such as conducting nesting surveys, providing visual barriers between construction and any nests, etc.

calculated the 1,000 cubic yards as being less than two one-thousandth of one percent of the Landfill's remaining capacity. This modification would require additional truck trips, though Cal-Am estimates no more than one trip every two to three days during the expected seven-month well construction period, for a total of between 70 and 105 total trips.

- **Maintaining or relocating well sites:** Cal-Am anticipates having to conduct maintenance at the well sites about every five years and that the area of disturbance – for access, staging, presence of construction equipment, etc. – would total about six acres for each event. This is the same area that would be significantly disturbed and characterized as a permanent impact during the initial construction phase. And even if the latter were not the case, although each maintenance event could be considered relatively short-term, the overall effect would be ongoing, re-disturbance of the area that would prevent adequate restoration and natural community successional processes from occurring between events, which would represent a greater than temporary adverse effect to these areas of habitat.

An additional adverse impact would result from the need for Cal-Am to protect or relocate its well sites due to the effects of sea level rise and coastal erosion. As the nearby shoreline erodes inland, the beach and foredunes at the CEMEX site would also move inland and would be expected to maintain approximately the same profile as they now have. In response to a study done early during the CPUC's CEQA review that showed coastal erosion likely affecting the proposed well sites during their operating life, Cal-Am located them several hundred feet further inland than initially proposed. However, because that study was based on earlier versions of state guidance and science on sea level rise, Commission staff requested that Cal-Am provide an updated study using currently applicable guidance and projections. This more recent study, which Cal-Am provided in October 2019, showed that the well sites would likely be protected from the direct effects of coastal erosion over their proposed 25-year operating life, though it also showed that those well sites could be affected by the inland recession of the foredunes occurring in response to erosion and sea level rise (this is further detailed in these Findings' Section II.H – Coastal Hazards). Essentially, as the shoreline erodes inland, the beach profile, including the foredunes, would also move inland, resulting in the well sites being buried beneath the dune sands. When or before this occurs, Cal-Am would need to protect those sites by erecting barriers around the well pad, conduct grading to keep the sands away from the well pads, or relocate the wells further inland to areas that also constitute ESHA. Those areas inland of the currently proposed well sites are also within the area slated for restoration under the above-referenced CEMEX Settlement and are outside of Cal-Am's 30-acre easement, so relocation would require Cal-Am to obtain additional legal interest to any sites further inland—which is something it is not clear that Cal-Am will be able to do – and would likely interfere with restoration efforts expected in those areas as part of the CEMEX Settlement. As noted above, Cal-Am could possibly move the wells parallel to their currently proposed locations, which could allow them to maintain their expected yield, but would also result in additional ESHA impacts, as well as subject them to higher risks

from coastal erosion and dune recession. Either of these approaches – protection or relocation – would therefore cause additional and longer-term, though unquantified, disturbance of ESHA.

In May 2020, the Commission adopted new principles that direct regulatory agencies to consider, for planning purposes, a scenario of 3.5 feet of sea level rise occurring by 2050. This is about 25% higher than the highest of the Commission’s other sea level rise scenarios and would likely result in the wells being buried or subject to erosion several years sooner than previously anticipated (see also the coastal hazards analyses provided in Section II.H of these Findings).

Other terrestrial ESHA within the City of Marina: As noted above, Cal-Am would construct a Source Water Pipeline from the well field to the desalination facility. This pipeline would be installed mostly within undeveloped lands along the CEMEX access road and Lapis Road. The Final EIR/EIS notes that this construction could result in temporary impacts to up to about 11.8 acres of ESHA. Cal-Am would also construct a Desalination Water Pipeline from the desalination facility to its Transmission Main Pipeline to the south. The Final EIR/EIS states that the Desalination Water Pipeline could result in construction impacts in the City of up to 16.9 acres of ESHA in the coastal zone, though some of this area of impact would likely overlap with some of the areas affected by the Source Water Pipeline construction. Details of these ESHA impacts are further described below as part of a fuller description of the various pipeline routes and their effects.

ESHA within the Commission’s consolidated permit jurisdiction

Project components within the coastal zone but outside of the City of Marina (and therefore within the Commission’s consolidated permit review jurisdiction) consist primarily of sections of Cal-Am’s several water distribution pipelines, most of which would be built in undeveloped areas along existing transportation routes in the City of Seaside and the County of Monterey. The Final EIR/EIS notes that all of these undeveloped areas within the coastal zone should be assumed to be considered ESHA, due to the known or potential presence of rare or sensitive species or due to their habitat types.³⁶ The Findings below describe these areas more specifically to better characterize locations of ESHA within these areas likely to be disturbed during pipeline construction.

The Final EIR/EIS evaluated biological resources within the pipeline route corridors and mapped areas of sensitive species and communities or special habitats within those corridors. The mapped corridors include a “project area” in which construction-related activities would be expected to occur, and a “study area,” which is a 50-foot buffer around the project area. Depending on the location, the full mapped corridor could be up to about 250 feet wide. Many of the habitats within these areas readily qualify as

³⁶ Additionally, the County of Monterey’s LCP, which the Commission may use for guidance, also identifies some of the habitat types that would be affected by pipeline construction as sensitive habitats – for example, maritime chaparral, coastal dunes, and others.

ESHA – for example, the Commission has generally found that areas of central dune scrub, silver dune lupine-mock heather scrub, dune mat, sandmat manzanita chaparral, and oak woodland are ESHA. These pipeline segments and the expected effects on habitat and terrestrial biological resources within the pipeline study areas are described below. The acreage figures provided below are based on potential impacts to areas of ESHA within those corridors, and while the actual location of the pipelines would not necessarily affect all the areas of ESHA within the full Study Area corridor width, there are some segments where the ESHA characteristics extend across the entire corridor, making direct impacts unavoidable. Additionally, most of the pipelines would be installed using conventional open trench methods, which due to equipment access, sidelaying or stockpiling of soil, and other factors, would result in a larger area being affected than just the width of the pipeline trenches. Some pipeline components, such as access or egress pits, would be wider than the trenches – up to about 35 feet in width. The Final EIR/EIS identifies some, but not all, of the effects expected from these associated activities, which, in some areas of the corridors, would result in greater direct and indirect adverse effects on ESHA than just the actual pipeline location.

Four pipeline segments would be within the County of Monterey's coastal zone, including:

- **Source Water Pipeline:** About 5,365 linear feet of this pipeline would be within the County's coastal zone, including sections along the easternmost portion of the CEMEX access road, and along Lapis Road, Del Monte Boulevard, and part of Charles Benson Road. Pipeline construction along the CEMEX access road and Lapis Road would be within areas of disturbed coastal dune habitat and has the potential to disturb several special-status species, including Monterey spineflower, branching beach aster, ocean bluff milkvetch, and coast buckwheat. The Final EIR/EIS identifies ESHA impacts of up to 11.8 acres during construction, though some of these overlap with areas within the City of Marina's LCP jurisdiction.
- **Desalination Water Pipeline:** About 7,207 linear feet of this pipeline would be within the County's coastal zone, including sections along Charles Benson Road, Del Monte Boulevard, and Lapis Road, where it would enter the City of Marina. The route traverses areas of disturbed coastal dunes, including areas of central dune scrub and coyote brush scrub as well as ruderal habitat and developed areas. The Final EIR/EIS notes that pipeline construction could adversely affect at least three special-status species observed along the route – Monterey spineflower, Kellog's horkelia,³⁷ and coast buckwheat. The Final EIR/EIS identifies construction impacts of up to 16.9 acres of ESHA, though similar to the Source Water Pipeline above, some of this would occur within the City of Marina's LCP jurisdiction. The Final EIR/EIS also states that the Source Water and the Desalinated Water pipelines could potentially impact about 0.2 acres of this Smith's blue butterfly habitat, which it notes would be a significant adverse effect.

³⁷ Kellog's horkelia (*Horkelia cuneata* var. *sericea*) has a California Native Plant Society Rare Plant Ranking of 1B.1, meaning that it is rare throughout its range and seriously threatened.

- **Transmission Main Pipeline:** Several thousand linear feet of this pipeline would be located within the coastal zone. It would traverse areas of coastal dune that include stands of central dune scrub, coyote brush scrub, coast live oak woodland, and northern coastal scrub. The Commission generally recognizes oak woodlands as ESHA. Construction could adversely affect a number of special-status species observed along the route, including sandmat manzanita, the federally-threatened Monterey spineflower, Menzies' wallflower, Kellogg's horkelia, Monterey Coast paintbrush, branching beach aster, south coast branching phacelia, Michael's rein orchid, and Monterey ceanothus.³⁸ The Final EIR/EIS identifies pipeline construction as resulting in up to about 5.4 acres of ESHA impacts (including some within the City of Marina).³⁹
- **Castroville Pipeline:** A short segment of this pipeline would be located within the County's coastal zone. Most of the area traversed by the pipeline consists of agricultural land, non-native grassland, developed areas, and ruderal habitat, though it also includes areas of central dune habitat and coyote brush scrub. The Final EIR/EIS notes that construction could adversely affect Monterey spineflower and branch beach aster, and could result in construction impacts to about 0.4 acres of ESHA.

In the City of Seaside, about 320 linear feet of the Transmission Main Pipeline would be located within the City's coastal zone. The habitat along the route includes relatively small and discontinuous areas of coyote brush scrub, silver dune lupine-mock heather scrub, and Monterey pine woodland, along with areas of landscape plantings and ruderal vegetation.

Within the Commission's retained jurisdiction, there would be about 1,290 linear feet of the Transmission Main Pipeline bordering the Fort Ord Dunes State Park, which is an area of deferred certification within Monterey County and an area for which the Commission has previously determined to be ESHA.⁴⁰ The Final EIR/EIS identified areas of ESHA within this Study Area corridor.

³⁸ Monterey Coast paintbrush (*Castilleja latifolia* ssp. *latifolia*) has a California Rare Plant Ranking (CRPR) of 4.3; south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*) ranks 3.2; Michael's rein orchid (*Piperia michaelii*) ranks 4.2; and Monterey ceanothus (*Ceanothus rigidus*) ranks 4.2. These species are currently either on the California Native Plant Society's Review or Watch Lists.

³⁹ The Final EIR/EIS also describes an optional alignment for this Transmission Main Pipeline that would affect up to 5.7 acres of ESHA.

⁴⁰ See CDP 3-14-1613, California Department of Parks and Recreation. The Commission's Findings (at page 28) stated: "...three habitats [central foredune, central dune scrub & central maritime chaparral] and the areas occupied or likely to be occupied by the various rare or otherwise sensitive species described occur within the proposed project area, which as a whole constitutes ESHA under the Coastal Act. Despite a legacy of past military use and the presently degraded state, the site continues to demonstrate significant ecological value."

As part of pipeline installation, Cal-Am would establish several construction staging areas covering a total of 6.6 acres. Most of these areas are paved but are adjacent to areas that have the potential to provide habitat for special-status species, though they have not yet been described as ESHA. Exhibit 6 (which is Table 4.6-3 from the Final EIR/EIS) provides a description of these areas and the potentially affected species.

In sum, a total of up to about two dozen acres of ESHA could be affected by pipeline construction within areas of the Commission's consolidated permit review jurisdiction. The actual area of direct and indirect impact would likely be less, though, as noted above, some areas would unavoidably be subject to direct impacts resulting from pipeline construction. Cal-Am has since provided a June 2020 Habitat Mitigation and Monitoring Plan ("HMMP")⁴¹ that suggests the Project's ESHA impacts would be somewhat lower – approximately two acres of permanent impacts and about 15 acres of temporary impacts, though as noted elsewhere herein, the actual extent of impacts would likely require additional field investigation closer to project implementation. Additionally, while some of the construction impacts might be able to qualify as temporary – i.e., not be subject to significant ground disturbance and able to be restored adequately within 12 months – many areas would not meet these criteria, including those affected by trenching and other areas including more mature vegetation that would not be fully restored within that period. Such impacts would therefore be considered "greater than temporary" or permanent. The HMMP, for example, uses a different threshold to distinguish between the two categories, so it is likely the actual permanent impacts would be greater than it describes. Similar to the well field described above, these pipelines are not dependent on the habitat resources within the ESHA and are therefore inconsistent with the Coastal Act's Section 30240 ESHA provision that requires development within ESHA be dependent on those resources. However, because the proposed Project is a coastal-dependent industrial facility, the Commission may consider approving the project despite this non-conformity, if it meets the three-part test of Coastal Act Section 30260. This review is provided in Section II.P of these Findings.

Additional project impacts

One other aspect of the Project is the replacement of some clamps on the existing outfall line, which is necessary to protect from corrosion. The clamp replacement is included as one of the mitigation measures required by the Final EIR/EIS and must occur before Cal-Am begins its facility operations. This work is proposed to occur during the treatment facility's low flow period in the summer, when most of its discharge is treated and used for agricultural irrigation. However, this would be during the Western snowy plover breeding and nesting season and would occur within the plover's critical habitat area on the beach. As described in the Final EIR/EIS, the installation work would likely require heavy equipment on the beach and foredune area, excavation of some amount of beach and dune habitat, installation of temporary fencing to protect the

⁴¹ See AECOM, Habitat Mitigation and Monitoring Plan – Monterey Peninsula Water Supply Project, Part One – Coastal Zone, prepared for California American Water, June 2020.

work area, and other activities that would result in temporary noise, disturbance, and occupancy of this critical habitat area for a 6 – 8 week period during a critical time period for the species. The activities could disturb approximate a half acre between the dunes and the beach. Such activities would not conform to Coastal Act Section 30240 (if the work is done in the Commission's retained jurisdiction) or LCP provisions that mirror that Section (for any work in the City's permitting jurisdiction) because it would be non-resource-dependent activity that would occur in ESHA.

One necessary Project component that Cal-Am did not include in its CDP application and that it has not yet fully described is an approximately two-mile long liner that must be installed within the existing ocean outfall pipeline to prevent the desalination facility discharge from corroding the outfall line (see description in Section II.I). The liner is included as one of the mitigation measures required by the Final EIR/EIS and must be installed before Cal-Am begins its facility operations.⁴² Pursuant to an agreement between Cal-Am and Monterey One Water, the operator of the wastewater treatment plant, the liner is to be installed by Monterey One Water; however, neither entity has committed to a final design or applied for the needed permits for this work.

Although not yet fully described or evaluated, preliminary analysis provided in the Final EIR/EIS anticipates that part of the liner installation would be done from the beach (and at or near the boundary between the City of Marina's LCP jurisdiction and the Commission's retained jurisdiction). Draft information provided by Cal-Am shows that work could require digging access pits at two sites along the outfall route within the City of Marina that consist of ESHA. Work is proposed to occur during the treatment facility's low flow period in the summer, when most of its discharge is treated and used for agricultural irrigation. The excavation pit at each access point would be located directly above the outfall pipe and would not exceed a size of 12 feet by 25 feet. Soils would be stockpiled within the existing outfall right-of-way, and topsoil would be stored in a separate pile for use in restoration following installation. Because the work would need to occur during low-flow times for the wastewater plant, it would need to happen in late summer, which would be during the Western snowy plover breeding and nesting season and might occur within the plover's critical habitat area on the beach. The installation work would likely require heavy equipment on the beach and foredune area, excavation of some amount of beach and dune habitat, installation of temporary fencing to protect the work area, and other activities that would result in noise, disturbance, and occupancy of this critical habitat area during a critical time period for the species. Such activities would not conform to Coastal Act Section 30240 (if the work is done in the Commission's retained jurisdiction) or LCP provisions that mirror that Section (for any work in the City's permitting jurisdiction) because they would be non-resource-dependent activity that would occur in ESHA.

⁴² The Final EIR/EIS imposed Mitigation Measure 4.13-5b requiring Cal-Am to install the liner to protect the outfall from corrosion, described some of the potential impacts that might occur during installation, and noted that the work would be subject to other mitigation measures meant to reduce impacts to terrestrial biological resources.

On August 18, 2020, Commission staff received a letter from Cal-Am describing a possible alternative liner installation method that would be done almost entirely within the outfall and would involve no ground disturbance within the coastal zone of the City or the County. Cal-Am has obtained preliminary engineering and design work for this option, which would involve digging an access pit outside of the coastal zone and having workers enter the 60 inch diameter pipeline from there, with no need to access the pipeline anywhere within the coastal zone. Workers would install a smaller, bypass pipeline inside of the main pipe, clean the pipe and replace existing seals with concrete, and then spray on a resin coating. They would vacuum out any waste product so that it would not enter the ocean through the outfall. Because Monterey One Water has not chosen a final design for lining the outfall, nor has it applied for or received any necessary permits, it is unknown whether this option will ultimately be feasible. If it was feasible, it would appear to avoid any impacts related to ESHA and would avoid having the liner work cause a non-resource dependent use in ESHA.

Mitigation measures

The Final EIR/EIS includes a number of mitigation measures meant to avoid or reduce some of these known or potential impacts to ESHA (see Exhibit 7 – Summary of Final EIR/EIS Terrestrial Biology Mitigation Measures). However, they would not result in mitigation “to the greatest extent possible,” as required by the LCP. They include several commonly required measures, such as requiring the presence of a biologist to oversee implementation of protective measures, conducting environmental awareness training and education to construction personnel, conducting pre-construction surveys and ongoing monitoring, and numerous best management practices. They also include Mitigation Measure 4.6-1n that requires Cal-Am to submit, prior to construction, a comprehensive Habitat Mitigation and Monitoring Plan (“HMMP”) that describes Cal-Am’s proposed mitigation, including providing mitigation success criteria, implementation plans, maintenance, monitoring, and reporting plans, and contingency measures needed to address restoration and compensatory mitigation on all sensitive habitats and species affected by the project. It also anticipates that Cal-Am would coordinate with several resource agencies (including staff of the Commission, California Department of Fish and Wildlife, Regional Water Quality Control Board, U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service) to determine the full suite of mitigation measures that would ultimately be needed.

Cal-Am submitted in June 2020 a draft HMMP (see Exhibit 8 – Cal-Am proposed Habitat Mitigation and Monitoring Plan, June 2020)⁴³ that describes several alternative proposed mitigation approaches, including:

- restoration to be conducted by Cal-Am prior to property transfer to a Commission-approved entity, and, subsequent to transfer, funding an endowment to continue the restoration work;
- funding for a Commission-approved entity to implement the HMMP; or,

⁴³ Cal-Am previously submitted an October 2, 2019 “Mitigation Strategy Overview for CalAm Monterey Peninsula Water Supply Project,” which provided a preliminary proposal of mitigation measures proposed for its expected impacts at the CEMEX site. The current HMMP supersedes this previous document.

- funding an endowment comparable to HMMP implementation cost to put towards purchase of the site with implementation of the HMMP a requirement of the purchase.

Elements of these alternatives could provide some acceptable mitigation for Cal-Am's Project impacts, but at this time, they involve a number of uncertainties that make it difficult to evaluate potential mitigation success. For example, it is not clear whether any mitigation actions that occur before the upcoming property transfer would coordinate appropriately with the expected site-wide restoration program contemplated in the Settlement Agreement. Similarly, neither the timing nor the funding needed for these proposed future mitigation approaches can be predicted at this time.

More specifically, the HMMP proposes a number of measures that are not consistent with past Commission-approved mitigation plans. For example, along with the above-referenced concerns about many of Cal-Am's proposed "temporary" impacts actually falling within the Commission's category of "permanent" or "long-term" impacts, it does not include adequate mitigation for those impacts – e.g., it treats the loss of woody vegetation such as oaks and manzanita as temporary rather than permanent. It also proposes 1:1 restoration of sensitive plants, such as spineflower, despite the lack of demonstrated success in restoring that species. Additionally, instead of proposing the use of relevant reference sites to determine whether the proposed mitigation is meeting success standards, it proposes using a success criterion of 70% of site baseline conditions. This is problematic, since the site is already somewhat disturbed and not providing the habitat values that would be expected of a fully functioning reference site. The HMMP also proposes what are primarily "semi-quantitative" monitoring methods that are presented without a statistical framework and are based on relatively lenient performance criteria.

Importantly, the HMMP proposes that most of the restoration activities take place within the CEMEX North Mitigation Area, which is already expected to benefit from preservation pursuant to the aforementioned Settlement Agreement. While Cal-Am's proposed mitigation in that area would result in restoration of degraded dune habitat and could provide significant improvements to that area of dune ecosystem, its location in an already preserved area would result in a net loss of dune habitat footprint.

Another key concern is the proposed restoration of an area described as a "valley" within the dunes, which is primarily covered by invasive species such as iceplant and non-native grasses supported by soils high in organics, and surrounded by more typical dune habitat with the potential to support sensitive native species. This valley's invasive species appear to be a result of, and supported by, sustained agricultural runoff being pumped through a pipeline from a nearby farm into the dunes, which has created a nearly foot-deep layer of organic soil on top of the dune habitat. The HMMP proposes that it would use this water supply as necessary to irrigate the dune vegetation it plants as part of its dune restoration; however, this raises concerns about using that water (and any contaminants that may be in it) to restore dune ESHA, an ecosystem that has evolved to function with minimal hydrologic input in a low-nutrient substrate. The

HMMP does not provide adequate support for such a proposal and it is not clear that, if used, it would be sustainable. It may also bring with it adverse impacts of its own, including the potential presence of contaminants in the water and continual support for non-native or invasive species in the restoration area.

Were it not for the Coastal Act and LCP nonconformity noted above, the Commission could require additional mitigation to allow the project to conform to other relevant LCP policies and Coastal Act requirements. However, because this nonconformity results in no ability for the project to be fully consistent with the LCP's ESHA provisions, there is no need to identify special conditions in this section of the Findings that would allow it to be only partially consistent. Nonetheless, because the proposed Project is considered a coastal-dependent industrial facility, the Commission has the discretion to apply the three tests of Coastal Act Section 30260 and approve the project notwithstanding its inconsistencies with Coastal Act and LCP provisions. However, as described in the section of these Findings regarding Section 30260, the Commission has concluded that the project does not meet the first two tests of Section 30260; thus, there is no need to determine whether the project's ESHA impacts could, pursuant to the third test of that section, be mitigated to the maximum extent feasible.

Conclusion

Based on the discussion above, the Commission finds that the Project components, as proposed in the City's jurisdiction, do not conform to provisions of Habitat Protection policies in the City's LCLUP, including LCLUP Policies 25, 26, and 41 and those requiring that only uses dependent on habitat resources be allowed within primary habitat areas. The Commission also finds that the Project components, as proposed in the Commission's consolidated permit jurisdiction, do not conform to the Coastal Act's ESHA policies.

G. WETLANDS AND VERNAL POND ESHA

Section 30231 Biological productivity; water quality

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

LCLUP Exhibit A states:

Primary habitat. This term includes all of the environmentally sensitive habitat areas in Marina. These are as follows:

2. Habitat for all identified plant and animal species which are rare, endangered, threatened, or are necessary for the survival of an endangered species. These species will be collectively referred to as “rare and endangered.”
2. Vernal ponds and their associated wetland vegetation. The Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas (California Coastal Commission, February 14, 1981) contains technical criteria for establishing the inland boundary of wetland vegetation...

Secondary habitat. This term refers to areas adjacent to primary habitat areas within which development must be sited and designed to prevent impacts which would significantly degrade the primary habitat. The secondary habitat area will be presumed to include the following, subject to more precise determination upon individual site investigation:

2. The potential/known localities of rare and endangered plant species as shown on LUP p. 71 (“Disturbed Vegetation” map).
2. The potential wildlife habitats as shown on LUP p. 75 (“Potential Wildlife” map).
3. Any area within 100 feet of the landward boundary of a wetland primary habitat area.

Rare and endangered species. This term will apply to those plant and animal species which are rare, endangered, threatened or are necessary for the survival of such species. The Environmental Analysis Report prepared for the Marina Local Coastal Program identified such species in the dune habitat areas. While future scientific studies may result in addition or deletion of species, the list presently includes:

1. Smith's Blue Butterfly (*Shijimiaeoides enoptes smithi*)⁴⁴
2. Globose Dune Beetle (*Coelus globosus*)
3. Black Legless Lizard (*Anniella pulchra nigra*)
4. Salinas Kangaroo Rat (*Dipodomys Heermanni Goldmani*)
5. Seaside Painted Cup (*Castilleja latifolia* ssp. *Latifolia*)
6. Monterey Spine Flower (*Chorizanthe pungens* var. *pungens*)
7. Eastwood's Ericameria (*Ericameria fasciculata*)[sic]⁴⁵
8. Coast Wallflower (*Erysimum ammophilum*)
9. Menzies' Wallflower (*Erysimum menziesii*)
10. Coastal Dunes Milk Vetch (*Astragalus tener* var. *titi*)
11. Dune Gilia (*Gilia tenuiflora* var. *arenaria*)
12. Wild Buckwheat (*Eriogonum latifolium*)*
13. Wild Buckwheat (*Eriogonum parvifolium*)*
14. Bush Lupine (*Lupinus* ssp.)+

* only within the range of Smith's Blue Butterfly.

+ only within the range of the Black Legless Lizard.

LCLUP Habitat Protection Policies include:

Before any use or change in use, areas identified as potential habitat for rare and endangered plant or animal species shall be investigated by a qualified biologist to determine the physical extent of the primary habitat areas for the specific rare and endangered plants and animals on that site.

Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas. All development must be sited and designed so as not to interfere with the natural functions of such habitat areas. Management and enhancement opportunities should be incorporated into use or development proposals; potential impacts shall be fully mitigated, including the assurance of long term mitigation and maintenance of habitat through the use of appropriate acreage replacement/restoration ratios for any unavoidable direct impacts to habitat areas.

LCP Policy 24 states:

To protect and encourage the restoration of the vernal ponds to their original state and allow only those uses adjacent which will reinforce and conserve the unique habitat qualities of these ponds.

⁴⁴ This name has been updated since publication of the LCP – it is now *Euphilotes enoptes smithi*.

⁴⁵ The correct spelling is *Ericameria fasciculata*.

Summary

The Coastal Act and the City's LCP include provisions that require protection of wetlands. Coastal Act Section 30231, for example, requires that biological productivity in wetlands and other coastal waters be maintained and restored through various means, including preventing the depletion of groundwater. Vernal ponds are generally considered wetlands for purposes of the Coastal Act;¹ however, the City's LCP further specifies that vernal ponds are a type of primary habitat and are thereby considered ESHA. Vernal ponds are relatively rare and often biologically important seasonal wetlands used during avian migration and amphibian breeding seasons. The LCP also includes wetland areas associated with vernal ponds as primary habitat, and therefore ESHA.

The LCP requires that these vernal ponds and their associated wetland areas be protected against any significant disruption, that development be sited and designed to prevent significant degradation of those areas, and that all development be sited and designed to not interfere with the natural functions of these habitat areas. Further, the City's Comprehensive Management Plan, which it developed in conjunction with the Commission as part of developing its Local Coastal Program, clarifies the importance of these areas by stating: "Seasonal and permanent wetlands are critical habitat for a variety of wildlife species, and the near-coastal proximity of the ponds promotes use by species associated with the bay shoreline and other coastal wetlands."²

The LCP and other City and County planning documents identify several areas within the expected groundwater drawdown zone of Cal-Am's well field as vernal ponds and wetlands (see Exhibit 9 – Map of Area Wetlands). Among the closest, approximately 1,000 feet from the nearest the well field, are several dozen acres on either side of Highway One south of Lapis Road, known as the Armstrong Ranch Ponds. They are within the County's coastal zone and are designated "Habitat Reserve and Other Open Space." This complex of vernal ponds is generally dry at the surface for part of the year and floods in the spring during periods of precipitation, though they are occupied year-round by marsh vegetation species. They also represent an important habitat feature for a number of avian species, particularly during migration season, and provide breeding habitat for any of several amphibian species. Other smaller biologically important vernal ponds are in the drawdown zone and within the City of Marina, though somewhat further from the well field.

The Final EIR/EIS identified several vernal ponds and wetlands at and near the CEMEX site and near the various project pipeline routes. It acknowledged that some construction activities, such as inadequate runoff or dust control measures, could adversely affect some of these areas, but noted that the document's mitigation measures would reduce potential adverse impacts to less than significant. It also presumed that, while several of these areas were in areas that would experience a drawdown of groundwater levels resulting from Cal-Am's pumping from its well field, these areas were "hydrologically disconnected" from the underlying groundwater and would therefore not be affected by the pumping.

After the conclusion of the CEQA review, and after the Commission's November 2019 hearing, Commission staff received an April 2020 analysis provided by the City of Marina that described many of these wetland areas as "groundwater dependent ecosystems" ("GDEs") and identified potential adverse effects to them due to the groundwater drawdown.³ GDEs include various types of wetland areas with hydrology supported entirely or in part by underlying groundwater. They include permanent, seasonal, and temporary wetlands (including vernal ponds) that change in extent and depth in response to changes in underlying groundwater elevations.

The City's GDE review identified several previously unknown potential adverse effects on several nearby vernal ponds and their associated wetlands. It included data and analyses indicating that several of these areas do not appear to be the "perched" wetlands presumed during CEQA review, but appear to be connected to the underlying groundwater within the shallow Dune Sands Aquifer that underlies this area. The GDE review described data collected from Cal-Am's monitoring wells closest to some of these areas during Cal-Am's approximately two-year pump test, which included about two dozen events where groundwater drawdown and recovery was correlated with the start and stop of pumping activities. At the Armstrong Ranch vernal pond complex, the City's review identified a relatively immediate groundwater drawdown/response of about one foot. The review also notes that the groundwater underlying these areas has variable salinity levels (from slightly brackish to nearly the same as seawater), suggesting it has sources other than the primarily fresh water that would be expected from precipitation. It also notes that the overlying habitat includes vegetative species that have adapted to this range of salinity variation.

Later, in June 2020, Commission staff received a report from the Commission's independent hydrogeologist that described additional groundwater modeling conducted in addition to that done previously as part of CEQA review and by Cal-Am (this report is more thoroughly described in Section II.J of these Findings). Part of the additional modeling was meant to identify expected groundwater drawdown levels beneath nearby vernal ponds and wetlands that could result from Cal-Am's longer-term pumping operations. This report identified such drawdowns of between about two to four feet beneath the closest of these features – at the Armstrong Ranch Ponds – and attenuating at more distant features – for example, to just under one foot drawdown at the Lake Drive Pond within the City. These drawdown levels appear to be fairly consistent with those the City identified in its above-referenced GDE review; for example, Cal-Am's test well pumping at about three mgd showed a one-foot drawdown at the Armstrong Ranch vernal pond complex, whereas modeling based on Cal-Am's full proposed 16 mgd shows about a four-foot drawdown.

The City then provided a July 2020 report updating the 1994 CVCMP with a current assessment of hydrologic conditions and biological resources at six of the seven vernal ponds within or adjacent to its jurisdiction.⁴⁶ While the report did identify some limited

⁴⁶ See WRA Environmental Consultants, Biological Resource and Groundwater Dependency Analysis of Marina Vernal Ponds, prepared for City of Marina, July 30, 2020.

changes to the ponds including new pockets of wetland vegetation supported by freshwater runoff and expanded willows, it also concluded that all six areas revisited have remained approximately as described in the original CVCMP. Importantly, it also determined that they should all be considered GDEs on the basis of a suite of ecological indicators accounting for source water quality, growth patterns, and vegetation condition in summer months, and that as GDEs, these sensitive habitats would be vulnerable to any significant changes in groundwater levels.

Effects of drawdowns

These recent analyses, although not comprehensive, strongly suggest that the identified drawdowns could adversely affect the functions and values at up to several dozen acres of these vernal ponds and wetlands, primarily at the Armstrong Ranch Ponds, and possibly at other nearby wetlands. It is difficult to precisely determine the specific nature and magnitude of expected effects, as they would vary by vegetation and wildlife species, by temporal changes in precipitation and natural variation in groundwater levels, by the location in the landscape of the wetland features, and various other factors. Nonetheless, the groundwater drawdowns would most likely result in the following types of adverse effects:

- Reduction of surface water extent and depth. This would reduce the habitat functions and values that would be present absent Cal-Am's pumping.
- Temporal losses of vernal pond functions and values, including shifts in the timing of surface flooding as well as reduced durations of flooding. Drawdown would likely result in a groundwater-supported vernal pond that normally would exist for six or eight weeks during breeding and nesting season might instead last for two or four weeks, and/or shift to later in the season, thereby reducing available habitat and food sources during periods that many resident and migratory species would otherwise rely on.
- Reduction of wetted area around the root zones of marsh or aquatic vegetation. Some vegetative species in these areas may have relatively shallow roots and may rely on groundwater being available within a certain elevation range. Others may have deeper roots but be dependent on natural and gradual fluctuations in groundwater elevations. More rapid declines in groundwater elevations may leave some root systems "stranded" and lead to reduced plant vitality or even death.
- Reduction in species diversity. Less surface area and more confined root zones could also lead to fewer microhabitats and niches for associated plant species to occupy, contributing to increased competition for limited resources and likely, reduced opportunities for dependent wildlife species as well.
- Reduction in habitat resilience. When a system is already stressed, it becomes less capable of absorbing further stress including environmental change. For example, drought could have devastating effects on a compromised system that is already suffering from reduced water availability.

Cal-Am has suggested that it could monitor some of these areas to determine first, whether they were groundwater dependent, and if so, what changes might be associated with any pumping-related drawdowns. However, and importantly, it would be difficult to monitor the actual effects the expected drawdown would have on these wetland and vernal pond areas, in part due to the complex interactions among changing groundwater elevations, different amounts of precipitation and other water sources, the presence of different species with different responses to those changes, as well as the lack of adequate reference sites or baseline data for many of these areas.⁵ It would likewise be difficult to provide adequate mitigation for any adverse effects, in part due to the potential extent of the effects – which could cover up to several dozen acres of wetlands and vernal ponds – and also due to the difficulty in identifying sites where creating or restoring wetland or vernal ponds could be successful and would not result in the conversion of other sensitive habitats.

With these likely impacts resulting from Cal-Am's pumping of groundwater, the proposed Project cannot be found consistent with the provisions of Coastal Act Section 30231 and the above-referenced provisions of the LCP. Specifically, due to the reasonably foreseeable groundwater drawdowns, the evidence does not demonstrate that the Project would ensure that “[p]rimary habitat areas [will] be protected and preserved against any significant disruption of habitat values,” or that it will ensure the maintenance of the biological productivity and the quality of coastal wetlands.

H. COASTAL HAZARDS

Coastal Act Section 30253 states, in relevant part:

New development shall do all of the following:

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

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

The LCLUP states:

Before development is permitted in the Coastal Zone, a geotechnical report appropriate to the specific proposal shall be prepared for that development in the dunes or in the vicinity of any vernal pond. The report shall include at least geologic and seismic stability, liquefaction potential, identification of an appropriate hazard setback to protect the economic life of structures, and specific recommendations on drainage, irrigation and mitigation of identified problems. Report contents shall comply with guidelines of the California Division of Mines and Geology.

...

No new development shall be permitted which will require the construction of shoreline protection structures unless such development is in accordance with the provisions of the "Small Boat Harbor" section of this Land Use Plan, or when such structures are necessary to serve coastal dependent uses (as defined in the Coastal Act) or to protect publicly owned beaches from erosion.

The LCLUP states:

Tsunami Hazard: Tsunamis are seismic sea waves, often erroneously called "tidal waves." Because of the height and depth of the Coastal dunes in Marina, inland areas are not within the tsunami hazard zone. The areas most subject to tsunami in Marina are the sandy beaches and dunes. With an adequate tsunami warning system, there is no significant tsunami threat to beach users. Since there is little development within the tsunami run-up zone, there is little present threat. Future development should not occur in the tsunami run-up zone (on the sandy beaches and foredune area).

The LCP's North of Reservation Road Planning Area requires proposed development consider:

Public safety and vulnerability to wave erosion.

Tsunami and other coastal hazards.

The LCLIP states:

Standards for Coastal Protection Structures: Except for a few facilities associated with sand mining, there currently is little capital investment to be threatened by erosion along Marina's shoreline. The face of the dunes is subject to wave erosion, so future development shall be placed beyond the area vulnerable both to wave erosion and tsunami hazard. This setback shall be great enough to protect the economic life of the proposed development (at least 50 years) and be east of the tsunami hazard zone. The exact extent of this setback shall be determined by a qualified geologist, selected from an approved list compiled and maintained by the City. Because of variation from site to site, the setback line shall be determined at the time development of a site or parcel is proposed.

Protective structures are not recommended in Marina; however, if they should ever be necessary, standards shall be established to insure that the type of protection, location, design and other factors are considered. In determining if it is suitable to issue a coastal permit for a shoreline structure, the following shall be addressed: (1) alternatives to a protective structure shall be determined and evaluated by appropriate specialists first; and (2) an EIR/EIS shall be required on the proposed structure. The EIR/EIS shall address specific issues of Local Coastal Land Use Plan concern, construction and maintenance. The environmental evaluation and mitigations shall be prepared by qualified specialists and shall address at a minimum the following specific issues and design considerations.

Summary

Both the Coastal Act and the LCP generally require that development be sited and designed to avoid and minimize risks associated with coastal hazards, and specifically requires that development be sited with the setback needed to provide protection from these hazards for the full expected economic life of any structures. Although Cal-Am's desalination facility would be located outside of the coastal zone and away from these hazards, Cal-Am's proposed wells could be subject to several of them, including coastal erosion and dune recession, both of which would be exacerbated by sea level rise and climate change. However, with the wells' limited 20- to 25-year expected operating lives, the risk from these hazards would be expected to be relatively minor. These hazards are addressed below.

Coastal erosion and sea level rise

Background: The well field would be just inland of the actively eroding shoreline of Monterey Bay, with the existing test well located about 600 feet inland and the other proposed wells to be located about 800 feet inland. The Bay shoreline near Cal-Am's proposed well field has exhibited the highest annual erosion rates in the state, due in part to relatively high levels of wave energy and the easily erodible sand that makes up most of the Bay shoreline. The area has experienced, and will likely continue to experience, storm-driven erosion that results in losses of as much as 100 feet of beach

during a single event. Erosion along this stretch of shoreline also results in the recession inland of the dune system located adjacent to the beach. As the beach erodes, the dune profile moves inland, though not necessarily at the same rate as the shoreline or with the same dune profile.

Along with the natural shoreline processes that drive coastal erosion in this area, a substantial additional contributor has been the sand mining that has occurred at the CEMEX facility for many decades. CEMEX's removal of more than 100,000 cubic yards of sand annually from the nearshore area served to reduce the sand supply along the shoreline, thereby exacerbating the ongoing natural erosive processes. As detailed below, although the sand mining operations have ended, the shoreline is expected to continue having a relatively high erosion rate.

In recognition of the area's high erosion potential, the LCP requires that development be located inland of areas near the shoreline that are vulnerable to erosion. The Final EIR/EIS included an assessment of the effects of sea level rise and coastal erosion on the proposed well field and the most seaward sections of the Source Water Pipeline. Coastal erosion studies during early stages of the project's environmental review showed that the then-proposed well field could be affected by coastal erosion expected during the project's operating life. Cal-Am then relocated the proposed well heads about 400 feet further inland to their currently proposed location. For these new locations, the Final EIR/EIS modeled "stand-alone" expected erosion rates as well as those same rates when accompanied by 100-year storm events. It found that expected erosion by 2060 would remove about 300 feet of the beach and dune profile and that adding a 100-year storm event would remove an additional 130 feet for a total of 430 feet. This analysis showed that most of the well field would escape erosion until 2060, although the existing test well that Cal-Am proposes to convert to a permanent well would likely be affected sooner, as it is about 200 feet closer to the current shoreline than the other wells.

To address the anticipated erosion hazard, the Final EIR/EIS included a mitigation measure requiring Cal-Am to monitor the rate of coastal retreat and to determine, based on the identified and expected annual erosion rate, when there are no more than five years before the wells would become exposed due to erosion.⁴⁷ At that point, Cal-Am would be required to start the planning and permitting needed to abandon the wells in accordance with state well destruction requirements, and upon receipt of the necessary approvals, Cal-Am would remove the wells. As noted above, Cal-Am expects its wells to have useful lives of only about 20 to 25 years before they need to be relocated, so it does not expect that they would be affected by erosion.⁴⁸

⁴⁷ See Final EIR/EIS Mitigation Measure 4.2-10.

⁴⁸ The limited operating life is due to wells such as these experiencing reduced yields due to a slow build-up of fine sediments in or near the screened intake portion of the well casing.

However, this analysis was done in 2016 and was based on sea level rise guidance and scenarios that have been superseded by more recent state and Commission guidance that anticipates more rapid, and greater, sea level rise.⁴⁹ For example, the projections used in the Final EIR/EIS anticipated sea level rise of 15 inches by 2040 and 28 inches by 2060, whereas the currently applicable projections for the Monterey Bay area anticipate a range of sea level rise in 2040 of between about 15 and 20 inches and a 2060 range of 31 and 46 inches (increases of up to 33% and 64%, respectively). The assessments were also done before completion of the CEMEX Settlement, which requires CEMEX to permanently stop its sand mining operations by the end of 2020, so they do not reflect what the expected erosion rates will be after CEMEX ceases removing large amounts of sand from this stretch of shoreline.

Prior to the Commission's November 2019 hearing on this proposed Project, Commission staff requested that Cal-Am provide an updated assessment of expected sea level rise and coastal erosion based on current state guidance and projections and on site conditions expected without sand mining. In response, Cal-Am provided an October 2, 2019 technical memorandum – *Updated Coastal Erosion Hazard Analysis for CalAm Monterey Peninsula Water Supply Project*, prepared by AECOM. This technical memorandum assesses expected sea level rise and coastal erosion effects on Cal-Am's proposed well field and Source Water Pipeline using low, medium-high, and extreme risk aversion scenarios for the years 2040, 2060, and 2120. It includes the high GHG emission scenario for each to provide a more conservative assessment of expected effects. It also considers the effects of both a 100-year and 500-year storm event on site erosion to provide additional conservatism. To reflect the expected site conditions resulting from the closure of the CEMEX sand mining operations, it assumed a 60% reduction in the historical retreat rate along the stretch of shoreline.⁵⁰ For each of the several scenarios, the memorandum separately describes the expected effects on the test slant well, which Cal-Am proposes to convert to a long-term well for the project and is located about 600 feet from the current shoreline, and on the rest of the well heads that would be constructed about 800 feet from the current shoreline.

⁴⁹ See the Ocean Protection Council's State of California Sea-Level Rise Guidance 2018 Update and the Coastal Commission's 2018 Sea Level Rise Policy Guidance and November 7, 2018 Science Update.

⁵⁰ This assumed 60% reduction is derived from studies and a sand budget analysis presented in two documents prepared, in part, to identify the effects of those mining operations on erosion along the Monterey Bay shoreline. See Environmental Science Associates and Phillip Williams and Associates, *Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay*, prepared for the Monterey Bay Sanctuary Foundation and the Southern Monterey Bay Coastal Erosion Working Group, May 30, 2012, and Young, Robert, *An evaluation of the ongoing impacts of sand mining at the CEMEX Lapis Sand Plant in Marina, California on the Southern Monterey Bay Shoreline*, 2017.

The Commission's coastal engineer reviewed the Final EIR/EIS and Cal-Am assessments and prepared a technical memorandum describing that review and its conclusions (see Exhibit 10 – Coastal Hazards Technical Memorandum). The review concluded that under the above scenarios, both the test well site and the other well sites would likely be safe from erosion through 2040, that the test well site could be at risk by 2060, and that both the test well site and other well sites would likely be at risk by 2120.

Since then, however, California has developed a new principle calling for permitting agencies to consider, for planning purposes, an increase in sea level of 3.5 feet by 2050.⁵¹ Compared to the Commission's above-referenced current sea level rise guidance, this would result in expected sea level rise projections occurring several years sooner than previously anticipated. For example, instead of reaching the above-referenced 31- to 46-inch range of increase by 2060, it would be expected by about 2045 to 2050. Commission staff requested Cal-Am provide additional analysis showing the expected site conditions under this most recent state guidance. Essentially, using these projections, the well field could be at risk by 2045 to 2050 instead of 2060. However, with Cal-Am's reliance on an expected 20- to 25-year operating life for the wells, this accelerated timeline is not likely to result in a substantial change to the expected risks from coastal erosion.

With the test well site at risk from these expected long-term erosion scenarios, the project could include development in an area subject to wave erosion during the next 50 years. This presents some tension with LUP and IP policies that generally require setbacks adequate to protect new development for "the economic life of the proposed project (at least 50 years)." The LUP has an exception to this policy allowing construction of shoreline protection structures when necessary to serve a coastal-dependent industry, which might apply to the test well portion of this project. However, Cal-Am is not proposing any such structures, and the LCP's standards for approving such structures require several analyses not included as part of the proposed Project, including an assessment of alternatives to any such protective structure and review of any proposed protective structure through an Environmental Impact Report. Without an adequate setback to allow for 50 years of protection, and without these analyses being completed, this component of the proposed Project could be inconsistent with LCP policies related to coastal erosion unless there is a requirement to remove the test well when it becomes threatened.

Cal-Am expects that its wells would operate for no more than 20 to 25 years and then need to be relocated, which would presumably allow them to avoid coastal hazards related to erosion. Although this allows for conformity with the LCP's coastal hazards provision related to the expected economic life of the development, it creates a concern that Cal-Am's desalination facility may not be able to operate for its expected 60-year operating life because Cal-Am does not currently have a legal interest in locations

⁵¹ See Ocean Protection Council, Strategic Plan to Protect California's Coast and Ocean 2020 – 2025, February 2020.

further inland where Cal-Am might be able to relocate its wells. Additionally, much of that inland area is expected to be restored as a result of the above-referenced Settlement Agreement. These issues are described in more detail below and in Section II.O – Assessment of Alternatives.

The Commission also considered the effects of expected dune recession on the well sites.⁵² As noted above, the site's foredunes will recede inland as a consequence of shoreline erosion and at some point will occupy the same area as the well sites. The initial review, conducted in October 2019, concluded that the risk of this occurring would be low before 2040, but would increase thereafter. Additionally, dune height is likely to increase along with the increases in sea level – for example, as sea level elevates by its expected 15 to 20 inches by 2040, the duneface could experience a similar height increase and an inland migration of the profile. The issue of well site burial was examined not as a risk in itself, but since it could lead to the need for greater maintenance of the well heads and thus greater site disturbance. It is difficult to estimate exactly when these backshore adjustments would occur as there would very likely be a lag time between changes in sea level and changes to the beach and then changes to the back shore. With these uncertainties it is difficult to estimate when the dune profile might shift inland; however, the well sites have been located inland of and at a lower elevation than the dune crests, and inland migration of the profile could eventually cover the well sites. The review concluded that risk is low that any of the well sites could be buried by 2040 but that the risk would increase over time. Because of differences in the elevations of the well heads and variations in the dune profile – i.e., the dunes seaward of some well sites are higher or contain greater volumes of sand than those seaward of other well sites – the timing and amount of burial would likely vary among the well sites. The review concludes that the test well head would experience the greatest risk from dune erosion; however, since the more inland well field is 12 to 15 feet lower than the frontal dune, the well field might be more at risk from the inland shift of the dune profile.

Overall, no appreciable erosion risks are anticipated to occur at the test well or the well field areas by 2040. There are small risks to the test well site from storm-related erosion between 2040 and 2060. There are also small risks to the test well site and the well field site from possible sand burial that would be minimal through 2040. There is a small chance that the well field site might experience several feet of sand burial between 2040 and 2060. Beyond 2060, it becomes more likely that significant burial could occur. Again, however, this October 2019 review was completed before the state's adoption of the recent planning principle of expecting 3.5 feet of sea level rise by 2050, so any expected risks would happen several years sooner.

⁵² Neither the Final EIR/EIS nor the AECOM technical memorandum assessed risk from this hazard.

In June 2020, Cal-Am provided an updated analysis of expected dune recession that details the various mechanisms involved in this type of sand movement. It concluded that the primary mechanism – dune blowouts, which involves the wind being funneled through gaps in the dune and causing higher rates of erosion in and near those gaps – could result in two of the seven proposed well head sites being affected by sand burial within about 20 to 25 years. It also found, though, that this effect could be reduced or delayed through measures such as removal of invasive vegetation and re-establishment of native dune vegetation to stabilize the dunes, installing sand fences or elevating the well head sites, either of which would likely require additional CDP review and approval. Cal-Am also proposed a special condition that would include the “soft” measures above – removal of invasive species and re-establishment of native vegetation – along with annual monitoring of the dunes and well heads to identify the rate of dune recession. Once the identified rate of recession showed that the well heads could be buried within five years, Cal-Am would return to the Commission with any proposed development, such as sand fencing, elevating or relocating the wells, etc., for additional review and permitting.

Similar to the above coastal erosion scenarios, the risk to the wells from this erosive process of dune recession could create some tension regarding conformity to the LCP provision that requires identification of an adequate hazard setback to protect the economic life of the structures (for a 50 year minimum) and specific recommendations to mitigate any identified problems. However, Cal-Am has estimated that these proposed wells would operate for about 25 years (i.e., until about 2045) but would then need to be relocated further inland. Importantly, and as noted above, Cal-Am does not have legal interest in property further inland, so it has no locations available to site the wells after this expected initial 25 years of operations. This expected operating life of 20-25 years allows for conformity to the above-referenced LCP requirement that development include setbacks adequate to protect it during its expected operating life, but as noted above, this limited operating life raises concerns about whether Cal-Am would be able to operate its desalination facility for only 20-25 years instead of its proposed 60-year operating life (this is discussed further in Section II.O – Assessment of Alternatives). It also makes the currently proposed locations inconsistent with the previously-referenced Final EIR/EIS project objective to “locate key project facilities in areas that are protected against predicted future sea-level rise in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts,” which is also described Section II.O below.

It is not clear that Cal-Am would be able to obtain the additional legal interest needed to move its wells further inland. However, the areas of CEMEX inland of Cal-Am's current proposed well sites are largely slated for reclamation and restoration as dune habitat. With this 25-year operating period and no alternative locations known to be available, future well sites and operations beyond that period would be considered speculative.

Regarding tsunami hazards, the LCP recognizes the area's high erosion potential and requires that development be located inland of areas near the shoreline that are vulnerable to tsunami runup. Cal-Am has proposed locating the well heads inland of the tsunami runup zone identified in the LCP and at an elevation of approximately 30 feet (NAVD88), which would be above the most recently identified maximum tsunami runup estimate of about 18 feet, both now and under projections of several feet of sea level rise.⁵³

Conclusion

The above-referenced analyses show that the proposed well site locations would allow the wells to avoid hazards from coastal erosion during their expected operating life and are therefore consistent with the above-referenced LCP provisions. However, the currently proposed locations are near the most inland extent of Cal-Am's easement and could not be moved out of the hazard zone unless Cal-Am was able to obtain additional legal interest for areas further inland. The terms of the above-referenced CEMEX Settlement may prevent Cal-Am from obtaining additional legal interest on the CEMEX lands, which include the area immediately inland of Cal-Am's property at the site. Thus, although the Project is consistent with the hazard policies of the LCP, this uncertainty about the Project's long-term feasibility is considered in the analysis of alternatives and the Section 30260 override analysis regarding the public welfare finding.

⁵³ See Wood, et. al, Community Exposure to Tsunami Hazards in California: U.S. Geological Survey Scientific Investigations Report 2012-5222, 2013.

I. PROTECTION OF COASTAL WATERS AND MARINE RESOURCES

Coastal Act Section 30230 states:

Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act Section 30231 states:

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

Coastal Act Section 30233 states, in relevant part:

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

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

LCLUP Policy 16:

To insure the protection of marine resources for long-term commercial, recreational, scientific and educational purposes.

LCLUP Policy 17:

To insure protection and restoration of the ocean's water quality and biological productivity.

These Coastal Act and LCP policies require generally that development protect marine resources, ocean water quality and biological productivity. These findings separately address the proposed Project's expected effects on coastal waters and marine biological resources resulting from its source water intakes and its discharges. Additionally, because the proposed Project would involve placement of structures in coastal waters, these Findings address the Project's conformity to the alternatives analysis required pursuant to Coastal Act Section 30233.

Effects of intake on coastal water quality and marine biology

Cal-Am has specifically selected subsurface slant wells to obtain source water for its proposed desalination facility. The state's Ocean Plan includes provisions applicable to seawater desalination facilities that require, where feasible, that those facilities use wells or other types of subsurface intakes instead of open water intakes to avoid the adverse entrainment and impingement effects on marine life caused by open water intakes.⁵⁴

Cal-Am's proposed slant wells would extend beneath coastal dunes and the beach to extract primarily seawater from the underlying aquifers. Cal-Am's hydrogeological modeling of the site and its proposed wells shows that the expected area of drawdown from its wells would extend some distance offshore and would be expected to induce seawater to be drawn into the wells through the overlying sand and sediments. The depth of the wells – down to about 200 feet below the seafloor – and the relatively large area from which they would induce this drawdown, along with the maximum pumping rate of about 2,500 gallons per minute from each well, would result in the seawater being drawn through the seafloor at an essentially undetectable rate, so any effects that might occur to marine life in the overlying ocean water column or benthic habitat would be imperceptible (see Section II.I for a separate discussion on the proposed Project's expected effects on nearby groundwater resources).⁵⁵ Importantly, staff of the Central Coast Regional Water Quality Control Board has determined that Cal-Am's proposed slant well system meets the Ocean Plan requirement that the proposed Project's intakes constitute the "best intake technology feasible to minimize the intake and mortality of all forms of marine life."⁵⁶

⁵⁴ Entrainment occurs when small organisms, such as plankton, fish eggs, larvae, etc., are pulled into an open-water intake. It results in essentially 100% mortality due to the organisms being subjected to filters and high pressures within the facility's pre-treatment or treatment systems. Impingement occurs when larger fish or other organisms are caught on an intake's screening system and are either killed or injured.

⁵⁵ See State Water Resources Control Board, Water Quality Control Plan – Ocean Waters of California, revised 2019. Available at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf (accessed August 10, 2020).

⁵⁶ See January 15, 2019 letter from John Robertson, Executive Officer of the Central Coast Regional Water Quality Control Board to Coastal Commission's Tom Luster regarding Cal-Am's conformity to Ocean Plan provisions Chapter III.M.2.b and III.M.2.d(1) and Water Code section 13142.5(b) regarding intakes.

Effects of discharge on coastal water quality and marine biology

Cal-Am would direct the brine discharge from its desalination facility through an outfall owned by Monterey One Water. The outfall is currently used to discharge treated wastewater from Monterey One's regional wastewater treatment facility in northern Monterey County to about 11,000 feet offshore in Monterey Bay. The outfall terminates at a diffuser that is about 1,000 feet long and that has over 100 ports through which the discharge reaches ocean waters.

For its proposed discharge, Cal-Am would first route the brine from its facility to an approximately three-million-gallon mixing tank at the wastewater treatment facility where it would blend with treated wastewater before being discharged through the outfall. The current rate of discharge of treated wastewater through the outfall varies significantly over the course of a year – from close to zero gallons per day during the summer months to up to about 17 mgd in the winter – as the treatment facility uses the wastewater to produce recycled water that is routed to agricultural operations for irrigation during much of the growing season. At the desalination facility's expected production capacity of 6.4 mgd of potable water, it would contribute about 10 mgd of brine to these discharge flows. Depending on the time of year, that volume would represent anywhere from about not quite half to 100% of the volume of total effluent conveyed through the outfall.

The treatment facility's discharge is currently regulated through a National Pollutant Discharge Elimination System ("NPDES") permit that would need to be amended to allow Cal-Am to use the outfall for its discharge.⁵⁷ Regional Water Board staff is currently reviewing Cal-Am's proposed discharge to determine what requirements are needed to ensure that the characteristics of the combined discharges under the various flow regimes would meet water quality objectives and be protective of water quality and marine life. Regional Water Board staff is also reviewing what measures are needed for the discharge to be consistent with the state's Ocean Plan Amendment applicable to discharges from seawater desalination facilities. One potential requirement still being evaluated is whether Cal-Am or Monterey One Water would need to modify the outfall's existing diffuser to ensure that the expected salinity concentrations from both the stand-alone brine discharge and the combined brine and treatment plant discharges conform to the Ocean Plan standard that requires seawater desalination facility discharges into ocean waters not exceed two parts per thousand over natural background salinity levels as measured no further than 100 meters from the discharge points.⁵⁸ Modeling conducted to date shows that this area would likely be much smaller, with the 100% brine discharge expected to meet this salinity standard just a few dozen feet from the discharge points, well within the allowable distance.

⁵⁷ Order No. R3-2018-0017, approved on December 6, 2018 by the Central Coast Regional Water Quality Control Board, acknowledges that Monterey One Water anticipates discharging Cal-Am's brine waste through its outfall, but states that Monterey One Water will need to submit a new application for the Board's consideration and approval prior to any such discharge.

⁵⁸ Natural background salinity in ocean water generally ranges from about 30 to 35 parts per thousand.

The discharge would also be limited in its allowable concentrations of other constituents, such as metals, dissolved oxygen, and various contaminants. The Final EIR/EIS identified potential exceedances of several contaminants under certain operational scenarios and uncertainty about whether some constituents would meet the necessary Ocean Plan objectives.⁵⁹ It is therefore unclear at this time as to what effects the proposed desalination facility would have on water quality and marine life and what structural or operational changes might be needed to ensure Cal-Am's discharge would meet the relevant Ocean Plan objectives, and thereby minimize its potential adverse effects. It is also not clear at this time as to the type and extent of mitigation that may be needed to address these potential adverse effects.

Cal-Am, in its June 30, 2020 letter, acknowledges that the Final EIR/EIS determined that the brine discharge could result in exceedances of several of the state's water quality standards, though Cal-Am also contends that the Final EIR/EIS's Mitigation Measure 4.3-5 would ensure that the discharge meets those standards. This mitigation measure prevents Cal-Am from discharging brine into coastal waters until it can demonstrate that it has implemented any measures needed to ensure compliance, which Cal-Am notes could include additional design features, operational changes, diffuser retrofits, or other similar measures. Cal-Am's letter also notes that any potential structural changes are not included in this CDP application, but would be addressed through a separate CDP application to be submitted by Monterey One Water, the owner of the outfall.

The Ocean Plan requires dischargers to prepare for Regional Board approval a monitoring and reporting plan that describes measures that would be implemented to ensure the discharges are meeting all relevant requirements. A draft of this Plan is currently under review, along with consideration of what operational or design changes might allow the discharges to meet the required objectives. Potential operational changes include modifying the treatment methods, treating the discharges before they are routed to the outfall, or augmenting the flows to increase dilution prior to discharge (although the Ocean Plan Amendment generally prohibits flow augmentation for seawater desalination discharges). Potential design changes include retrofitting the existing diffuser system to allow additional dilution of the discharge, which would involve adding one or more additional structures to the existing outfall. The Final EIR/EIS described these changes to the diffuser as the most effective and reasonable strategy for ensuring compliance.

Determining whether the proposed Project can conform to Ocean Plan requirements would also require that Cal-Am install several monitoring buoys offshore before Cal-Am starts discharging its effluent. This is needed to establish baseline conditions on which to evaluate potential effects of the discharge. The currently proposed plan would

⁵⁹ The Final EIR/EIS noted that under certain operating scenarios, the project could result in exceedances of water quality standards for ammonia and cyanide, along with possible exceedances for up to 10 other constituents of the brine discharge.

include four buoys to be located at different distances from the outfall to measure salinity and other water quality parameters. They would include a seafloor anchor, a package of sensors, floats, and other equipment, all of which would extend about ten feet above the seafloor. Cal-Am would also install a telemetry buoy consisting of a seafloor mooring, ballast chain, a cable riser, and necessary instrumentation, which would extend through the water column to the water surface. It would transmit data from the other buoys to allow near real-time monitoring.

Cal-Am is also required to replace the existing clamps within the nearshore portion of the outfall with corrosion-resistant clamps that would prevent its brine discharge from damaging the outfall. Although these clamps would be inside the outfall, Cal-Am would need to conduct installation activities on the beach and possibly within coastal waters. Work is expected to involve heavy equipment on the beach, as well as a generator, 20-foot container box for equipment storage, a staging and work area, temporary fencing, and possibly excavation around the outfall's existing junction box on the beach. Work would be scheduled during the outfall's low flow summer season, but would require installation of a bypass line that would reroute outfall flows at the junction box for discharge into the nearby coastal waters for the 6 – 8 week period of time that the work would take. Although this installation is generally described in the Final EIR/EIS, it is not clear what effects the concentrated direct discharge would have in the nearshore waters, as the discharge would normally be routed through the outfall's numerous offshore diffusers. However, that discharge would occur for only 6 – 8 weeks during the treatment plant's lowest flow time of year. The need to conduct work during the low flow summer period would also coincide with Western snowy plover breeding and nesting season. As noted previously, this area of beach is designated as critical habitat for the plover, and work would represent a significant disturbance during a critical period of the plover's life cycle. Finally, and although specific work plans have not been provided, the installation may include placement of fill in coastal waters via grading, placement of the bypass discharge line, or other components of the installation activities.

Any of these Project aspects – a potential diffuser retrofit, the proposed buoy installation, or the WEKO clamp replacement – would involve placing fill in coastal waters in the form of new or modified structures. Pursuant to Coastal Act Section 30233, any such fill is allowed only if it meets a three-part test: 1) that there is no feasible less environmentally damaging alternative, that feasible mitigation measures have been provided to minimize adverse environmental effects, and that it be for certain specified purposes, including a new or expanded port, energy, or coastal-dependent industrial facility. The two tests related to alternatives and mitigation are similar to tests found in Coastal Act Section 30260, which is applied in Section II.P of these Findings. Those Findings include the analysis and conclusions needed to determine conformity to these Section 30233 tests. For the reasons described in those Findings, the Project does not conform to Section 30233 because there is a feasible and less environmentally damaging alternative project that will not require fill in coastal waters and because not all mitigation has been identified and imposed.

Conclusion

Based on the analyses above, and on those in Section II.P of these Findings, the Commission finds that the proposed Project components within the Commission's retained jurisdiction do not conform to Coastal Act Section 30233. Were it not for the other Coastal Act and LCP nonconformities noted elsewhere herein – e.g., the Project's nonconformity with Coastal Act and LCP ESHA policies and its nonconformity with Coastal Act Section 30231's provisions for groundwater protection – the Commission could consider adopting special conditions to bring this component of the proposed Project into conformity with Section 30233's requirement for mitigation. However, because the Project is being denied for other reasons, there is no need to identify special conditions that would be needed to ensure conformity to the above-referenced provision regarding placement of fill in coastal waters. Because the Project would be required to meet water quality objectives and be protective of water quality and marine life, per state Ocean Plan standards, the Project is consistent with Sections 30230 and 30231.⁶⁰

⁶⁰ The Commission would also defer to the Regional Water Board with regard to effluent limitations (see Coastal Act Section 30412), though if the Board required changes to the outfall, it might trigger the need for a CDP amendment or new CDP to address those changes.

J. PROTECTION OF GROUNDWATER RESOURCES

Coastal Act Section 30231 states, in relevant part:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, **preventing depletion of ground water supplies** ...[emphasis added]

Summary

This Coastal Act provision requires that biological productivity and water quality be maintained, in part, by preventing depletion of groundwater supplies. Cal-Am's proposed Project would extract water from beneath an area near the shoreline that includes several aquifer systems that extend from areas further inland and that contain a blend of intruded seawater and fresh or brackish water. The aquifers are within the Salinas Valley Groundwater Basin and provide drinking water supplies, support extensive agricultural operations, and serve the nearby wetlands and vernal pool complexes described in Section II.G of these Findings. The coastal areas of these aquifers from which Cal-Am would extract its source water are largely seawater-intruded, though they include areas of predominantly brackish water, including some areas that may be considered useful for irrigation or as potential drinking water sources.

Although studies done as part of Cal-Am's CEQA review concluded that the proposed Project's well field would have relatively limited effects on nearby groundwater resources, subsequent evaluations and updated studies have identified some more potential and substantial adverse project impacts, including likely impacts to nearby vernal ponds (described in Section II.F – ESHA). The updated modeling also shows an increased likelihood that Cal-Am would be required to return more water to the basin than previously anticipated in the Project's Return Water Agreement described elsewhere in these Findings. This would substantially increase costs to Cal-Am's ratepayers, as described in Section II.N – Environmental Justice and Section II.O – Assessment of Alternatives. Although some commenters have expressed concern that the Project would adversely affect the water supply wells of the Marina Coast Water District, which are located about two miles from the Project's proposed well field, neither the Final EIR/EIS nor the Commission's independent hydrogeologist found evidence that such impacts are reasonably foreseeable, though the Commission's consultant has recommended additional modeling and data may be needed to more fully characterize the Project's likely effects on groundwater.

Background and Analysis: The CEQA review of Cal-Am's proposed Project included extensive groundwater monitoring and modeling, along with installation and operation of a test well, to determine what effects its proposed well field would have on the area's underlying aquifers. The CEQA review included establishment of a Hydrologic Working Group ("HWG") to help develop these monitoring and modeling methods and to assess

the resulting studies.⁶¹ Those studies and pump tests at the test well identified a relatively limited “zone of influence” around Cal-Am’s proposed well field, and the CEQA review concluded that Cal-Am’s proposed extraction of groundwater from this area would have less than significant effects with regards to groundwater depletion or recharge. These findings and conclusions were incorporated into the CPUC’s Final EIR/EIS and its final decision regarding the proposed Project.

Other interested parties conducted additional studies or reviewed the studies conducted during the CEQA review. Some of these studies and reviews reached competing conclusions about the type and extent of the likely effects that Cal-Am’s intake wells would have on area groundwater supplies. Some conclusions asserted that Cal-Am’s proposed use of groundwater from this area would have substantially greater adverse effects than had been identified during the CEQA review. A key area of concern was whether Cal-Am’s groundwater extraction would remove greater volumes of “non-seawater” – that is, fresh or brackish water in the Basin that may be of beneficial use to others – than Cal-Am’s models had predicted.

Groundwater studies, by their very nature, involve some level of uncertainty, as their assumptions and conclusions rely on partial data about the hydrogeologic characteristics of aquifer systems. The set of studies and reviews developed as part of this Project presented a relatively wide range of interpretations – ranging from Cal-Am’s Project expected to have little or no effect on the local or regional groundwater supplies to the Project having substantial and extensive effects on water in the Basin that could be useful to others.

Other key areas of concern or disagreement were: 1) whether the data used in Cal-Am’s modeling and studies were adequate to characterize conditions of the affected aquifers or the likely or potential effects of Cal-Am’s water extractions from those aquifers; 2) whether Cal-Am’s proposed extractions would induce seawater intrusion or adversely affect any water in those aquifers that may be suitable to treat as fresh water or drinking water; and 3) whether design changes – such as extending Cal-Am’s slant wells further offshore than currently proposed – would eliminate or reduce all or some of any identified adverse effects.

Some of the main reasons for disagreement among the studies were their use of different baseline standards, data collection methods, and modeling approaches. For example, Cal-Am’s studies were focused in part on determining how much “non-seawater” Cal-Am’s wells would extract – that is, what proportion of the water withdrawn through Cal-Am’s wells would not be fully seawater, but would include fresh or brackish water that could be considered an element of the treatable groundwater within the Salinas Valley Basin. The Basin has a prohibition of exporting such water outside the Basin boundaries, and Cal-Am would essentially have to return any such portion that is

⁶¹ See documentation provided on Cal-Am’s MPWSP website at <https://www.watersupplyproject.org/test-well> (accessed August 14, 2020). The HWG is comprised of two hydrogeologists working on behalf of Cal-Am and one each working for the Salinas Valley Water Coalition and the Monterey County Farm Bureau.

not considered seawater.⁶² Cal-Am’s modeling efforts described its expected “fresh” water withdrawals using a threshold of 500 milligrams per liter (“mg/l”) of Total Dissolved Solids (“TDS”) – that is, the model considered water in the aquifers that had TDS concentrations below that threshold as an indicator of how much non-seawater Cal-Am would extract.⁶³ Some of the other studies used a different threshold – 3,000 mg/l TDS⁶⁴ – and a different data collection method – Airborne Electromagnetic (“AEM”) – to conclude that Cal-Am’s wells would extract substantially greater volumes of “non-seawater” than Cal-Am’s models had shown.

Some of these issues and areas of disagreement would not be fully resolved without additional modeling, and some won’t be determined unless and until Cal-Am actually undertook pumping. Cal-Am does not need a permit or water right for its withdrawal of seawater. However, Cal-Am would need to obtain appropriate rights for the percentage of groundwater that is not intruded seawater that it would extract and export from the Basin. To obtain those rights, it would have to establish that its use of that water was not harming other existing lawful water users in the Basin.⁶⁵ Nonetheless, and with the intent of reducing the existing uncertainties and evaluating some of these areas of concern to determine whether the proposed Project would conform to the groundwater protection provision of Coastal Act Section 30231, Commission staff contracted with an independent licensed hydrogeologist to review some of these studies and conclusions, to conduct additional analyses, and to reach independent conclusions about these issues. The initial review, prepared in November 2019,⁶⁶ concluded that there were several substantial remaining uncertainties about how Cal-Am’s extraction of groundwater would affect the groundwater basin and the amount of potentially usable groundwater within the area (see Exhibit 11 – November 2019 Independent Hydrogeological Review). That review concluded that the prior modeling did not adequately characterize some aspects of the underlying aquifers and some of Cal-Am’s potential effects on those aquifers. It also concluded that while Cal-Am’s proposed groundwater extraction would likely have limited to negligible effects on the rate of

⁶² A Return Water Agreement established during the CPUC’s review provides that Cal-Am would have to monitor the water extracted from its wells, determine the proportion that is not fully seawater (by calculating the salinity of its extracted water as compared to that of seawater), and then return that volume to the Basin at substantially reduced prices, in the form of potable water to be supplied to the Castroville Community Services District. See CPUC Final Decision 18-09-17, Appendix H – Return Water Settlement.

⁶³ This threshold is based on California’s recommended drinking water objective of no greater than 500 mg/L. See California Code of Regulations, title 22, division 4, chapter 15, article 16, section 64449, Table 64449-B (Consumer Acceptance Contaminant Level Ranges).

⁶⁴ This threshold is based on the State Water Board’s Resolution 88-63 – Sources of Drinking Water, which identifies groundwater with TDS concentrations of less than 3,000 mg/L to be suitable for drinking water, if treated.

⁶⁵ See Final EIR/EIS, Chapter 2 – Water Demand, Supplies, and Water Rights.

⁶⁶ See Weiss Associates, Independent Hydrogeological Review of Recent Data and Studies Related to California American Water’s Proposed Monterey Regional Water Supply Project, November 1, 2019.

seawater intrusion in the area, it appears that Cal-Am's wells would extract greater volumes of non-seawater than had been previously identified. It also recommended that additional data collection and modeling were needed to further reduce the degree of uncertainty about expected impacts, though it also suggested that some of that uncertainty could be reduced by ensuring that the screened areas of Cal-Am's wells extended further seaward so that there would be a shorter flow path between the wells and the seawater beneath the floor of Monterey Bay.

After the Commission's November 2019 hearing, Cal-Am agreed to fund some of these additional recommended analyses to allow for further reduction in uncertainties about the proposed Project's effects on groundwater and to better determine the amount of "non-seawater" likely to be extracted by Cal-Am's wells. The second review, provided in June 2020 (see Exhibit 12 – Independent Evaluation, Modification, and Use of the North Marina Groundwater Model to Estimate Potential Aquifer Impacts, July 2020) included additional modeling and concluded the following:

- The additional modeling suggests the amount of recharge into the aquifers – from precipitation, irrigation water percolating downward, etc. – would affect the percentage of seawater extracted by the wells. The previous modeling did not include this recharge component and showed that the wells would initially pump about 85-90% seawater and that the percentage would increase to about 96-99% after the first three years of operation. This updated modeling shows that the amount of seawater withdrawn would not reach that expected steady state of 96-99%, but would vary based on whether it was a wet or dry season, how much irrigation occurred, etc. As described below, this aquifer characteristic is likely to result in Cal-Am needing to return more water to the Salinas Valley Groundwater Basin during wet years, pursuant to the aforementioned Return Water Agreement.
- This most recent modeling also concluded that the amount of seawater extracted would vary due to the direction and slope of the groundwater gradient; that is, an aquifer gradient from the shoreline to inland areas, which is currently the most common condition, would result in extraction of a higher percentage of seawater, while a flat gradient or shoreward gradient would result in extraction of a higher percentage of non-seawater. This latter condition could be developed through the upcoming implementation of the Salinas Valley Groundwater Management Plan; however, even with a flat or shoreward gradient, the modeling showed that it could take several decades to increase the percentage of non-seawater, due to the large volumes of seawater that have already intruded to inland areas of the aquifer system.
- The modeling determined that the "capture area" from which Cal-Am's wells could capture non-seawater from the upper Dune Sand Aquifer, could cover up to about 2.5 square miles.
- The recent modeling also identified areas of expected groundwater drawdown beneath several nearby wetland and vernal pond areas. As described in Section II.G of these Findings, this represents a previously unknown and unanalyzed potential impact of the proposed Project that could result in the spatial and/or temporal loss of up to several dozen acres of those wetland areas.

This second review also recommended that additional modeling be done to further refine and describe potential groundwater impacts. For example, some of these conclusions are derived from use of a “steady state” model rather than a “transient” model that incorporates more dynamic modeling aspects, such as relatively short-term aquifer changes that result from seasonal changes in rainfall or irrigation, and can better account for the amount of groundwater storage in the aquifers. The review also includes several specific recommendations on various components of that transient model to help adequately capture some of the expected reduction in uncertainty.

In July 2020, the above-referenced Hydrogeologic Working Group submitted a critique of this most recent review (see Exhibit 13 – Hydrogeologic Working Group Comments on Weiss Report, July 10, 2020). Although this critique identified several concerns related to this recent modeling, it concurred that the Commission’s independent reviewer reached a reasonable conclusion that the amount of seawater in the water withdrawn from Cal-Am’s well field would range from about 88 to 99% and would vary in response to precipitation, agricultural pumping rates further inland, and other considerations. As noted above, the modeling done during Cal-Am’s CEQA review concluded that Cal-Am’s water withdrawal would reach a steady state of 96-99%. Pursuant to the above-referenced Return Water Agreement, this would result in Cal-Am needing to return no more than about 700 acre-feet of water per year to the Salinas Valley Groundwater Basin. The updated modeling, however, shows that during years with higher precipitation rates, lower inland pumping rates, or other reasonably foreseeable conditions, Cal-Am would need to return up to about 2,100 acre-feet per year to the Basin.

From a perspective of protecting groundwater resources, the CPUC’s requirement that Cal-Am return any non-seawater to the Basin through the Return Water Agreement is meant to ensure that groundwater is not exported. In addition, if any party was harmed by Cal-Am’s pumping of larger than expected quantities of non-seawater, they could challenge Cal-Am’s ability to obtain appropriative rights to that groundwater. However, for purposes of these Findings, this increased return water requirement would affect Project feasibility and cost, as described in Section II.N – Environmental Justice and Section II.O – Assessment of Alternatives. Essentially, because any higher return water volumes would either be subsidized by Cal-Am’s ratepayers or would result in additional costs to Cal-Am that it may cover through additional cost recovery requests to the CPUC, the increased need to return water could substantially increase the costs to members of disadvantaged communities and to all Cal-Am ratepayers. If one or two wet years result in Cal-Am’s return water requirements increasing from the expected 700 acre-feet per year to a possible 2,100 acre-feet per year, this would represent a need to subsidize about a third of Cal-Am’s total proposed water production of 6,250 acre-feet per year. That subsidy, which could range from about \$3,000 to \$5,000 per acre-foot, would substantially increase the costs for Cal-Am to produce and distribute each unit of water it provides. As described in Section II.N – Environmental Justice – the CPUC required that Cal-Am’s investors, not its ratepayers, take on some of the risk that the Project would pump higher volumes of non-seawater; however, its analysis was

based on lower assumptions regarding the probable volumes of non-seawater that would be pumped, and the CPUC acknowledged that Cal-Am would be able to ask for rate adjustments in the future if conditions were different than anticipated. Presumably, this higher return water volume would also reduce the water Cal-Am and its customers would be able to use for future growth.

A number of commenters have suggested that many of the above-referenced effects could be reduced or eliminated by having Cal-Am install longer slant wells that would draw water almost entirely from beneath the seafloor instead of from the proposed location within the aquifer system. However, while other types of wells can be drilled to greater distances, the drilling technology involved in installing slant wells generally limits them to a maximum length of several hundred feet. As noted elsewhere in these Findings, the proposed well head locations were selected to reduce potential effects of coastal erosion and sea level rise, so moving them closer to the shoreline to allow the wells to reach beneath the seafloor would increase the risks from those hazards.

Conclusion

Based on the analysis above, the Commission has determined that additional modeling and analysis is needed to identify the extent of Cal-Am's likely or potential effects on possible depletion of groundwater supplies, including the effects of the expected depletion on nearby wetlands and vernal ponds. The Commission therefore finds that current evidence does not support a finding that Cal-Am's proposed Project is consistent with the groundwater protection provision of Coastal Act Section 30231.

K. ENERGY CONSUMPTION & CLIMATE CHANGE

LCP Policy 39 states that the City's intent is:

To encourage development which keeps energy consumption to the lowest level possible.

Coastal Act Section 30253 states, in relevant part:

New development shall do all of the following:

...

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

d) Minimize energy consumption and vehicle miles traveled.

Constructing and operating major water, energy, telecommunication, and transportation projects can use a significant amount of energy, thereby significantly increasing emissions of greenhouse gases ("GHGs").⁶⁷ These emissions exacerbate climate change caused by global warming, which, in turn can cause significant adverse impacts to coastal resources of California. The Coastal Act has a number of provisions that provide authority to take steps to reduce causes and effects of climate change and to adapt to the effects of global warming. These include the Coastal Act's public access and recreation policies (Sections 30220 and 30211), marine resource and water quality policies (Sections 30230 and 30231), the environmentally sensitive habitat area protection policy (Section 30240), and the coastal hazards policy (Section 30253(1) and (2)). Further, Section 30253 requires, in part, that development be consistent with the state's air pollution control requirements and that it minimize energy consumption.

The state has long recognized the threats of climate change and the importance of taking steps to reduce those threats. In 2006, for example, the California Legislature adopted the state's 2006 Global Warming Solutions Act and found:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems. (California Health & Safety Code, Division 25.5, Part 1).

⁶⁷ Greenhouse gases are any gas, both natural and anthropogenic, that absorbs infrared radiation in the atmosphere and include water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). These greenhouse gases lead to the trapping and buildup of heat in the atmosphere near the earth's surface. Carbon dioxide is the major anthropogenic greenhouse gas. All greenhouse gases are quantified collectively by the carbon dioxide equivalent ("CO₂e"), or the amount of CO₂ that would have the same global warming potential, when measured over a specific time period.

Climate change covers a broad range of impacts that can occur due to GHG emissions, such as increased sea level rise, changes in the frequency, intensity or occurrence of heavy precipitation and droughts, changes in the frequency and intensity of extreme temperature events, and changes in ocean water chemistry. California's and the Coastal Commission's current guidance documents – *Rising Seas in California: An Update on Sea-Level Rise Science*, the *State of California Sea-Level Rise Guidance: 2018 Update*, and the Commission's *Sea Level Rise Policy Guidance* – build on several previous assessments and projections⁶⁸ that describe and recognize that within the coming century potentially severe impacts will likely occur in the areas of sea level, water resources, agriculture, forests and landscapes, and public health. Many of these effects will impact the coastal zone and resources specifically protected by the Coastal Act, including impacts to air quality, species distribution and diversity, agriculture, expansion of invasive species, increase in plant pathogens, alteration of sensitive habitat, wildfires, rising sea level, coastal flooding, and coastal erosion. In addition, absorption of carbon dioxide by the ocean leads to a decrease in ocean pH with concomitant consumption of dissolved carbonate ions, which adversely impacts calcite-secreting marine organisms (including many species of phytoplankton, zooplankton, clams, snails, sea stars, sea urchins, crabs, shrimp, and others). The most direct impacts of global warming focused on the coastal zone are sea level rise and its associated impacts, ocean warming, and ocean acidification.

Expected Direct and Indirect CO₂e Emissions

Cal-Am's Project would result in direct GHG emissions during Project construction, primarily due to use of motorized equipment, and would result in ongoing indirect GHG emissions during facility operations due to its use of purchased electricity. Regarding Project construction, the Final EIR/EIS calculated expected construction-related emissions based on the presumed equipment use over a 24-month construction period. It determined that total direct construction emissions would be about 13,680 tonnes CO₂e, which when annualized over the then-expected 40-year Project life, would equal about 342 tonnes CO₂e per year.⁶⁹ This does not include emissions that would result from the required installation of the outfall liner described in Section II.A above, which would make these total and annualized emissions somewhat higher. As described elsewhere in these Findings, if the Project operates for just 25 years due to Cal-Am being unable to relocate its wells after their expected operating life, the annualized emissions would be about 547 tonnes CO₂e per year.

⁶⁸ See, for example, California's 2006 Climate Change Impacts Assessment, 2009 Climate Adaptation Strategy and 2013 Indicators of Climate Change in California reports, and reports by the Intergovernmental Panel on Climate Change (IPCC Reports in 1990, 1995, 2001, 2007 and 2013) and various climate research centers (such as the Pew Center on Global Climate Change and the Heinz Center), and the Commission's own 2015 Sea-Level Rise Policy Guidance.

⁶⁹ Note: Standard guidance for air districts includes annualizing construction emissions over the expected operating life of the project.

Regarding Project operations, the facility would be expected to use approximately 63,000 megawatt-hours of electricity per year, which would be an increase of almost 52,000 megawatt-hours per year over Cal-Am's existing baseline electrical use for its water portfolio (based on the 2015 baseline used in the Final EIR/EIS). The total indirect annual emissions resulting from that electrical use would depend on what sources of energy (fossil fuels, wind, sun, etc.) are used to generate the electricity supplied to the Project. These indirect emissions would be expected to decrease over time as PG&E and the energy producers it purchases electricity from are able to institute emission reduction measures required pursuant to AB 32 and other state laws, such as increasing the use of lower emitting energy sources, such as solar or wind instead of natural gas. Additionally, and as stated in the Final EIR/EIS, there would also be some emissions – in the range of about 490 tonnes per year – resulting from the release of carbon dioxide caused by pulling seawater and groundwater from depth, where atmospheric pressure is much higher than at the ground surface. There would be also be other emissions resulting from vehicle use needed for Project operations and maintenance, use and testing of an emergency generator, etc. The Final EIR/EIS amortized these emissions over an expected 40-year operating life for the facility to determine that these operationally-related emissions would total just over 5,188 tonnes per year, which would be well above the 2,000-tonne per year significance threshold identified in the Final EIR/EIS.⁷⁰

Cal-Am's desalination facility, which would use the great majority of the overall Project's energy, would be located outside of the coastal zone. Coastal Act Section 30604(d) states that "[n]o development or any portion thereof which is outside the coastal zone shall be subject to the coastal development permit requirements of this division." Accordingly, this analysis only considers whether the portions of the Project inside the coastal zone comply with the relevant LCP and Coastal Act policies, though the Findings discuss overall Project energy use for context. The portions of the Project within the coastal zone would use energy for construction of those components and would use electricity for running the slant well pumps.

To address the Project's emissions, the Final EIR/EIS includes a mitigation measure meant to ensure that Cal-Am's proposed GHG Emissions Reductions Plan results in net zero operational emissions. This measure requires Cal-Am to identify state-of-the-art energy recovery and conservation technologies that it can include as part of its Project, and requires Cal-Am to use renewable energy to the extent possible and to procure and retire Renewable Energy Credits, Carbon Offsets, and other similar instruments that are meant to offset emissions and that are acceptable to any of several state-approved carbon registries.⁷¹ The measure also includes reporting requirements to ensure that

⁷⁰ The Final EIR/EIS used a threshold of 2,000 tonnes of CO₂e per year to determine if the proposed project's emissions would represent a significant adverse environmental effect.

⁷¹ Per the Final EIR/EIS, these include the Climate Action Reserve, the American Carbon Registry, the Verified Carbon Standard, or the Clean Development Mechanism; or (ii) any other entity approved by the California Air Resources Board to act as an "offset project registry" under the state's Cap-and-Trade Program.

Cal-am achieves net zero emissions for each year's operations. In addition, the Final EIR/EIS and Project design include other measures to address energy usage. For example, piping system materials and sizing would be designed to limit pressure losses and reduce pumping and energy requirements, and electrical and treatment equipment would include variable frequency drives to reduce the operating speed of pumps to match the pump discharge pressure requirements and reduce energy usage. With the designs and mitigation measures incorporated in the EIR/EIS and the Project, the Project would minimize energy consumption, consistent with the LCP and Coastal Act requirements.

Conclusion

The portions of the Project in the coastal zone appropriately minimize energy consumption, consistent with LCP and Coastal Act policies. However, as described in Section II.O of these Findings regarding alternatives, there is a feasible alternative to the Project that would use significantly less energy than Cal-Am's proposed Project, albeit while producing only about a third of the water, and would operate entirely on renewable energy, as opposed to Cal-Am's proposal to use renewable energy, purchase emission credits, or a combination of both. As a recent court opinion described, purchasing offsets and carbon credits does not necessarily result in real, permanent, verifiable, and enforceable greenhouse gas mitigation. *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467. If Cal-Am was not able to operate entirely on renewable energy, it would result in higher GHG emissions than the alternative project.

L. PUBLIC ACCESS AND RECREATION

LCLUP Policy 1 is:

To insure access to and along the beach, consistent with the recreational needs and environmental sensitivity of Marina's Coastal area.

LCLUP Policy 2 is:

To provide beach access and recreational opportunities consistent with public safety and with the protection of the rights of the general public and of private property owners.

LCLUP Policy 3 is:

To provide beach access in conjunction with the new development where it is compatible with public safety, military security and natural resources protection; and does not duplicate similar access nearby.

The LCLUP's "North of Reservation Road Planning Area" requires that proposed development consider:

Retention of uninterrupted lateral access along the sandy beach frontage.

Protect and continue to provide public access from the nearest public roadway to the ocean.

Structures necessary for the functioning of any Coastal Conservation and Development use (e.g., dredgelines, sewer outfall lines) may cross the sandy beach designated Park and Open Space provided lateral beach access is not significantly blocked.

Coastal Act Section 30210 states:

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

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) states:

Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby, or, (3) Agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Coastal Act Section 30214 states, in relevant part:

- (a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:
- (1) Topographic and geologic site characteristics.
 - (2) The capacity of the site to sustain use and at what level of intensity.
 - (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.
 - (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

Coastal Act Section 30221 states:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Because most Project components in the coastal zone, including the well field and portions of the Source Water Pipeline, would be located between the first public road and the sea, the Coastal Act's public access and recreation provisions apply to all such development in both the consolidated permit action as well as the de novo permit in the City's LCP jurisdiction.

LCP and Coastal Act policies require generally that development located adjacent to the shoreline in areas with public use not interfere with that use and that they provide access to the shoreline. Most Project components – including the desalination facility and most of the pipelines – would be located some distance from the shoreline or even outside the coastal zone and would cause few, if any, effects on public access to the shoreline or public recreation. There would likely be short-term effects resulting from temporary traffic closures or detours needed during pipeline construction in some of the rights-of-way Cal-Am plans to use, but those effects would be relatively temporary and minimal. However, Project construction and operations at the well field and outfall area on the CEMEX site would potentially have greater adverse impacts, as described below.

Effects during construction

The CEMEX site is currently an active industrial facility that does not provide vertical access to the shoreline. Coastal access at the site is primarily available as lateral access along the beach from access points to the north and south. During construction, work to develop the well field and the Project's Source Water Pipeline would occur several hundred feet from the shoreline and would not be expected to affect access to or along the beach and would have little, if any, effect on public access or recreational use. Cal-Am's installation offshore of the modified diffuser components needed to allow its use of the existing wastewater outfall would involve boats and divers working in coastal waters and would result in temporary and minor effects to use of those coastal waters for fishing or other uses. These construction-related activities would be expected to be consistent with, and not conflict with, the above policies, as they would not require activities or structures on the beach that would inhibit public access or impede beach users.

One component of the Project's construction – replacement of some clamps on the nearshore area of the outfall line – would occur on the beach at the CEMEX site and would likely result in temporary adverse effects on public access during construction. Installation would involve heavy equipment operating on the beach, placement of barriers and protective work zones around the installation, and other measures that could prevent lateral access along the shoreline during extreme high tide events for a period of six to eight weeks during the summer. The aforementioned installation of an outfall liner, if done as described in the Final EIR/EIS, could also involve these types of activities and effects on the beach.

Effects during Project operations

The existing sand mining operations at the CEMEX site will end within a few years and the site will generally be made available for public access, habitat restoration, and passive recreational uses. Pursuant to the above-referenced CEMEX Settlement Agreement, the CEMEX site will be transferred to another owner at some point, though this is expected to take several years, and may be after Cal-Am's well field construction would be complete.

During Project operations, Cal-Am's Project could result in adverse effects to public access and recreation, depending on the eventual restoration and access plan that emerges from implementation of the CEMEX Settlement Agreement. The site is currently privately owned and operated for purposes of sand mining, and there is not public access at the site of the proposed wellheads. Project operations therefore would not cause public access or recreation impacts compared to currently existing conditions. However, the CEMEX Settlement Agreement anticipates that most of the CEMEX site will be used for habitat restoration, public access, and passive recreation opportunities. Because this is a known change in environmental conditions that would occur before or during Project construction and operation, it is also appropriate to consider how the Project would affect public access under those future conditions. Cal-Am has a 30-acre permanent easement within the CEMEX site and its well field would include fencing to

protect about a quarter-acre of the several well heads and associated equipment. Cal-Am's ongoing maintenance of the well field would result in access and use of heavy equipment and vehicles over an area of up to about six acres over the Project's lifetime, though not all of that acreage would be used at once.

It is unclear at this time how these aspects of the Project would affect or prevent public access over this part of the CEMEX site in the future. Until the Commission approves a restoration and access plan pursuant to the Agreement, it is difficult to know exactly how much of an effect Cal-Am's Project would have on future public access and recreation within the CEMEX site or along the shoreline. However, the Project would, at a minimum, fence off a quarter-acre around the wellheads and some other equipment, occupy another quarter-acre for a period of nine to 18 weeks each year for maintenance, and result in use of vehicles and other equipment over an approximately 6 acre area over time. This would prevent at least some portion of the overall area used by Cal-Am from being restored and used for public access or recreation. This area is a relatively small portion of the overall CEMEX site, and there is significant beach and coastal area available nearby for coastal access and recreation. However, allowing an industrial use to occupy and use up to six acres of prime coastal land that could otherwise be used for coastal access and recreation does not maximize public access, as required by the Coastal Act. As noted elsewhere in these Findings, any adverse effects on access and recreation would likely be experienced disproportionately by members of the nearby communities described in Section II.N – Environmental Justice.

In a letter it submitted to the Coastal Commission on June 30, 2020, Cal-Am asserts that the Commission should not consider Cal-Am's use of this area to be a public access impact because the Commission's Settlement Agreement anticipated that Cal-Am might use this area for its Project. It is true that the Settlement Agreement acknowledges that Cal-Am has rights to its easement area and permits uses consistent with Cal-Am's anticipated operations in that area. However, the Settlement Agreement merely stated that it did not interfere with any existing property rights that Cal-Am had on the CEMEX property; it did not guarantee Commission approval of a later CDP for the desalination project or state or imply that it would not analyze or require mitigation for public access or other impacts of any future Cal-Am project on the CEMEX property. Thus, there would not be public access impacts from Project operations compared with existing conditions, nor compared to one set of possible future conditions as allowed for in the Settlement Agreement, but there would be a reduction in access and recreational opportunities compared to what would occur without the Project.

Conclusion

The development, as proposed, would result in temporary adverse impacts to public access and recreation during construction. It would also result in relatively modest, but by no means insignificant, long-term loss of public access and recreation opportunities. Were it not for the Coastal Act and LCP nonconformities noted elsewhere in these findings – e.g., the Project's nonconformity with Coastal Act and LCP ESHA policies – the Commission could require special conditions requiring Cal-Am to implement measures to reduce and mitigate for public access impacts and ensure its proposed

Project would be consistent with the above-referenced Coastal Act and LCP provisions related to public access and recreation.

However, because those areas of nonconformity do not allow the Project to be fully consistent with the relevant Coastal Act or LCP provisions, there is no need to identify special conditions in this section of the Findings that would result in it being only partially consistent with the Coastal Act and LCP. Because the proposed Project is considered a coastal-dependent industrial facility, the Commission has the discretion to apply the three tests of Coastal Act Section 30260 and approve the Project notwithstanding its inconsistencies with Coastal Act and LCP provisions. However, as described in Section II.P of these Findings, the Commission finds that the Project does not meet any of those three tests and therefore denies the CDP application and appeal. As a result, there is no need to identify special conditions that may be needed to ensure conformity to the above-referenced public access and recreation provisions.

M. VISUAL RESOURCES

The LCP's Preservation and Enhancement of Coastal Views policy states:

Views of the dunes from Highway 1 and the beach shall be protected by keeping development off of the primary ridgeline. Development below the ridgelines shall be limited in height and mass to blend into the face of the dunes: generally structures should be hidden from public view where physical and habitat constraints allow. Where this is not possible, structures shall be clustered and sited to be as inconspicuous as possible.

In areas where mining activity or blowouts have removed sand dune landforms, new development shall not extend above the height of the nearest adjacent sand dunes and shall be clustered so as to preserve access views across its site from Highway One.

The LCP's North of Reservation Road Planning Area requires proposed development consider:

Visibility of new uses from Highway 1 and from the water's edge.

Coastal Act Section 30251 states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Project components within the coastal zone would consist primarily of pipelines and subgrade components that would have little, if any, visual impact once construction and installation would be completed. Within the City of Marina, the Project's well field would include above-grade well heads and electrical boxes surrounded by fences, with no completed Project components exceeding about ten feet in height. The City's LCP generally requires that permitted development protect views to and along the coast and specifically requires that views of the dune area from Highway 1 and the beach be protected by keeping development below the dune ridgelines, limiting its height, and clustering structures to the extent allowed by physical and habitat constraints.

Some Project construction would occur on or near the Monterey Bay shoreline and would be visible from other nearby publicly accessible shoreline areas, including the highly scenic Marina Dune Complex. These areas are valued in part for their views of

the Bay, for wildlife and bird watching, and for recreational activities. During construction, the main Project activities that would affect visual resources would be staging and operating the drilling equipment needed to install the wells. These activities would result in visual impacts over the approximately 15 months of well installation. Most of these activities, such as the use of large construction equipment, are similar to those currently occurring as part of the sand mining activities at the site and are expected to be visually equivalent to those of the mining operations. Some of the Project's activities – e.g., ingress and egress, and the higher drill rigs – may be viewed by passing motorists on Highway 1 or by beach users, though most would have distant views that would be partially blocked by intervening dune formations and vegetation. The most visible construction activities would be the lighting associated with the Project, and construction of the outfall liner, which would be on the beach during summer months of higher public use.

During operations, the visual impacts of the well heads, surge tanks, and fences at the site would be relatively minimal, though their effects would depend in part on the eventual surrounding uses at the site. Preliminary site designs show that most of these components would be completed in muted tones to blend into the appearance of the dune habitat. For example, the infrastructure could look relatively innocuous in an area used for public access but could look out of place in the midst of an area of restored dune habitat. Visual impacts would be more substantial during Cal-Am's ongoing maintenance at the well field, which would involve vehicles, heavy equipment, and maintenance activities at a time when similar industrial uses on the rest of the CEMEX site have ended.

Conclusion

The development, as proposed, would not be on prominent ridgelines, and permanent development would mainly be hidden from public view. Although ongoing maintenance activity at the well head sites might be visible from nearby public locations, it would likely be limited in extent so that it would not conflict with the LCP's requirement that development below the ridgelines be limited in height and mass to blend into the face of the dunes. Construction activities would have several temporary adverse visual impacts, but none that conflict with the LCP's or Coastal Act's visual resource policies. Were it not for the Coastal Act and LCP nonconformities noted elsewhere in these Findings, the Commission could adopt special conditions requiring that Cal-Am implement any additional measures needed to ensure its proposed Project would conform to the above-referenced visual resource-related provisions. These could include special conditions that would limit the height of Project components, require muted color tones that blend with the surrounding habitat, and others.

Because those areas of nonconformity do not allow the Project to be fully consistent with the relevant Coastal Act or LCP provisions, there is no need to identify special conditions in this section of the Findings that would result in it being only partially consistent with the Coastal Act or LCP. However, because the proposed Project is considered a coastal-dependent industrial facility, the Commission has the discretion to apply the three tests of Coastal Act Section 30260 and approve the Project

notwithstanding its inconsistencies with Coastal Act and LCP provisions. As described in Section II.P of these Findings, the Commission finds that the Project does not meet any of those three tests and therefore denies the CDP application and appeal. As a result, there is no need to identify special conditions that may be needed to ensure conformity to the above-referenced visual resource provisions.

N. ENVIRONMENTAL JUSTICE

Coastal Act Section 30604(h) states:

When acting on a coastal development permit, the issuing agency, or the Commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state.

Section 30604(h) provides for the Commission to evaluate environmental justice considerations when making permit decisions. As defined in Section 30107.3 (a) of the Coastal Act, “environmental justice” means “the fair treatment and meaningful involvement of people of all races, cultures, incomes and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”⁷² Section 30107.3(b)(4) states that environmental justice includes, “[a]t a minimum, the meaningful consideration of recommendations from populations and communities most impacted by pollution into environmental and land use decisions.”⁷³

In March 2019, the Commission adopted an environmental justice policy (“EJ Policy”) to guide and inform its implementation of Section 30604(h) in a manner that is fully consistent with the standards in, and furthers the goals of, Chapter 3 of the Coastal Act and certified local coastal programs. The EJ Policy further articulates environmental justice as the following:

The term ‘environmental justice’ is currently understood to include both substantive and procedural rights, meaning that in addition to the equitable distribution of environmental benefits, underserved communities also deserve equitable access to the process where significant environmental and land use decisions are made.

Ensuring access to the Commission’s proceedings means making sure that those who are affected by proposed development have a meaningful and equitable opportunity to voice concerns in an open and transparent public process. Substantively, the EJ Policy describes how the Commission will work to ensure equitable access to the coast, support measures that protect existing affordable housing, and ensure that disadvantaged communities are not disproportionately affected by water contamination or overuse.

⁷² Coastal Act Section 30013, which provides that the Commission is to advance the principles of environmental justice and equality, references California Government Code section 65040.12(e), which defines “environmental justice” as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

⁷³ Added by AB 1628 (Rivas), Chapter 360, Statutes of 2019.

Opponents of the proposed Project have raised both procedural and substantive concerns about the Project's impacts on communities of color and low-income communities located near the proposed Project in the City of Marina, as well as on those who presently purchase water from Cal-Am in the Cal-Am service area. Project proponents have asserted the Project would benefit one underserved community. The Commission addresses these concerns in this section.

Identifying Communities of Concern

In order to evaluate the distribution of the project's environmental burdens and benefits and cumulative impacts on communities of concern, it is critical to understand the existing socioeconomic and demographic profiles of those communities as well as the environmental burdens among them. Here, the term "communities of concern" refers to low-income communities, communities of color, and other populations with higher exposure and/or sensitivity to adverse project impacts due to historical marginalization, discriminatory land use practices, and/or less capacity to mitigate adverse impacts. To identify these communities, staff evaluated various quantitative and qualitative sources of information for the City of Marina, which is where the physical project is located; jurisdictions in the Cal-Am service area (Seaside, Sand City, Carmel-by-the-Sea, Del Monte, Pacific Grove, and Monterey); and the inland city of Castroville, which is part of a water rights settlement agreement and will be affected by the Project outcomes. Quantitative indicators used to identify communities of concern include the percentage of low-income households, housing burdened low-income households, population of color,⁷⁴ and linguistically isolated households. Staff also used the SB 535⁷⁵ disadvantaged community metric by CalEPA, which are census tracts in the top 25 percent of the CalEnviroScreen 3.0 index with multiple sources of pollution and a population with high sensitivity to pollution.

The demographic and socioeconomic indicators establish a high percentage of communities of concern in Castroville, Seaside, Sand City, and Marina that would be affected by the proposed Project. More than half the population in Castroville, Marina, and Seaside identifies as a person of color, and in Castroville a large portion of the population does not speak English very well (see Table 1 below). While all of the jurisdictions in Cal-Am's service area have individuals living under 200 percent of the federal poverty level, Castroville, Marina, Seaside, and Sand City have a much higher proportion of their population living under this threshold (see Table 1). These communities have median household incomes below the Department of Housing and

⁷⁴ Population of color refers to anyone that identifies as Hispanic (of any race) and anyone who identifies as non-Hispanic but as a race other than white on the Census, such as Black or African American, Asian, or American Indian.

⁷⁵ SB 535 (De Leon) Chapter 830, Statutes of 2012, required that 25% of available monies from the Greenhouse Gas Reduction Fund be allocated to disadvantaged communities, as defined. Although the focus of SB 535 was to ensure the equitable distribution GGRF investments, the criteria used to determine the location of these communities is instructive for the purposes of this analysis.

Community Development’s (HCD) state income limit for a low-income household⁷⁶ in Monterey County, which is \$69,750 for a family of three⁷⁷. A number of low-income households in Marina, Seaside, and Monterey pay more than 50% of their household income towards housing (see Table 1 below). Increasing utility rates would exacerbate these existing cost burdens. For a more detailed explanation of methodologies and standards considered for this analysis, see Exhibit 14 – Methodology for Identifying Communities of Concern.

Table 1: Demographic Characteristics

Geography	Total population	Population of color		Total Households	Limited English Households	
		Population	percentage		Households	Percentage
Cal-Am Service Area						
Carmel-by-the-Sea	3855	679	18%	1,873	0	0%
Del Monte Forest	4197	1084	26%	1,760	84	5%
Del Rey Oaks	1596	413	26%	642	4	1%
Monterey (city)	28512	9815	34%	11,596	465	4%
Pacific Grove	15567	3231	21%	6,835	153	2%
Sand City	318	138	43%	148	2	1%
Seaside	34077	23547	69%	10,458	895	9%
Other Geographies						
Marina	21608	14237	66%	7,549	755	10%
Castroville CDP	6686	6142	92%	1,524	614	40%
Monterey County	433,212	301974	70%	126,052	16783	13%
State of California	39,148,760	24,452,924	39%	12,965,435	1179753	9%

Source: U.S. Census Bureau 2014-2018 American Community Survey Data, 5-year estimate.

⁷⁶ This definition of low-income households is from AB 1550 (Gomez) Chapter 369, Statutes of 2016, which identifies low-income households according to the definition below: “Low-income households” are those with household incomes at or below 80 percent of the statewide median income or with household incomes at or below the threshold designated as low-income by the Department of Housing and Community Development’s (HCD) State Income Limits adopted pursuant to Section 50093. A household would also be considered low-income if it had a household income at or below 80% of the state median household income for California, which is \$56,982 based on the state median household income from most recently available data presented in Table 1. However, staff used HCD’s 2020 State Income Limits since it provides a more regionally specific assessment of median household income and is more recent.

⁷⁷ Since the average household size in Monterey County is 3.30, staff used the thresholds for a household of three. See U.S. Census Bureau Monterey County Quick Facts.

Table 2: Income Characteristics

Geography	Total population ⁷⁸	Individuals with income below 200 percent the federal poverty level		Median household income
		Individuals	Percent	
Cal-Am Service Area				
Carmel-by-the-Sea	3,825	596	16%	\$90,734.00
Del Monte Forest CDP	3,901	481	12%	\$138,889.00
Del Rey Oaks	1,592	239	15%	\$90,795.00
Monterey (City)	25,949	5,146	20%	\$77,562.00
Pacific Grove	15,464	2,363	15%	\$81,623.00
Sand City	318	114	36%	\$62,667.00
Seaside	32,904	11,716	36%	\$61,434.00
Other Geographies				
Marina	20,841	6,870	33%	\$62,803.00
Castroville CDP	6,674	3,742	56%	\$52,846.00
Monterey County	416,002	156,606	38%	\$66,676.00
State of California	38,407,403	12,496,818	33%	\$71,228.00

Source: U.S. Census Bureau 2014-2018 American Community Survey Data, 5-year estimate.

In addition to gathering and evaluating quantitative information from online sources, staff traveled to the area in September 2019 to understand the lived experiences of residents, and to ground truth quantitative information. Staff met with residents from Marina and Seaside, including subsistence fishers, single parents living in Section 8 (federally subsidized) housing, retirees on fixed incomes, recent immigrants caring for extended families and head-of-household wage earners working multiple jobs to support their families. In early 2020, because COVID-19 travel restrictions made travel infeasible, staff conducted outreach by email and phone with Castroville residents including Community Services District staff, social justice advocates, a county representative, water experts, and other stakeholders.

The City of Marina, located eight miles north of Monterey, includes a modest downtown dotted with Asian and Mexican markets and family-owned restaurants. In linguistically isolated households within this area, the top three non-English languages spoken include Spanish, Vietnamese, and Korean. The city has a disproportionate amount of nearby industrial development including a regional landfill, regional composting facility, and regional sewage plant, all of which serve areas outside of Marina. Nearby Fort Ord is a contaminated site listed on the U.S. EPA’s national priorities list.⁷⁹ Marina is also

⁷⁸ The total population in Table 2 does not include individuals for whom poverty status cannot be determined, which includes people living in institutional group quarters (i.e. prisons, nursing homes), college dormitories, military barracks, and living situations without conventional housing (and who are not in shelters). See U.S. Census Bureau for more information: <https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html>

⁷⁹ The U.S. EPA describes the National Priorities List (NPL) as sites of national priority among the known or threatened releases of hazardous substances and contaminants throughout the United States and its

home to the CEMEX sand mining facility, the last coastal sand mining operation in the country, which is now scheduled to close later this year pursuant to Coastal Commission Consent Order CCC-17-CD-02. In spite of bearing the greatest amount of industrial development of any coastal community in the Monterey area, Marina also has a thriving culture of committed public engagement, and many residents care deeply about the future of their town.

Although not within Cal-Am's service area, Marina's residents would be adversely affected by the project because the proposed slant well field is within city limits at a site that would otherwise be set aside for public access, passive recreation, and coastal resource protection, and the proposed Project may also have an adverse effect on Marina's groundwater resources, by lowering ground water tables and potentially affecting the City's important wetland and vernal pond areas and inviting salt water intrusion.

Seaside is a city on the southern end of the Monterey Bay, similar in many ways to neighboring Marina, with a modest downtown and housing stock primarily consisting of small, older homes, despite its proximity to the ocean. Over two thirds (69%) of its residents are non-white, and slightly more than a third (36%) have income below 200 percent of the federal poverty level. Seaside is home to the largest population (7%) of African American residents in the project area or the region. Many Black soldiers came to Seaside for training at Fort Ord, and over time Seaside became a center for African American settlement.⁸⁰ Over the years, other non-white and Latino populations have settled in Seaside as well. Hospitality and food service is the largest employment sector (22.5%)⁸¹, which was part of why Seaside was hit hard economically by the military base closures in the 1990s. Seaside residents say they would be impacted by the project's increased water rates, resulting in part from subsidizing Castroville's lower rates.

Castroville is an agricultural area, known in particular for artichoke production. Much of its economic activities center around agricultural support services, and many of its residents work directly or indirectly in agricultural production. Farms, farm stands, and restaurants specializing in locally produced food demonstrate the direct connection between growers and consumers. Castroville's population is 92% non-white, 56% living under 200 percent of the federal poverty level, and slightly less than half of the population has a high school education. With a total population of 6,481, the entire community is contained within a single census tract, the entirety of which is classified as disadvantaged according to the Department of Water Resources.⁸²

territories. The NPL guides the EPA in determining which sites warrant further investigations and potential remediation.

⁸⁰ <https://www.blackpast.org/african-american-history/race-and-color-california-coastal-community-seaside-story/>

⁸¹ <https://www.neighborhoodscout.com/ca/seaside/demographics>

⁸² The Department of Water Resources defines "disadvantaged community" as community with an annual median household income that is less than 80 percent of the Statewide annual median household income

The groundwater aquifer system beneath Castroville is the town's main source of its drinking water and has been overdrafted by decades of intensive agricultural use. The Castroville Community Services District ("CCSD") was able to secure a long-term source of new water through a Return Water Agreement developed during the CPUC's review of Cal-Am's Project. Through this agreement, Cal-Am would return a portion of the water it extracts and exports from the Salinas Valley Groundwater Basin back into the Basin via pipeline in the form of reduced-cost potable water for the CCSD.⁸³ As a result, Castroville would benefit from the Cal-Am project because the agreement will help to maintain existing low water rates (approximately \$20 per month) and stakeholders say it would also help with the development of critical affordable housing projects and agricultural jobs.

While Castroville would benefit from the desalination project, Marina and Seaside are at high risk for bearing disproportionate burdens associated with it. Additionally, although other jurisdictions do not have a high proportion of low-income households, there are still many low-income households throughout the service area that would be adversely impacted by increasing water rates. Potential impacts to those communities and the Commission's ability to mitigate those impacts warrant additional consideration pursuant to Section 30604(h) of the Coastal Act.

Environmental Justice Coastal Act Analysis

Procedural Concerns

Some Marina residents also raised procedural environmental justice concerns, including that Cal-Am did not fully engage with them because they are not ratepayers. They expressed a sense of being excluded by the CPUC proceeding because they felt that it analyzed only the proposed Project's effects on ratepayers, not on the impacts to communities living near the proposed Project. Seaside residents have received notices and flyers from Cal-Am letting them know about upcoming rate increases, but they also felt the company did not do enough to engage with them about the proposed Project through community meetings. Cal-Am disputes these concerns because they say residents from Marina and the service area actively participated via comment letters, organizing, and formal participation in the CPUC administrative hearings and NEPA/CEQA EIR process.

A number of Marina and Seaside residents have also told Commission staff that they felt they were at a disadvantage engaging in the project development and permitting process. For example, many said they could not take a day off of work to make the 100-mile journey to and from their communities to the Coastal Commission's November 2019 meeting location in Half Moon Bay. In some cases, these residents said they work multiple jobs in order to make rent, so they felt they would need to choose between having a place to live or testifying before the Commission.

as directed by Water Code §79702(j) which refers to Water Code §79505.5. This definition differs from the SB 535 definition of disadvantaged community which considers pollution burden in addition to population characteristics.

⁸³ See CPUC Final Decision 18-09-17, Appendix H.

In response to these concerns and to a written request from the City of Marina requesting greater avenues for public engagement, the Commission agreed to several additional approaches to encourage the widest possible involvement from underserved members of the public in consideration of the current project. Commission staff scheduled the Cal-Am matter early on the November 14, 2019 agenda so members of the public would have more certainty about when, if they were able to attend, they should plan to participate. Commission staff also provided an opportunity for livestream testimony to the Commission from the City of Marina's City Hall so members of the public who could not travel to Half Moon Bay could still participate. More recently, because the COVID-19 pandemic has shut down in-person hearings, Commission staff has engaged with community members by phone to try to accommodate concerns about the move to online meetings.

Substantive concerns

Along with the quantitative data collected, qualitative information and the lived experience of the community members is key to understanding existing environmental justice burdens on a community and the potential for new development to inadvertently exacerbate those impacts. Staff toured the affected area and spoke with residents and city officials from both Marina and Seaside, as part of the Commission's ongoing commitment to foster meaningful involvement consistent with 30107.3(a) and increase outreach consistent with its environmental justice policy. Following the November 2019 hearing, staff reached out to community members and public officials in Castroville and Seaside. Residents from these communities shared various environmental concerns and community burdens, providing additional relevant information to consider.

The main substantive issues identified relate to three main areas: 1) increased costs for water, 2) benefits to Castroville's water supply through the return water agreement, 3) direct and indirect environmental burdens that will contribute to cumulative impacts to the City of Marina.

1) **Water costs:** One of the primary concerns residents had is the disproportionate burden that low income ratepayers in Cal-Am's service would experience as a result of increasing water rates due to the construction and operation of the proposed Project. Affordable water is critical for people on limited incomes and is a critical component in the state's Human Right to Water strategy that identifies access to safe, clean, and affordable drinking water as a public health imperative.⁸⁴ According to a 2017 Food & Water Watch survey,⁸⁵ ratepayers in Cal-Am's service area on the Monterey Peninsula

⁸⁴ See State Water Resources Control Board. Options for Implementation of a Low-Income Water Rate Assistance Program at https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/2019/draft_report_ab401.pdf

⁸⁵ See *Top Ten Most Expensive Water Providers in the Country: 2017 Update*, accessed at: https://www.foodandwaterwatch.org/sites/default/files/top_ten_most_expensive_water_providers-web.pdf.

currently pay among the highest water rates in the country, which Cal-Am disputes.⁸⁶ A 2019 Monterey Peninsula Water Management District report found that costs of the proposed Project's water and other expected rate increases from Cal-Am could nearly double an average residential ratepayer's water bill by 2023.⁸⁷

Currently, ratepayers in Cal-Am's service area are paying new water rates approved in 2018 by the CPUC (Decision D. 18-12-021), which increased monthly service charge rates 12.3% cumulatively and increased water usage rates 11.9% cumulatively from 2018 to 2020. In 2019, Cal-Am applied for a general rate case increase for 2021 to 2023,⁸⁸ which the CPUC is still reviewing. The CPUC's Public Advocates Office ("PAO"), an independent organization within the agency that advocates on behalf of utility ratepayers, protested this recent rate case. The PAO identifies that Cal-Am has been adding additional surcharges through alternate rulemaking procedures, and thus, the rates approved in general rate cases do not reflect the true cost that ratepayers will have to pay in their final water bills.⁸⁹ Over the course of 10 years, surcharges accounted for an average of 41% of the total water bill paid by residential ratepayers in the Monterey region.⁹⁰ The PAO identified that the surcharge percentage of the residential monthly bill in Cal-Am's Monterey Service Area has been anywhere from 19% to as high as 53% from 2008 to 2018. Resolution on this issue is likely to be reached in November 2020.

Although rates will increase for all ratepayers in the service area, higher rates resulting from the proposed desalination facility would disproportionately impact low-income ratepayers in Seaside and other jurisdictions in the service area. Cal-Am offers several customer assistance programs to offset cost burdens for low income ratepayers,⁹¹ including its Low Income Ratepayer Assistance ("LIRA") program, where eligible

⁸⁶ See Latham and Watkins Letter to T. Luster, June 30, 2020, page 92.

⁸⁷ See Monterey Peninsula Water Management District, *Supply and Demand for Water on the Monterey Peninsula*, September 2019.

⁸⁸ CPUC Application No A.19-07-004 - Application of California-American Water Company (U210W) for Authorization to Increase its Revenues for Water Service by \$25,999,900 or 10.60% in the year 2021, by \$9,752,500 or 3.59% in the year 2022, and by \$10,754,500 or 3.82% in the year 2023.

⁸⁹ Surcharges can be approved and added to customer bills in between general rate cases, and as a result, the full impact of rate increases are not reflected in general rate case proceedings. See CPUC Office of Public Advocates Report on Recommendations on Rates and Surcharges, protest of Application 19-07-004.

⁹⁰ See Attachment 2 in Office of Public Advocates Report on Recommendations on Rates and Surcharges, protest of Application 19-07-004.

⁹¹ The CPUC EIR also identifies this as an environmental justice concern, but in their analysis identify these measures as sufficient to offset burdens to low income rate payers and make the impact less than significant. The Office of Public Advocates also supports Cal-Am's LIRA program and implementation to provide additional protections for low income ratepayers.

customers can apply for a monthly discount of up to 30% on their charges.⁹² LIRA has several eligibility requirements including having an individually metered or flat-rate residential meter, having the water or sewer bill held in the name of program participants, and having household income below the required thresholds for participation in other assistance programs.⁹³ Cal-Am has stated that it extends its LIRA program to Migrant Farm Worker Housing Centers and nonprofit group living centers. Cal-Am also offers payment arrangement plans and a Hardship Benefit Program in partnership with United Way Monterey County to help qualifying customers facing financial hardship cover an outstanding balance on their water bill. Finally, Cal-Am provides water conservation assistance that can also help ratepayers reduce consumption.⁹⁴

However, while Cal-Am's LIRA follows CPUC's recommendation for rates, it has not reached all low-income customers and has not fully offset the disproportionate burden they bear from rate increases. Cal-Am states that as of June 30, 2020, 18% of its residential customers in the City of Seaside and 6% of all customers in its overall service area use its LIRA program. However, many eligible customers do not participate in the program.⁹⁵ The eligibility requirements themselves create barriers to access. Many otherwise eligible ratepayers live in multi-family structures, where the water bill is in the name of a landlord or management company and not individually metered. Some landlords of single-family residences that rent to low-income tenants prefer to keep the water and sewer bill in their own name. In both cases, increases in utilities are passed through from the landlord to the tenants, without any options for the tenants to request assistance.

While individuals may qualify as low income based on the standards set by other similar programs, they do not necessarily meet the eligibility criteria for Cal-Am's LIRA program.⁹⁶ For example, using an average household of three,⁹⁷ state income limits set

⁹² The LIRA program does not discount water usage in excess of 17,200 gallons in a single month. See Latham and Watkins Letter to T. Luster, 6/30/2020, pg 39.

⁹³ Application for Assistance for Low Income Customers - https://dnnh3qht4.blob.core.windows.net/portals/2/2019%20Documents/CA_LowIncomeApp-2019_FINAL2.pdf?sr=b&si=DNNFileManagerPolicy&sig=i34kUIWVhiUIqA3UaT9wMTI%2FDNycyQzgBEefDPKy1RI%3D

⁹⁴ <https://amwater.com/caaw/conservation/district-resources/monterey>

⁹⁵ According to a Dudek analysis of CalEnviroScreen and EPA EJSCREEN data prepared for Cal Am, the numbers of residents who are eligible for the LIRA program are higher: approximately 43% of residential customers in Seaside, 16% in Carmel-by-the-Sea, 20% in Del Monte, 16% in Pacific Grove, and 20% in Monterey. See Exhibit 1 in Latham and Watkins Letter to Tom Luster, dated August 13, 2020.

⁹⁶ Eligibility thresholds for the LIRA program is based on whether household income is below 200 percent of the federal poverty level.

⁹⁷ According to the most recent figures, the average household size in Monterey County is 3.30. <https://www.census.gov/quickfacts/fact/table/montereycountycalifornia/PST045219>

by Housing and Community Development (HCD) in 2020 identifies low income households with a median household income of below \$69,750 and very low income households with a median income below \$43,650 in Monterey County.⁹⁸ The Department of Water Resources identifies disadvantaged households as those with a median household income below \$51,026 and severely disadvantaged households as those with a median household income of \$38,270.⁹⁹ The LIRA threshold for a household of three, however, is \$43,440, which means there are households experiencing housing or rent burden that may not benefit from the program.

Staff spoke to various ratepayers in the area to understand concerns with the proposed Project. Some Seaside residents are concerned that the economic hardship caused by these rate increases would eventually push them out of this currently affordable coastal community. Ratepayers say they have gone to great lengths to save water over the years including using their dishwashers only to dry dishes, flushing toilets only once a day, taking showers at municipal facilities instead of at home, not washing clothes as often, removing gardens, or using graywater for irrigation, but their bills have continued to increase. Residents participating in the LIRA program who were interviewed also stated the discount does not offset the impacts of increasing rates still.

Based on a review of the available programs for low-income ratepayers and meetings with local residents, the Commission believes that the project will exacerbate the disproportionate burdens on low-income ratepayers as a result of rising rates from the construction and operation of the proposed Project. As described in Sections II.N and II.O of these Findings, these burdens would be reduced by the identified feasible alternative – the Pure Water Expansion project – that would provide water at about one-third to one-half the cost of water from Cal-Am’s proposed Project. For low-income households experiencing the burden of high housing costs and now COVID-related job insecurity, increased water rates could make it infeasible to continue living on the Monterey Peninsula. If an unintended, but foreseeable consequence of the project is to displace existing residents from their homes in formerly affordable coastal communities, this raises serious coastal access questions. Although coastal access is typically viewed through the lens of providing and protecting recreational infrastructure and other amenities for the public to visit and enjoy, viewing it through an environmental justice lens illustrates that an affordable cost of living is a fundamental part of coastal access for nearby residents. In this case, Seaside residents’ coastal access hinges on their ability to economically survive in their communities. The Commission would not achieve maximum consistency with the Coastal Act’s Chapter 3 public access policies if it only implemented these policies to protect the amenities that enhance visitor access to the coast without also considering how permitting decisions might negatively affect

⁹⁸ State Income Limits - <https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/Income-Limits-2020.pdf>

⁹⁹ As of August 16, 2020, the DWR mapping tool identified disadvantaged and severely disadvantaged communities using 2012-2016 American Community Survey data. The statewide median household income for this dataset is \$63,783..

community-wide affordability for those living within the coastal zone. Historically, communities of color have been excluded from or driven out of coastal areas by intimidation, exclusionary lending practices, racist covenants, eminent domain and other instruments. Because of this troubling history, it is incumbent on the Commission to scrutinize the project with a focused perspective grounded in this wider context.

Cal-Am has asserted that the Commission may not consider the affordability of housing in its decision because the Legislature removed the Commission's prior authority—which used to be contained in Section 30213 of the Coastal Act—to regulate affordable housing in the coastal zone. However, the Commission remains under a mandate “to encourage the protection of existing and the provision of new affordable housing opportunities for persons of low and moderate income in the coastal zone.” (Coastal Act §30604(g).) It may also consider questions of affordability pursuant to its mandate to maximize access to the coast, consider environmental justice issues, and decide whether the public welfare would be harmed by denial of this Project.

Cal-Am, some Monterey businesses, and others have also asserted that there will be insufficient water to construct affordable housing and to allow the hospitality industry to rebound on the Monterey Peninsula if Cal-Am's desalination plant is not constructed. They say this, in turn, could drive up housing costs on the Peninsula and affect employees in the service industry, many of whom come from disadvantaged communities. However, as described elsewhere in these Findings, there is a feasible alternative method (the Pure Water Expansion recycled water project) to supply Cal-Am's customers with sufficient water with fewer EJ impacts. This alternative is scaled to provide adequate water supply for planned affordable and market rate housing starts, protect the Carmel River, provide a more affordable water supply for residents who are at risk of economic displacement, avoid harm to communities of concern, and also better protect public access and sensitive dune habitat. As such, that alternative is more fully consistent with the Commission's Environmental Justice Policy as well as Coastal Act Sections 30604(h), and 30107.3.

2) Return Water Agreement to Castroville Community Services District (CCSD)

Part of Cal-Am's proposed Project would provide up to about 690 acre-feet of potable water, at a discounted price, to Castroville, which would constitute a benefit to a community of concern. The cost of providing the water would be recovered through ratepayer fees in Cal-Am's service area. In order to address a prohibition against exporting groundwater from the Salinas Valley Groundwater Basin, Cal-Am agreed to provide potable water to Castroville at about \$580 per acre-foot. The Agreement also contemplates that return water in excess of that provided to Castroville would be directed to the Castroville Seawater Intrusion Program (“CSIP”) at a cost of about \$110 per acre-foot to help reduce seawater intrusion in the Basin. Without this Return Water Agreement, the project could not be considered consistent with Basin management requirements, since it would export groundwater to communities throughout the Monterey Peninsula that are outside the Basin boundaries. The prices per acre-foot for Castroville and CSIP would be far less – i.e., no more than several hundred per acre-foot – compared to the \$6,000 per acre-foot that Cal-Am's ratepayers are likely to pay

for water from Cal-Am's Project. This would keep Castroville's water rates affordable (at approximately \$20 per month according to stakeholders), while providing a new source of water for affordable housing projects, agricultural jobs, and other types of new development. Depending on the amount of water Cal-Am returns to the Basin, the agreement could partially replenish Castroville's over drafted groundwater basin that has been depleted in part by decades of agricultural pumping.

However, as noted in Section II.J above, recent groundwater modeling shows that the amount of water Cal-Am may need to return to the Basin could be substantially higher than anticipated in previous modeling and in the Return Water Agreement. Instead of a relatively steady rate of up to about 700 acre-feet per year, Cal-Am may need to return up to about 2,100 acre-feet per year during years with higher recharge to the Basin.¹⁰⁰ This would represent about a third of its desalination facility's overall production volume and could result in Cal-Am needing to return to the CPUC for approval of additional rate recovery for the increased expenses. The cost of this additional return water could be as much as \$3,000 to \$6,000 more per acre-foot than currently anticipated, which, if added to the rates, would represent an even greater burden on all of Cal-Am's ratepayers and especially members of these disadvantaged communities.

In its decision, the CPUC acknowledged that higher return water percentages could affect rates, stating: "The cost of the MPWSP desalinated water is relatively expensive and becomes more so the greater the return water obligation. The authorized plant is reasonable as long as the desalination plant does not become a vehicle for unreasonable amounts of return water at increasing costs to Cal-Am ratepayers." To address this risk, it required Cal-Am's shareholders, not ratepayers, to pay excess costs if return water obligations exceeded certain percentages identified by the Hydrologic Working Group, which had advised the CPUC on hydrologic issues. However, the CPUC acknowledged that return water amounts could vary and that the CPUC could revisit the issue, and Cal-Am's rates, in the future as necessary. Additionally, and as described above in Section II.J, given the new analysis provided by the Commission's independent hydrogeologist regarding the likelihood of higher return water percentages (and with which the HWG agrees), it appears that there is a significant risk that return water obligations will further increase the costs of Cal-Am's water.

Castroville residents would therefore be afforded a discounted rate on the desalinated water. But other Cal-Am ratepayers, many of whom are similarly disadvantaged, would absorb that cost. Those higher rates would disproportionately burden low-income ratepayers in Cal-Am's service area, including Seaside. The discount to Castroville would also not offset impacts to the underserved communities of Marina, Seaside, and others throughout the service area. Although Castroville has 3,742 individuals with income below 200 percent of the federal poverty level, the number of individuals with income below the same poverty guideline in Marina and the Cal Am service area is 27,525, or approximately 7 times greater (see Table 2). Similarly, while Castroville has a

¹⁰⁰ As noted in Section II.J above, the Hydrogeologic Working Group, which conducted the previous modeling, concurs that this range of potential return water requirements is reasonable.

larger proportion of people of color living in its jurisdiction, a greater number of people of color live throughout the service area and Marina combined (see Table 1). In other words, the benefits of this project going to one community of concern would come at the expense of the other underserved communities. For comparison, the feasible alternative would reduce the cost burdens to Seaside, Marina, and other Cal-Am ratepayers, though would not include the above-referenced benefits to Castroville

3) Cumulative Environmental Impacts

The proposed Project results in environmental impacts in the City of Marina's coastal zone that will increase the overall cumulative environmental burdens in the area. The City of Marina and many of its residents believe the desalination proposal places some of the burdens of the proposed Project on their community but provides none of the benefits. The slant wells for this desalination project would be placed within the soon-to-be-shuttered CEMEX sand mining property in Marina's coastal zone and would affect several acres of beach and dune habitat that currently supports a variety of rare or sensitive plant and animal species. If not for this project, this area would be available for public access, habitat restoration, and passive public recreational use after the CEMEX closure. Cal-Am asserts that it is improper for the Commission to consider such impacts when its Consent Settlement Agreement acknowledged that Cal-Am had certain rights on the CEMEX property that might allow it to build this project. However, nothing in the Settlement guaranteed that Cal-Am would be able to construct this project, nor did the Settlement state or imply that the Commission would not analyze public access or other impacts associated with a desalination facility if and when such a facility was proposed.

Marina is already located near several industrial uses both within and outside of the coastal zone. According to CalEnviroScreen 3.0 data, Marina has one census tract designated as an SB 535 Disadvantaged Community and ranks above the 75th percentile among other tracts in the state for groundwater threats, impaired water, solid waste, pesticides, and cleanups (see Table 3 and Figure 1 below). Within the coastal zone, industrial uses include the CEMEX sand mining site (which will cease operations in 2020). Some members of the community raised concerns that some of the access to the site anticipated through the Settlement Agreement could be lost due to limitations Cal-Am may impose around its well field (Section II.K of these Findings provides a more detailed assessment of the proposed Project's effects on public access). Although Marina has about four miles of shoreline, it currently has just two points of public access along that stretch of coast. While the project's adverse effects on public access are likely to be relatively limited, they would affect Marina residents' ability to fully access this section of the coast.

**Table 3: SB 535 Disadvantaged Community Census Tract 6053014102
In the City of Marina**

<i>Demographic Indicators</i>	Percentile Relative to State
Linguistic Isolation	62
Poverty	73
Unemployment	65
Housing Burden	88
<i>Environmental Indicators</i>	Percentile Relative to State
Pollution Burden	71
Pesticides	83
Drinking Water	65
Cleanups	84
Groundwater Threats	95
Impaired Water	96
Solid Waste	85

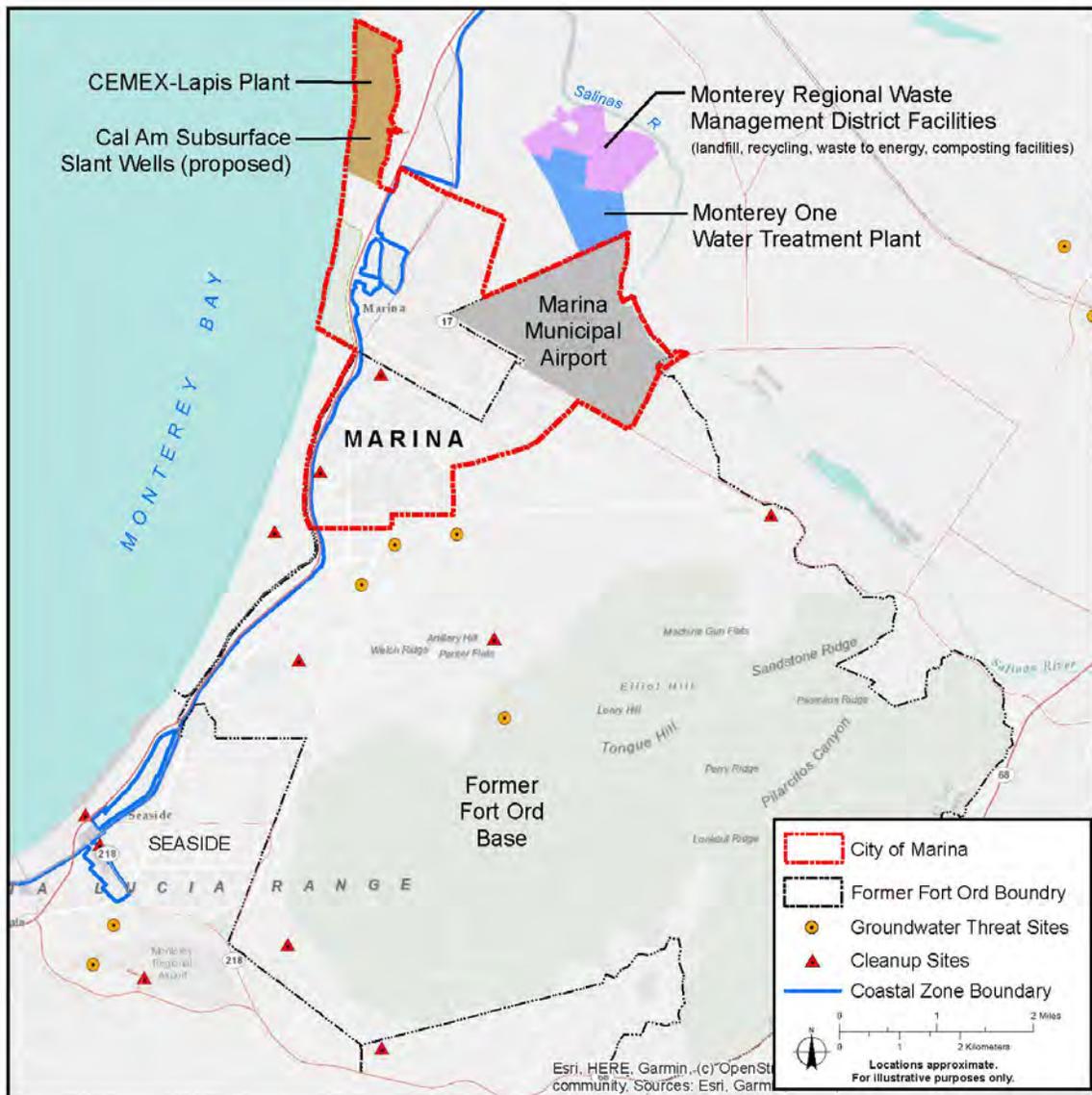


Figure 1 – Map of industrial uses/existing sites of pollution

Outside of the coastal zone, existing industrial facilities near Marina include a regional wastewater treatment plant, the Marina Municipal Airport, and Monterey Regional Waste Management District facility, which includes a landfill, materials recovery facility, food and yard waste composting facilities, a landfill gas-to-energy conversion facility, and a hazardous waste collection site. Marina is also near the former Fort Ord military base, which is on the Superfund National Priorities List. While Cal-Am’s slant well won’t – on its own -- cause the level of pollution as existing facilities, this project would be one more industrial development in a community already dealing with the cumulative impacts of a disproportionate number of industrial facilities. The Cal Am project would be another industrial development that would take up land that could otherwise be used for public access or environmental stewardship purposes.

The City of Marina and its residents also are concerned about the potential impacts of the proposed slant wells on their own aquifer and groundwater supply. These are detailed in Section II.J of these Findings. It remains inconclusive whether these potential impacts would occur or what their extent would be should they occur, as neither the Final EIR/EIS nor the Commission's independent hydrogeological analysis provided evidence showing such impacts were reasonably foreseeable. However, the City has staunchly opposed the proposed Project due in part to the potential that the impacts would be extensive enough to adversely affect its current and future water supply and could require the City to construct new water supply facilities. While government has long allowed industrial development to be clustered in underserved communities over their objections, the Commission's EJ Policy was created in part to allow these communities in California to have a greater voice on land use decisions that impact the health, safety, and welfare of their residents.

Importantly, and as discussed in Section II.O – Alternatives Analysis, a feasible project alternative exists that would avoid or reduce these environmental justice concerns and would reduce the general public cost burdens while providing ratepayers with an adequate water supply. For the impacts to communities of concern in Marina, the feasible alternative would avoid all of the above-referenced impacts. Regarding the disproportionate burdens on low-income residential rate payers and costs to all ratepayers, this alternative is projected to provide water at about \$2,000 to \$3,000 per acre-foot in comparison to the \$6,000 or more per acre foot for the proposed Project, resulting in a significantly lower rate increase. This would reduce the burden on low-income ratepayers in the service area and provide cost savings to all ratepayers. This alternative will also meet water supply needs for regional economic and population growth, including affordable housing.

Conclusion

For the reasons described above, the Commission finds that although the proposed Project would benefit one underserved community, Castroville, it will disproportionately burden a greater number of residents within communities of concern in Seaside and elsewhere within Cal-Am's service area by increasing potable water costs significantly more than the identified alternative water supply project. The proposed Project also results in adverse coastal resource effects within the community of Marina that is already disproportionately burdened by many other industrial uses and would receive none of the project benefits. There is a long history of government institutions allowing unwanted industrial development to be concentrated in underserved communities of color without their consent. Approving yet another would perpetuate this discriminatory land use practice in Marina.

As addressed in Section II.O this report, the Commission finds that the Pure Water Expansion Project is a feasible alternative to the proposed Project with fewer environmental justice impacts than Cal-Am's Project. It would provide adequate current and future water supplies to meet the area's water needs in a more affordable manner and would also eliminate adverse coastal impacts and reduce environmental justice concerns consistent with the Commission's Environmental Justice Policy and Coastal Act Sections 30604(h) and 30107.3.

O. ASSESSMENT OF ALTERNATIVES

Coastal Act Section 30233 states, in relevant part:

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

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

Coastal Act Section 30260 states:

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

Summary

As noted previously, the proposed Project is subject to two Coastal Act provisions and an LCP provision that explicitly require the Commission to determine whether there are feasible and less environmentally damaging alternatives to the proposed Project. As described below, the Commission has evaluated an alternative project – the Pure Water Expansion project – to determine whether it would be feasible, whether it would conform to the same project objectives and criteria applied to Cal-Am’s proposed Project during its CEQA review, whether it would provide adequate water, and whether it would have fewer adverse environmental effects. Based on the analysis provided below, the Commission concludes that the Pure Water Expansion project provides a feasible and less environmentally damaging alternative to the proposed Project.

The Commission also considered another potential alternative – a smaller desalination facility that would produce about half as much drinking water as Cal-Am’s currently proposed facility. However, a smaller facility would result in only slightly reduced impacts to ESHA and potentially reduced impacts to nearby wetlands and vernal ponds due to less groundwater drawdown. It is also likely that a smaller facility would have higher costs for each unit of water produced.

Overview

The proposed Project is subject to two Coastal Act provisions requiring an assessment of alternatives. One of the tests of Coastal Act Section 30233 is to determine, for proposed Projects such as this that involve filling coastal waters or wetlands, whether there is a feasible and less environmentally damaging alternative.¹⁰¹ The first test of Coastal Act Section 30260 requires a similar, though slightly different test: a coastal-dependent industrial project that does not comply with other Coastal Act policies may be approved if alternative locations are infeasible or more environmentally damaging. In addition, the second test of Section 30260 requires a finding that denial of a coastal-dependent industrial facility would adversely affect the public welfare. As detailed herein, the question of whether there is a feasible alternative is relevant to the Commission's finding that denial of the project would not adversely affect the public welfare. Furthermore, and as noted in Section II.F of these Findings, the City of Marina LCP includes provisions that incorporate Coastal Act Section 30260. The alternatives assessment herein applies to the proposed Project components both in the Commission's consolidated permit jurisdiction (i.e., components in its original jurisdiction and in areas within the County's and Seaside's jurisdiction that the Commission is reviewing pursuant to the consolidated permit) and in the City's LCP jurisdiction (i.e., components that are now before the Commission on appeal).

The California Environmental Quality Act ("CEQA") provides additional guidance regarding consideration of alternatives. The Commission's regulations require staff reports to include findings evaluating the conformity of a proposed development with the requirements of Public Resource Code (CEQA) section 21080.5(d)(2)(A), which, in turn, requires that "an activity will not be approved or adopted as proposed if there are feasible alternatives or feasible mitigation measures available that would substantially lessen a significant adverse effect that the activity may have on the environment."

As part of its consideration of Cal-Am's Project under its own authority, the CPUC acted as the lead agency in drafting and certifying an Environmental Impact Report (EIR) under CEQA. Pursuant to both its CEQA authority and its authority to determine whether to issue a certificate of public convenience and necessity to Cal-Am for the proposed Project, the CPUC defined the project objectives and analyzed various alternatives.¹⁰² As the CPUC explained:

The primary purpose of the MPWSP is to replace existing water supplies that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. SWRCB Order 95-10

¹⁰¹ Coastal Act Section 30108 defines "feasible" as:

"Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

¹⁰² See the following for the PUC's decision and CEQA documents:
https://www.cpuc.ca.gov/Environment/info/esa/mpwsp/comms_n_docs.html

requires CalAm to reduce surface water diversions from the Carmel River in excess of its legal entitlement of 3,376 acre-feet per year (afy), and SWRCB Order 2016-0016 ("Cease and Desist Order") requires CalAm to develop replacement supplies for the Monterey District service area by December 2021. In 2006, the Monterey County Superior Court adjudicated the Seaside Groundwater Basin, effectively reducing CalAm's yield from the Seaside Groundwater Basin from approximately 4,000 afy to 1,474 afy.¹⁰³

The CPUC analyzed a variety of alternatives to the project that would meet most of the basic project objectives. One alternative that the PUC analyzed in detail was the Pure Water project. As described more fully below, the Pure Water project is a water recycling and aquifer storage and recovery project that will treat existing streams of wastewater and inject the water into the ground for later use. Cal-Am initially proposed constructing a 9.6 mgd desalination facility; however, as an alternative to the 9.6-mgd desalination facility, Cal-Am's application also included a 6.4-mgd desalination facility coupled with a water purchase agreement for 3,500 acre-feet per year of treated water from the Pure Water project. The CPUC found that it would be feasible, less expensive, and less environmentally damaging for Cal-Am to build the smaller desalination plant and purchase 3,500 acre-feet per year of treated water from the Pure Water project. It therefore required that Cal-Am implement that project alternative.

Alternatives Analysis and the Public Trust Doctrine

Underlying the Commission's consideration and decision on this proposed Project are its responsibilities to protect public trust resources and to ensure any approved use of those resources does not harm them. For this proposed Project, public trust resources to be considered are those held in common by society and are associated with tidal and submerged lands, including the seawater this desalination facility proposes to use, the fish and wildlife that rely on those lands, public access to the beach and public trust lands, as well as the quality of, and the ecological and aesthetic values associated with, these resources.¹⁰⁴ When considering whether to approve projects that may affect public trust lands, agencies must consider the effects that the projects will have on interests protected by the public trust, and attempt, so far as feasible, to avoid or minimize any harm to those interests. Because the Coastal Act requires protection of public access, coastal habitats, recreation, and other public trust-related resources,

¹⁰³ See <https://www.cpuc.ca.gov/Environment/info/esa/mpwsp/PD.html>

¹⁰⁴ The Public Trust Doctrine is a long-held legal construct of American property law. The essence of the Public Trust Doctrine is that the public has the right to use and enjoy lands underlying navigable waterbodies. Its most common historic uses have been to ensure the public has access to navigable waters and tidelands for navigation, commerce, fishing, and shellfish harvest. However, the doctrine is flexible enough to encompass changing public needs, and over time courts have recognized that the doctrine encompasses other resources and uses, including boating, swimming, fishing, hunting, and all recreational purposes, as well as other ecological and aesthetic values.

analysis of a project's consistency with the Coastal Act (and, by extension, an LCP) generally serves as an adequate analysis of a project's consistency with public trust principles. However, these Coastal Act and LCP policies should be interpreted consistent with public trust principles, and given the resources at stake in this case, it is appropriate to briefly address public trust issues directly here.

Cal-Am's proposed Project would entail the use of seawater, a public trust resource, in a manner that would not harm that particular resource, but could result in adverse effects to others. For example, the proposed Project's construction is likely to adversely affect several sensitive species (particularly Western snowy plovers) and their habitat along the shoreline, both of which are public trust resources. It is not clear at this point whether the discharge from Cal-Am's facility will adequately protect ocean water quality, another public trust resource, although the Regional Water Board will regulate that discharge and is also required to consider the public trust in its decisions. Cal-Am's Project will not take up space on, or affect, tidelands that provide public access, except perhaps for short-term impacts during some work on the wastewater outfall. Its proposed method of intake for seawater appropriately protects marine water and wildlife public trust resources, as well.

Importantly, Cal-Am's proposed Project is intended in part to correct an ongoing harm to other public trust resources – the fish, water flows, and water quality of the Carmel River. Cal-Am's Project would end the ongoing overwithdrawal of water from the River that have reduced the value and benefits of those resources for several decades. Cal-Am's proposal therefore requires consideration of how to balance the harm and benefits to the public trust from this Project. As described in this Alternatives section and 30260 Override section, however, there is an alternative project that would protect the public trust resources in the Carmel River and that would not involve as many impacts to coastal and public trust resources as this proposed Project.

Background on the Pure Water project: The Pure Water project is operated by Monterey One Water and was funded by Monterey One Water, along with Cal-Am and the Monterey Peninsula Water Management District ("MPWMD"). It has also received support from both the state and federal governments, including \$88 million in grants from the U.S. EPA and a \$15 million construction grant from the State Water Resources Control Board.

The Pure Water project has been designed and built to recycle and treat water from several sources, including treated wastewater, stormwater, agricultural runoff, and food processing water. It includes four separate treatment methods – ozone, membrane filtration, reverse osmosis (similar to that done in desalination facilities) and disinfection with ultraviolet and hydrogen peroxide. These treatments occur after most of its source water has already undergone primary and secondary treatment at the Monterey One Water wastewater treatment facility.

After treatment, the Pure Water project injects the water into the Seaside Groundwater Basin for use by Cal-Am and for longer-term storage in the event of drought. The project was designed to have up to eight wells – up to four deep injection wells and up to four shallower wells – with initial production of up to about 1,000 acre-feet per year, short-term (i.e., first three years of operation) production of 3,950 acre-feet per year, and longer-term production of about 3,700 acre-feet per year. The Pure Water project started operating in March 2020 with two deep and two shallow wells and is now injecting approximately 170 acre-feet per month of water into the Basin for later use by Cal-Am's customers.

On June 18, 2020, Monterey One Water provided a project status report that described operations and production to date, which include lower than expected injection volumes. The report also recommended several modifications to increase those injection volumes and to repair small surface sinkholes at two of the well sites. The expected corrective work involves well cleaning and sinkhole-related repairs, expected to be completed by this upcoming winter, and installing an additional deep well, which would be done by the end of 2021. These types of initial issues are not unusual for water treatment and desalination facilities, as they must contend with, and adjust to, variations in water sources, chemical treatments, processing methods, and other concerns. For example, during its first year of operations, the Orange County Water District's Groundwater Replenishment System – one of the world's largest and most advanced – produced about 55% of its expected yield.¹⁰⁵ Similarly, the Carlsbad desalination facility produced about 80% of its expected production during its first year of operations and about 72% of its expected production during its first three years of operations.¹⁰⁶

Relatively late in the CPUC's multi-year hearing process, some parties to the proceeding raised the possibility that the Pure Water project could be further expanded to supply an additional 2,250 acre-feet per year of water beyond the 3,500 acre-feet per year originally proposed. The CPUC declined to open a new phase of the proceeding to consider this alternative in detail, citing the need to complete the already-lengthy PUC process, the then-existing uncertainties about the proposed Pure Water Expansion, and the need for Cal-Am to meet deadlines for ending its excess withdrawals from the Carmel River and Seaside Groundwater Basin. Nonetheless, the CPUC briefly considered the Pure Water Expansion alternative, and found, based on the information available at the time, that the proposed Expansion was not developed in enough detail and did not yet provide enough certainty for the CPUC to determine that it was a reliable, affordable, and concrete alternative that could be implemented in a timely fashion. It also found that the Pure Water Expansion would not produce enough water to obviate the need for some desalination, and that a smaller desalination facility (that

¹⁰⁵ See, for example, The Orange County Groundwater Replenishment System, in *Water Conditioning & Purification Magazine*, May 10, 2009 (at <http://wcponline.com/2009/05/10/orange-county-groundwater-replenishment-system/>).

¹⁰⁶ Available at San Diego County Water Authority: <https://www.sdcwa.org/>

would have produced 4.8 mgd) was not reasonable, in part because it would have virtually the same costs as a larger plant and would not avoid or substantially lessen any significant impacts. Although it did not require Cal-Am to pursue the Pure Water Expansion as part of its project, the CPUC required Cal-Am to provide later updates on the progress of the Pure Water Expansion and stated that purchase of water from the Expansion might be required if the desalination project was delayed. The baseline Pure Water project was designed and built so that it could readily accommodate the additional equipment and components needed for the Pure Water Expansion.

Consideration of Alternatives – Pure Water Expansion

The Coastal Commission, as part of its duties to analyze the project's conformity with the Coastal Act and LCP, as well as its duties as a responsible agency pursuant to CEQA, now has an independent obligation to consider alternatives to the project based on current information. Notably, during the approximately two years since the CPUC last collected water supply and demand data and the CPUC issued its Final EIR, there is new information about the Pure Water Expansion and about water demand in Cal-Am's service area that support the Commission's consideration of a feasible and less environmentally damaging alternative.

Cal-Am has contended, in a June 30, 2020 letter to Commission staff, that the above-referenced Coastal Act provisions do not allow the Commission to consider whether the Pure Water Expansion is a feasible alternative to its proposed Project. It states that the proposed Project would not include any "fill"¹⁰⁷ for purposes of Section 30233, and that the Commission therefore has no ability to conduct the alternatives analysis required by that section to determine whether there are alternatives to placing fill in coastal waters. Cal-Am contends that the anchors of the temporary monitoring buoys required for the project do not constitute fill and further notes that these anchors would not be permanent. However, these concrete anchors clearly fall within the Coastal Act's "fill" definition, as they are a "substance or material" that would be "placed in a submerged area." Further, the definition does not distinguish between temporary and permanent fill, though in this case, the anchors would be in place for at least six years, which the Commission generally considers to be more than a "temporary" period of time. Additionally, the proposed retrofit of the existing outfall, involving the placement of inclined nozzles to up to 172 diffuser ports on the outfall and replacing the existing outfall end gate with a check valve, would similarly constitute fill, as these represent a "substance or material" to be "placed in a submerged area" (and further, would represent permanent fill, needed for the operational life of the proposed Project).

Cal-Am also contends that the alternatives analysis required under Section 30260 allows the Commission to only consider alternative *locations* for its project, not entirely different alternative projects. Cal-Am states that it is not aware of instances when the Commission has interpreted Section 30260 to allow consideration of alternative projects. However, the Commission has previously interpreted Section 30260 to allow

¹⁰⁷ Coastal Act Section 30108.2 defines "fill" as: "earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area."

consideration of a wide variety of different alternatives, including alternative technologies and methods for accomplishing a project's objectives. Examples include the Commission's consideration of alternative intake technologies for a desalination facility¹⁰⁸ and alternative methods to obtain information related to seismic risks.¹⁰⁹ Allowing the Commission to broadly consider various types of alternatives helps carry out Section 30260, which is an override provision that permits construction of development that has impacts that are inconsistent with Coastal Act protection standards. If there is another way to fulfill the main objectives of a coastal-dependent industrial facility—whether it is through an alternative location or alternative technologies or facilities—then the override should not be used.

Cal-Am also incorrectly asserts that the Commission, as a responsible agency under CEQA, may only consider alternative project locations within the coastal zone. First, this is incorrect, as courts emphasize that, pursuant to CEQA, agencies “may not ignore the regional impacts of a project proposal, including those impacts that occur outside of its borders; on the contrary, a regional perspective is required.” *Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 575. Although an agency *may* consider jurisdictional issues in determining whether an alternative is feasible and could actually be approved by that agency, agencies are not precluded from considering potentially feasible alternatives that are outside of their jurisdiction. Of course, a responsible agency could not itself *approve* an alternative that is outside of its jurisdiction or otherwise not within its power to approve. But that fact is not relevant here, where the Commission is only determining whether a potentially feasible alternative exists and whether denial of the project would not harm the public welfare.

Second, the Commission's duty to consider alternatives in this case does not arise solely due to CEQA, and Cal-Am cites no Coastal Act provision that limits the Commission's consideration of alternatives to those inside the coastal zone.¹¹⁰ In practice, the Commission has often considered alternatives that are outside of the coastal zone. Examples include the Commission's findings for the three spent nuclear facilities located within the coastal zone at Humboldt Bay, Diablo Canyon, and San Onofre. In each instance, the Commission evaluated whether there was an alternative onsite location, but also whether there was an alternative storage facility elsewhere, including outside the coastal zone and, in fact, outside of California. In each instance, the Commission found that there were no feasible alternatives to the proposed projects that could be located elsewhere, which was a determination it could only reach by conducting the analysis Cal-Am contends the Commission cannot do.

¹⁰⁸ <https://documents.coastal.ca.gov/reports/2008/6/Th17a-6-2008.pdf>

¹⁰⁹ <https://documents.coastal.ca.gov/reports/2012/11/W13b-11-2012.pdf>

¹¹⁰ Cal-Am cites *Sierra Club v. Cal. Coastal Com.* (2005) 35 Cal.4th 839, 860, claiming that it holds that neither the Coastal Act nor CEQA allow the Commission to consider impacts of projects located outside the Coastal Zone. But that case is not on point; it merely held that development outside of the coastal zone is not subject to CDP requirements and that the Commission may not deny a CDP for development in the coastal zone due to effects it will have outside of the coastal zone. See Pub. Res. Code § 30604(d). These situations are not present here.

Further, Cal-Am bases part of its contention on the CPUC's previous, but now outdated, determination that the Pure Water Expansion was too speculative. As noted elsewhere in these Findings, the Pure Water Expansion has been designed to be integrated into the existing Pure Water project and has undergone significant CEQA review, so it has advanced sufficiently to be considered an adequately reliable water supply project.

The Findings below describe the Pure Water Expansion alternative and its feasibility, ability to meet project objectives, and ability to protect the public welfare. Fundamentally, Cal-Am's proposed Project is a water supply project that, when combined with the other water sources in Cal-Am's water supply portfolio, would allow Cal-Am to reduce its withdrawals from the Carmel River to no more than its maximum legal limit while providing enough water for Cal-Am's existing and future water demands. As described below, the Pure Water Expansion provides a feasible and less environmentally damaging alternative to Cal-Am's proposed Project – that would protect the public welfare by providing adequate regional water supplies for the coming decades. The Pure Water Expansion would be located at the same site and would use the same water sources, treatment methods, and aquifer injection/extraction methods as the Pure Water project to supply an additional 2,250 acre-feet per year, all of which would be available to Cal-Am.

The Findings below evaluate and compare the Pure Water Expansion and Cal-Am's proposed Project in five main ways:

- 1) **Feasibility:** The Pure Water Expansion is evaluated using the criteria of the Coastal Act's definition of "feasible."
- 2) **Water supply and demand:** Each project is evaluated as to whether it would provide the expected amount of water needed for current and future demands.
- 3) **Project objectives and criteria:** Each project is described as to how it meets the project objectives developed for Cal-Am by the CPUC in its Decision and Final EIR/EIS. Additionally, the Pure Water Expansion is described in relation to the nine criteria the CPUC used to evaluate the initial Pure Water project and to determine that it would be a suitable and reasonable component of Cal-Am's water supply portfolio.
- 4) **Adverse environmental effects:** The two projects are compared as to what overall adverse environmental effects they would cause.
- 5) **Areas of Uncertainty:** Both projects involve some degree of uncertainty, though not in the same issue areas.

1) Feasibility

Each project is briefly evaluated for conformity to the criteria of the Coastal Act Section 30108 definition of feasibility – i.e., "*Feasible*" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

- **“Capable of being accomplished in a successful manner”**: Both Cal-Am’s desalination facility and the Pure Water Expansion would use proven technology to produce and deliver drinking water. Just as Cal-Am is proposing to use treatment processes common to other seawater desalination facilities in operation around the world, the Pure Water Expansion would use the same treatment processes now being used by the baseline Pure Water project and by other water recycling projects in California and elsewhere. The Pure Water Expansion is essentially a larger version of the same Pure Water project that Cal-Am is relying on for a part of its expected water supply. Given that the Pure Water Expansion would use the same processes as PWM and would be located at the Pure Water facility, which is designed to include this expansion, it is therefore capable of being successfully accomplished from a technological standpoint.

In its June 30, 2020 letter to the Commission, Cal-Am contends that the Pure Water Expansion would not meet this criterion of feasibility because of the above-referenced start-up problems with its wells and injection rates and because of uncertainties about the quality of its source waters, particularly from agricultural operations. However, as noted above, the start-up problems are of a type that can readily be resolved, and in fact, Monterey One Water has developed the methods and schedule for adding a new well and improving conditions at the existing wells to allow for the full expected production. Regarding the quantity of the Pure Water project’s source water supply, Monterey One Water has contracts and agreements in place for more than enough water actually needed to provide the Pure Water project’s expected production volumes, which would allow it to operate even if some sources are not available or are available in lesser amounts, and the Final Supplemental Environmental Impact Report (“FSEIR”) prepared for the Pure Water Expansion concludes that there is adequate water for the facility. Regarding the quality of source water, and as noted above, the Pure Water project is designed to take already treated water from Monterey One Water’s other treatment facility and then apply four additional treatment methods designed to handle the expected source waters. The Pure Water project’s treatment methods are similar to those used in other recycled water treatment facilities in California and elsewhere. An August 20, 2020 letter from Monterey One Water addresses Cal-Am’s contentions and clarifies that Cal-Am’s concern about inadequate wastewater was based on incorrect analyses and that its concern about source water quality is misplaced because the Pure Water project has already successfully treated water from agricultural operations, as it is approved to do so by the State Water Board’s Department of Drinking Water.¹¹¹

¹¹¹ See August 20, 2020 letter from Monterey One Water to Tom Luster re: Response to Requests for Clarification regarding Latham & Watkins, LLP letter dated August 13 regarding Monterey Peninsula Water Supply Project CDP Application No. 9-19-0918 and Appeal No. A-3-MRA-19-0034.

Cal-Am and other commenters have also recently asserted that Monterey One Water will not have enough source water for the Pure Water Expansion because some of water would be directed to other uses or that the above-referenced contracts and agreements did not contemplate use of the water for the Expansion, just for the baseline Pure Water project. However, the above-referenced Monterey One Water letter refers to the Pure Water Expansion project's Final SEIR analysis that showed, using conservative assumptions about these expected source water supplies, sufficient quantities will be available for the combined projects (see additional discussion below).¹¹²

- **“Within a reasonable period of time”**: Cal-Am’s facility is expected to take about 21 months to construct and about six months to commission and begin operations. The Pure Water Expansion has a projected construction and start-up schedule of about 24 to 27 months total. If each project received all final approvals and started construction today, Cal-Am’s facility could be providing water by early 2024, whereas the Pure Water Expansion could provide water by late 2022. At this point, neither project can anticipate being online and able to provide water by December 2021, which is the date by which Cal-Am is required to end its overpumping of the Carmel River. However, Cal-Am has sufficient water in storage that would allow it to end its overpumping by that deadline without reducing supplies to its customers.

For either project, the actual timeline to produce drinking water is likely to take somewhat longer, as complex water treatment facilities such as these often require several months of adjustment to achieve their expected production level or needed level of treatment. An additional consideration is that both projects have additional approvals necessary before they can begin operation, as well as other potential obstacles that could adversely affect their feasibility and schedule. The main issues that could affect the timing of each project are briefly discussed below, and these and other issues are also further addressed at the end of the Alternatives section in the subsection regarding Areas of Uncertainty.

The primary remaining elements needed for the Pure Water Expansion are certification of its Final Supplemental EIR (FSEIR), approval by the CPUC of a Water Purchase Agreement, and final state and federal approval for its modified discharge into coastal waters. The Monterey One Water Board considered certifying the FSEIR at its April 27, 2020 meeting. The vote to certify it failed by a vote of 10 to 11. There was then a motion to deny certification of the FSEIR and terminate any further action on the Expansion project, which also failed on a vote of 10 to 11. The effect is that the FSEIR was not certified but that the Board remains free to reconsider the FSEIR and project approval at a future hearing, if it so chooses. The main area of controversy that was raised during the FSEIR public comment period relates to whether there is an adequate water supply for the Expansion. As noted above, the FSEIR concludes that the water supply is adequate for the Expansion,

¹¹² See Final Supplemental EIR – Proposed Modifications to the PWM/GWR Project, and Appendix M: M1W Source Water Technical Memorandum, April 2020.

and some evidence and arguments submitted by parties to this proceeding have not demonstrated otherwise.

In terms of the Water Purchase Agreement, the Pure Water Expansion would not proceed until such an Agreement in place, because that Agreement would be needed to secure funding for the project. As the FSEIR states: "Without knowing when or whether a Water Purchase Agreement will be negotiated, it is currently not possible to estimate when the Proposed Modifications would be completed." However, Cal-Am is the party that would need to pursue the Water Purchase Agreement, and it could likely do so expeditiously if it so desired. Given that the main barrier to securing that Agreement is a barrier that Cal-Am largely has control over, any uncertainty related to when an Agreement can be reached should not be considered when analyzing the timing and feasibility of the Pure Water Expansion. Finally, while the Pure Water Expansion will require additional review and permits for its expected discharge, that discharge will be similar to the discharge of the already permitted baseline Pure Water project, so much of the necessary analysis has already been completed.

For its part, Cal-Am faces a variety of hurdles that could delay construction and operation of its project. First, it needs to design, and likely obtain one or more permits to install, the outfall liner in Monterey One Water's outfall line. The CPUC analyzed the potential environmental effects of such work, including likely impacts to ESHA and potential impacts to endangered species (specifically the Western snowy plover), and assumed that an additional CDP would be needed to undertake this work. It is possible that CDPs would be needed from Monterey County, the City of Marina, and the Commission to allow installation of the outfall liner. If that ends up needing to occur, it could take significant time for the City and others to analyze the impacts of such a project and act on a permit. However, Cal-Am is investigating whether it may be able to install the needed liner entirely from inside the outfall without any ground-disturbing activity in the coastal zone, which may allow the installation to occur without all or some of the above requirements for permits.

Cal-Am also needs to either obtain approval by the Marina Coast Water District to allow Cal-Am to use a shared water delivery pipeline or else design, conduct environmental review for, and obtain needed permits for Cal-Am to construct a new section of water delivery pipeline between its facility and its service area, which would lie outside the coastal zone. On October 17, 2019, the Marina Coast Water District determined that the pipeline did not have sufficient capacity to accommodate Cal-Am's expected water volumes, and it has rejected Cal-Am's assertion that Cal-Am has the right to use the pipeline. To help resolve this issue, the Monterey Peninsula Water Management District, on July 30, 2020, considered approving an addendum to a CEQA document that would have allowed Cal-Am to construct a parallel pipeline that would serve the jointly managed Aquifer Storage and Recovery water supply system and would have also allowed Cal-Am to transport water to its service area. However, the District declined to approve that addendum, so it is unclear whether that option will be available to Cal-Am. Additionally, the pipeline

construction would occur outside of the coastal zone but within an area that may have unexploded ordinance from the former Fort Ord, so it would be subject to additional review through completion of a Munitions Response Remedial Investigation/Feasibility Study (“MR RI/FS”) and approval by Monterey County of an excavation permit.¹¹³

There is also ongoing litigation related to various aspects of Cal-Am’s proposed Project. This includes litigation filed by the City of Marina and later joined by Marina Coast Water District contending that Cal-Am is not able to use more than 500 acre-feet per year of groundwater from the CEMEX site.¹¹⁴ The CPUC analyzed the same claims that have now been made in the litigation and, after consulting with the State Water Board, determined that it was reasonably foreseeable that Cal-Am had a path forward to obtain the necessary water rights. The CPUC recognized that its proceeding was not an adjudication of water rights and that such rights would likely have to be definitively resolved at a future time by the appropriate body, such as a court. However, its conclusion was that questions regarding water rights were not so serious as to compromise project feasibility. There is also litigation challenging Monterey County’s environmental review of the desalination facility and some pipelines outside of the coastal zone that are a part of the desalination project. As of the publication date of these Findings (August 24, 2020), there is a temporary stay on construction, which, as imposed by the Superior Court in mid-September 2019, is in effect until August 25, 2020, at which time the court will consider extending or modifying the stay.

“... and taking into account the following factors”:

- **“Economic”:** The expected costs of Cal-Am’s proposed Project are much higher than those of the Pure Water Expansion. Cal-Am and its ratepayers would be paying an estimated \$400 million in initial capital costs for the overall project, along with operational and maintenance costs of about \$1 billion or more during its initial 30 years of operations. The Pure Water Expansion is estimated to have about \$60 million in initial capital costs and about \$190 million in operational and maintenance costs over a 30-year operating life. Although the desalination facility would produce more water than the Pure Water Expansion, its cost per unit of water would be much higher. At current expected costs, ratepayers would pay about \$6,000 to \$8,000 per acre-foot for Cal-Am’s water and about \$2,300 per acre-foot for the Pure Water Expansion supply.

¹¹³ See July 2020 Addendum No. 6 to the Aquifer Storage and Recovery Project Environmental Impact Report/Environmental Assessment for the Bypass Pipeline & De-Chlorination Facility Modification, available at: <https://www.mpwmd.net/wp-content/uploads/ASR-Addendum-No.6-July-2020.pdf> (accessed July 17, 2020).

¹¹⁴ See Monterey County Superior Court Case No. 20CV001387, filed by the City of Marina against RMC Lonestar and RMC Pacific Materials, LLC (together known as “CEMEX”) and Cal-Am.

In its June 30, 2020 letter, Cal-Am pointed out that the above-referenced Monterey One Water status report on the Pure Water project identified higher than expected first year operating costs – instead of about \$2,442 per acre-foot, Monterey One Water expects the first year’s costs to be about \$3,678 per acre-foot. Cal-Am contended that the Pure Water Expansion would likely experience a similar increase. However, that same Pure Water project status report noted that Monterey One Water expects that once repairs are complete and a new well is installed, costs will be about \$2,508 per acre-foot, still substantially less than Cal-Am’s costs. In addition, the costs of Cal-Am’s Project have risen and are likely to continue to rise. Over the last several years, costs to construct the plant have increased from about \$223 million to \$279 million. Its expected cost per acre-foot of water have increased from an estimated \$5,100 in 2012 to a recent estimate of about \$6,100.¹¹⁵ The desalination cost per acre-foot would be even higher for some period of time, since Cal-Am would be operating at less than full capacity, which results in higher per unit costs.

- **“Environmental”**: This factor is discussed in more detail below, under the comparison of the projects’ environmental effects, and elsewhere in these Findings. In general, however, and as noted in the Findings above, Cal-Am’s proposed Project would result in several significant adverse effects on coastal resources – including environmentally sensitive habitat areas, groundwater, and effects on marine life from its brine discharge – whereas the Pure Water Expansion would be built entirely outside the coastal zone (though would discharge effluent in the coastal zone) and have relatively few environmental impacts compared to Cal-Am’s Project.
- **“Social”**: As described more below and in the report’s Findings on Section 30260’s public welfare test, both projects would provide sufficient water for the Cal-Am’s service area, though Cal-Am’s would have far greater environmental justice-related effects on low-income ratepayers and other communities of interest (see Section II.N – Environmental Justice).
- **“Technological”**: As noted above, both projects would generally use proven technology for treating and distributing water. The Cal-Am project would use a slant well system to provide its source water, and although there are no other operating desalination facilities known to use this system, there are at least two projects here in California where slant wells were successfully tested as a method to supply source water to desalination facilities.¹¹⁶ The Pure Water project uses a train of four different treatment methods commonly used in water treatment facilities. Cal-Am,

¹¹⁵ See California-American Water, “Monterey Supply Project Scenarios,” CPUC workshop for A.12-04-019, December 11-13, 2012. Current cost estimates are based on Cal-Am’s Advice Letter 1220, Attachment C-3, December 31, 2018.

¹¹⁶ Along with Cal-Am’s test slant well, the South Coast Water District in Orange County conducted successful slant well tests and has proposed using them for its full-scale desalination facility in Dana Point.

the Pure Water project and the Pure Water Expansion all rely in part on an Aquifer Storage and Recovery (“ASR”) system that is being used in numerous locations as a proven method to store and provide water supplies. As noted above, the Pure Water project has experienced some start-up issues, which are relatively common during the initial operations of water treatment facilities, and Monterey One Water has identified proposed solutions and a schedule to implement them.

2) Water supply and demand – would the Pure Water Expansion provide sufficient amounts of water to allow Cal-Am’s water portfolio to meet expected demands?

In comparing the Pure Water Expansion with Cal-Am’s Project, key issues include: 1) whether either project would provide an adequate and reliable water supply to meet current and future demands; 2) whether either would be consistent with state requirements regarding the design and capacity of water supply facilities; and 3) whether they would allow Cal-Am to meet conditions of the State Water Board’s cease and desist order for reducing withdrawals from the Carmel River.

Although Cal-Am’s desalination facility would provide more water than would the Pure Water Expansion, either project, when combined with Cal-Am’s other available water sources, would provide more than adequate water supplies for current and expected future demands and would allow the water system to conform to the state’s design and capacity requirements. Adding either project to Cal-Am’s water portfolio would also allow Cal-Am to reduce its withdrawals from the Carmel River in accordance with requirements of the State Water Board’s cease-and-desist order. Importantly, although the CPUC’s 2018 decision described the Pure Water Expansion as speculative, it recognized that, if built, it would satisfy project objectives and provide sufficient water if the desalination facility was delayed for five to fifteen years.¹¹⁷ With the currently lower baseline demand described below, the Pure Water Expansion can be expected to provide the necessary amount of water for at least 20 to 25 years without the desalination facility in place.

The CPUC’s 2018 Final EIR/EIS and its Final Decision described Cal-Am’s current and future expected water needs and available supplies. However, the baselines and assumptions used in those analyses have since been updated with new data and projections. In September 2019, the Monterey Peninsula Water Management District (“MPWMD”) published its *Supply and Demand for Water on the Monterey Peninsula* (see Exhibit 15 – “2019 Update”), which was supported by recent data that were not available at the time of the CPUC review.¹¹⁸ In March 2020, the MPWMD provided an

¹¹⁷ The CPUC decision states: “...the PWM Expansion would satisfy the basic and key purposes of the Project (i.e., sufficient and reliable water supply) only in conjunction with construction of a desalination plant of some size within five to fifteen years.” See CPUC Decision D.18-09-017, Appendix C, p. C-71.

¹¹⁸ According to the District’s website statement, it serves over 100,000 people within the cities of Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Seaside, and Sand City, the Monterey Peninsula Airport District, and portions of unincorporated Monterey County including Pebble Beach, Carmel Highlands and Carmel Valley. It is a public agency funded largely by property taxes, user fees, water

additional update (“2020 Update” – see Exhibit 16) that incorporates more recent data and responds to comments received on its September 2019 report. The evaluation below compares the earlier CPUC projections with those of the 2019 and 2020 Updates using the same criteria that were used in the CPUC analysis, along with several others, to identify how either the Pure Water Expansion or the Cal-Am desalination facility would provide for the expected water supply and demand needs for Cal-Am’s service area. The CPUC’s analyses and projections showed that adding Cal-Am’s desalination facility to its water supply portfolio would provide about 109% of its identified needed future water supplies – about 15, 296 acre-feet of supply versus 14,000 acre-feet of demand. The most recent analyses and projections, which start at a lower baseline but include a relatively high growth rate, show that adding the Pure Water Expansion instead of the desalination facility to the portfolio would, in most cases, result in a similar “overage” of water supply, which provides a measure of reliability

Determining the amount of water needed for current and future demands involves three main steps: 1) identify existing water use; 2) identify the expected rates of growth; and 3) identify the sources of water needed to serve that growth. As acknowledged in the CPUC’s Final EIR/EIS, “[f]orecasting future demand and supply is not an exact science,” and “estimating future water demand necessarily entails the use of assumptions about demand factors that cannot be predicted with absolute certainty.”¹¹⁹ This uncertainty leads to analyses of future water needs often being based on relatively conservative assumptions to ensure that errors are generally on the side of ensuring more water is available rather than not enough.¹²⁰ The Findings below first describe the basis for the CPUC’s projection of Cal-Am’s expected water supply and demands, which served as the basis for the CPUC’s approval of a 6.4 mgd desalination facility.¹²¹ They then describe new information related to those expected water supplies and demands as evaluated in the 2019 and 2020 Updates, both of which show that current actual demand is substantially lower than identified during the CPUC’s proceedings. The Findings then compare how much water Cal-Am would have available in its current

connection charges, investments, grants, permit fees and project reimbursements. The District operates pursuant to five main goals:

- 1) Increase the water supply to meet community and environmental needs.
- 2) Assist California American Water in developing a legal water supply.
- 3) Protect the quality of surface and groundwater resources and continue the restoration of the Carmel River environment.
- 4) Instill public trust and confidence.
- 5) Manage and allocate available water supplies and promote water conservation.

¹¹⁹ See Section 8.2.13 – Master Response 13: Demand (Project Need) and Growth.

¹²⁰ See, for example, the Pacific Institute’s “An Assessment of Urban Water Demand Forecasts in California,” August 2020, which describes common patterns and reasons that result in water districts often overestimating expected water demands.

¹²¹ Those analyses are provided in greater detail in Section 2.6 of the Final EIR/EIS and in the CPUC’s September 13, 2018 Final Decision on the proposed project.

and future water portfolio with the proposed desalination facility or with the Pure Water Expansion project. These Findings also consider a key issue fundamental to Cal-Am's expected water supplies and demands – the need for Cal-Am to meet the obligations of the State Water Board's cease-and-desist order that requires Cal-Am to stop its excess water withdrawals from the Carmel River by December 2021. In sum, the Findings below show that Cal-Am could meet its expected water needs by including either the desalination facility or the Pure Water Expansion in its overall water portfolio.

CPUC's current and projected water demand

As part of the CPUC's review, it identified Cal-Am's existing and projected future water demands, relying, in part, on state regulatory requirements used to identify baseline water requirements. This regulation – the California Waterworks Standards – requires that water supply systems have the capacity to meet maximum day demand and peak hourly demand, as based on the most recent 10 years of a water system's operations.¹²² The CPUC determined that, for Cal-Am, using the peak month demand would be the critical determinant as to whether the proposed Project could meet its maximum day and peak hour demand, as peak month represents an elevated demand sustained over multiple days.¹²³ At the time of the CPUC review, the peak month during the 10-year period from 2006 to 2015 was July of 2010 when Cal-Am's ratepayers used 1,111 acre-feet. The average annual demand during that 10-year period was 12,351 acre-feet.

The CPUC also considered several events that occurred before, during, and after that 10-year period that had affected the area's rate of water use. It recognized that water demand in the area had been somewhat higher long before that particular 10-year period and that it had declined in part due to reduced visitation to the Monterey Peninsula after the events of September 11, 2001 and due to the recession that occurred between 2007 and 2009. It also recognized that California, including Cal-Am's service area, had experienced several years of drought conditions that had further reduced water use and led to implementation of a number of water conservation measures, many of which were still in place and likely represent permanent reductions in the expected water use per capita in the Monterey area and elsewhere. This was accompanied by behavior changes by water users that led to additional reductions, which may or may not be as long-lived as the structural conservation measures but may

¹²² See Title 22, CCR Division 4, Chapter 16, Section 64554. Maximum day demand is determined by selecting the month with the highest water use during the past ten years of service, dividing by the number of days in that month, and multiplying the average daily use by a peaking factor of at least 1.5. Peak hourly demand is determined by calculating the average hourly rate for the maximum day demand and multiplying by a peaking factor of 1.5.

¹²³ This was also reflected in the CPUC's inclusion of a project objective in the Final EIR/EIS that was to ensure the water supply would be able to serve peak month demands. The CPUC's September 13, 2018 Final Decision on the project notes that "[t]his is consistent with Cal-Am's assertion that peak month demand is a more critical consideration for its operations than peak day demand. This appears undisputed, as all of the parties presented their demand projections in a similar method (see, e.g., Exhibit SF-12 Attachment A) and we use monthly and annual figures throughout in our consideration of the standard."

nonetheless continue to some degree beyond the period of drought conditions due, in part, to continued changes in behavior, increases in the price of water, and other factors. The CPUC also acknowledged that by the time the desalination facility would be operating, Cal-Am’s average 10-year and maximum year demands would be lower than the above-referenced 10-year period. Based on these considerations, the CPUC concluded that the existing annual demand was about 12,000 acre-feet per year.¹²⁴

Along with identifying these existing water system demands, the CPUC considered several expected future demands that it noted would increase that existing demand by about 2,000 acre-feet per year for a total expected demand of about 14,000 acre-feet per year. Table 4 below shows the expected existing demand and these expected future demands, which are described below.

Table 4: CPUC identified existing and future demand

	CPUC review (totals in acre-feet per year)
Existing demand (10-year annual average):	12,000
Future demand:	
• Pebble Beach water entitlements	325
• Hospitality industry rebound	500
• Lots of record	1,181
Total:	14,006

- **Pebble Beach water entitlements:** As part of a water reclamation project funding agreement between the Monterey Peninsula Water Management District and the Pebble Beach Company, the District granted water entitlements totaling 380 acre-feet per year to the Company. The funded reclamation project provides reclaimed water for use on golf courses in the Del Monte Forest area. Because that water would have otherwise come from Cal-Am’s use of Carmel River water, the State Water Board recognized in its cease-and-desist order to Cal-Am that those entitlements could be considered part of Cal-Am’s expected additional water demands for proposed development in this area. As of the time of the CPUC’s decision, about 325 acre-feet per year of these entitlements had not been used and were therefore considered part of potential future growth.
- **Hospitality industry rebound:** As noted above, the CPUC acknowledged that water demand in Cal-Am’s service area had declined post-2001 and during the 2006-2009 recession, due in part to a reduction in visitation rates. Cal-Am had proposed as part of the CPUC’s review that an additional 500 acre-feet per year be added to the projected future demand to reflect an expected rebound in visitation to the area. The Monterey Peninsula Water Management District conducted a 2013

¹²⁴ The CPUC’s Final Decision states that “[a] projection of demand for existing customers of approximately 12,000 afy is appropriately conservative and reasonable.”

study that determined that 500 acre-feet per year was a reasonable expectation. The CPUC accepted this figure, though it acknowledged that part of the rebound dependent on these 500 acre-feet per year had already occurred and that some of that supply would therefore be available for other uses.

- **Water for lots of record:** Cal-Am’s service area has several hundred undeveloped “lots of record,” and it proposed that the CPUC include 1,181 acre-feet per year of water for the expected development of those parcels.

During its review, the CPUC also requested and received alternative water demand/supply scenarios proposed by intervenors. These included the same demand categories identified above, though they varied in the current and expected volumes in each category.¹²⁵ These alternative scenarios proposed that the CPUC consider that expected future demands could range from about 9,700 to 15,000 acre-feet per year. In comparing and evaluating the above demand categories and the scenarios presented by intervenors, the CPUC concluded that Cal-Am’s existing demands along with the above expected future demands would total about 14,000 acre-feet per year.

CPUC’s projected available water supplies

The CPUC also showed that Cal-Am’s water portfolio, including production from the proposed desalination facility, would provide about 1,300 acre-feet more water than needed to serve the then-expected 14,000 acre-foot per year demand. The components of the expected water portfolio are shown in Table 5 and described below.

Table 5: CPUC identified available water supplies

Source:	Amount Available (in acre-feet per year):
Carmel River	3,376
Seaside Groundwater Basin	774
Aquifer Storage and Recovery	1,300
Sand City Desalination Facility	94
Pure Water Monterey Groundwater Replenishment Project	3,500
Total:	9,044
Total when including a 6.4 mgd (6,252 afy) desalination facility:	15,296

¹²⁵ Scenarios were provided by Cal-Am, the City of Marina, the Marina Coast Water District, the Monterey Peninsula Regional Water Authority, Monterey Peninsula Water Management District, the Planning and Conservation League, Surfrider Foundation, the Coalition of Peninsula Businesses, and Water Plus.

The water supply sources included:

- **Carmel River:** Although Cal-Am is required to reduce its withdrawals from the Carmel River, it continues to have the legal right to withdraw 3,376 acre-feet per year from the river.
- **Seaside Groundwater Basin:** Cal-Am has also relied on past withdrawals from the Seaside Groundwater Basin. As part of the Basin’s adjudication in 2006, Cal-Am was determined to have rights to 1,474 acre-feet per year from the Basin; however, based on its overwithdrawals from past years, Cal-Am is required to replenish the Basin at a rate of 700 acre-feet per year over a 25-year period, which limits its allowable withdrawals to 774 acre-feet per year. On August 12, 2020, the Commission received a letter from the Seaside Groundwater Basin Watermaster, who expressed concern that the Basin would need additional water – about 1,000 acre-feet per year over and above the currently proposed 700 acre-feet per year – to provide protective groundwater elevations in the Basin, and that the proposed Cal-Am facility is the only possible source for this additional supply. It appears, however, that the Basin management considered this measure in 2009 and 2013 but took no action to implement the associated infrastructure that would be needed or to fund the approximately \$6,000,000 per year needed to purchase that amount of desalinated water. Nor did the CPUC consider this large, potential additional demand for water in its proceeding. Accordingly, any such new demand for water appears to be speculative and is not considered a reason that the Pure Water Expansion would be infeasible.
- **Aquifer Storage and Recovery (“ASR”):** Cal-Am and the Monterey Peninsula Water Management District together implemented an ASR project that provides a water supply based on using available storage capacity in the Seaside Basin. The project involves diverting high winter flows of Carmel River water into the Basin for later recovery, treatment, and delivery to customers during summer months to help reduce summer withdrawals from the river. The winter flows it diverts are only those identified as excess to the flows needed to support the river’s threatened steelhead population. The first ASR phase was completed in 2008 and allows a maximum annual diversion of about 2,400 acre-feet per year from the Carmel River, and an average yield of approximately 920 acre-feet per year. The second phase, completed in 2013, allows storage of up to 2,900 acre-feet per year and provides an average yield of 1,050 acre-feet of additional water supply. For water supply planning purposes, ASR is estimated to produce an average of 1,300 acre-feet annually.
- **Sand City Desalination Facility:** This facility is owned by Sand City but operated by Cal-Am. Of the facility’s 300 acre-feet per year capacity, Cal-Am has available to it a long-term supply of 94 acre-feet per year.
- **Pure Water Monterey Groundwater Replenishment Project:** At the time of the CPUC’s review, the first phase of this project – a joint proposal by the Monterey Regional Water Pollution Control Agency and the Monterey Peninsula Water Management District – had just undergone environmental review. The project involves treating several water sources – including treated wastewater, agricultural runoff water, and stormwater – and injecting the treated water into the Seaside Groundwater Basin for later additional treatment and use as a potable water supply.

The CPUC’s decision to approve Cal-Am’s desalination facility relied on Cal-Am being able to purchase 3,500 acre-feet per year from the Pure Water project, which allowed the CPUC to reduce the size of Cal-Am’s desalination facility from its initially proposed 10,700 acre-feet per year to its currently proposed 6,252 acre-feet per year (i.e., from 9.6 to 6.4 mgd).

A common principle in water planning is that having more water sources is preferred to having fewer, as more sources generally allow for more overall reliability. Most areas rely on one or two main sources (along with conservation) to meet their water needs. As shown above, Cal-Am currently has five (not counting conservation). Adding the Pure Water Expansion and including it as part of the existing Pure Water project would keep Cal-Am with five sources, while adding desalination would increase sources to six.

In summary, the CPUC identified a current baseline use of 12,000 acre-feet per year, an expected future demand of about 14,000 acre-feet per year, and an available supply, including Cal-Am’s proposed desalination facility, of 15,296 acre-feet per year.

2019 and 2020 Updates of water supply and demand

As noted above, MPWMD prepared two updated assessments of expected water demands and supplies for Cal-Am’s service area (see Exhibits 15 and 16), which are collectively referred to as the “Updates” herein. The more recent Update was included as part of the Final SEIR for the Pure Water Expansion project. These MPWMD assessments updated the CPUC’s evaluation of the total water demands and supplies available with Cal-Am’s desalination facility as compared with supplies that would be available with the Pure Water Expansion project. Table 6 below provides the 2020 Update’s comparison of these two supply scenarios showing that the scenario with the Pure Water Expansion would provide about 4,000 acre-feet per year less than the scenario with Cal-Am’s desalination facility:

Table 6: Comparison of water supply portfolio with Cal-Am desalination or Pure Water Expansion

Supply Source	With Cal-Am desalination (in afy)	With Pure Water Monterey Expansion (in afy)
Cal-Am Desalination	6,252	0
Pure Water Monterey	3,500	3,500
Pure Water Monterey Expansion	0	2,250
Carmel River	3,376	3,376
Seaside Basin	774	774
Aquifer Storage and Recovery	1,300	1,300
Sand City Desalination	94	94
Total Available Supply	15,296	11,294
Other Available Supply	406	406
Total Available Supply w/Other	15,702	11,700

Note: to ensure a more conservative assessment of available supplies, the “Other Available Supply” category above is not included in the analyses immediately below, as that category includes some less certain water sources, such as increased production from the Sand City desalination facility, and “Carryover Credits” that Cal-Am has available to it based on unused capacity in the Seaside Groundwater Basin. However, this category is included later under “Additional considerations for projecting future demand.”

Importantly, the MPWMD also updated the current and expected future water demands the CPUC had identified during its proceedings, using the same demand categories as the CPUC had used, but including more recently available data and some modified assumptions. The Updates show that Cal-Am’s current baseline demand is substantially lower than identified by the CPUC. Using the average annual use for the past 10-year, five-year, and three-year periods, the Updates calculated the current baseline demand to be 10,863, 9,825, and 9,817 acre-feet per year, respectively – or between about 1,100 and 2,300 acre-feet less than the previously assumed 12,000 acre-feet. The Updates had the benefit of about two years of more recent data, starting in January 2018, that show continued reductions in existing water demand compared to the demand figures available to the CPUC. The Updates also show that the expected future demand is substantially lower than had been identified previously and could be met for the next twenty years or more by adding either Cal-Am’s desalination facility or the Pure Water Expansion project to the water supply portfolio. Importantly, these Updates also evaluated the expected rate of growth in water demand, a consideration absent from Cal-Am’s Final EIR/EIS. The Updates conclude that, although the Pure Water Expansion scenario would not provide as much water as the desalination facility scenario, that scenario would provide sufficient water for twenty years or more, even when considering substantially higher growth rates than the area has ever experienced during the past several decades. If growth actually occurs at closer to historic rates, then the Pure Water Expansion could provide sufficient water for approximately forty years. The two sets of demand scenarios are provided in Table 7 below. The Updates also conclude that the Pure Water Expansion could meet the maximum daily demand and peak day flows as required by the state’s Waterworks standards. Finally, they evaluate how a Cal-Am water supply portfolio that included the Pure Water Expansion instead of the desalination facility could provide adequate water supplies during multiple years of drought.

Importantly, and as shown in Table 7, the Updates’ lower demand numbers for the five-year and three-year average annual demands are supported by data Cal-Am provided to the CPUC in July 2019. The table includes Cal-Am’s 2019 existing demand as identified in its July 1, 2019 General Rate Case application to the CPUC.¹²⁶ For purposes of this ongoing rate case, Cal-Am reports that its 2018 water demand was 9,679.1 acre-feet, much less than the 12,000 acre-feet estimate in the 2018 Final EIR/EIS and even less than the lowest of the calculated baseline volumes in the above-referenced Updates. Cal-Am also reports that its expected demand from 2019 through 2022 is 9,789.4 acre-feet per year, which also remains below those lowest calculated

¹²⁶ See July 1, 2019 application by California American Water application for CPUC’s General Rate Case A1907004, available at: <https://apps.cpuc.ca.gov/apex/f?p=401:57:0>: (accessed August 10, 2020).

baseline amounts. Cal-Am’s current CPUC proceeding also includes testimony from a Cal-Am expert witness, who anticipates somewhat lower demand during these immediately upcoming years – from 9,338 in 2021 to 9,610 in 2023.

Table 7: Comparison of existing and future demand scenarios

	2018 CPUC review	2020 Update	2019 Cal-Am
Existing demand:	12,000	9,817 – 9,825	9,338-9,789 (through 2023)
Future demand:			
Pebble Beach entitlements	325	103 to 160	
Hospitality industry rebound	500	100 to 250	
Lots of record	1,181	864 to 1,014	
Total:	~14,000 at an unspecified future date	10,884 – 11,249	

This range of current demand numbers – 9,338 to 9,825 acre-feet per year – is further supported by two recent evaluations conducted on behalf of the City of Marina and the Marina Coast Water District, which are detailed below under Other Reviews.

Future demand: The Updates also show lower expected future demands in each of the categories that the CPUC study had used, as shown below:

- **Pebble Beach entitlements:** As noted above, the CPUC had identified about 325 acre-feet of expected demand for build-out in the Pebble Beach area. The analyses in the Updates show that the actual baseline amount was somewhat lower – about 299 acre-feet – and would be split between two categories – a 145 acre-foot expected average for buildout and a 154-acre-foot expected average in “other entitlement demand.”¹²⁷ The Updates note that this buildout demand is likely overstated, in that it was based on higher water usage rates than are the current norm. For example, the buildout figures were based on a period when residences used about a third more water than the current average and included a proposed hotel that is no longer being pursued.

The Updates also conclude that the “other entitlement demand” is similarly overstated in that this demand would not exist once a new water supply – such as Cal-Am’s Project or the Pure Water Expansion – makes water available to users that

¹²⁷ See April 2012 Pebble Beach Final Environmental Impact Report, Appendix H – Water Supply and Demand Information for Analysis. This document identifies demands wet, average, dry, and critically dry years that range from 128 to 145 acre-feet per year for buildout and 147 to 167 acre-feet per year for “other entitlement demand.”

would otherwise need the entitlement. These entitlements were developed as part of a financing package for an area recycling project, allowing the Pebble Beach Company to sell some of its unused water entitlements to residential property owners in the area. Over the last decade or so, these average entitlement demands have totaled about 4.9 acre-feet per year. It is unlikely that there will be additional requests for those same entitlements amounts during the approximately three years before one of these two water supply projects is online, largely because the entitlements cost about \$250,000 per acre-foot. The Updates acknowledge, however, that there could be some limited future interest in these entitlements, though more in the range of 10 to 15 acre-feet total rather than the above-referenced 154 acre-feet. The 2019 Update did not include this 10-15-acre-foot demand in its expected growth figures, though it addressed potential growth in a different way to provide sufficient conservatism in its calculations, as described below. The Updates conclude that the actual expected future demand for these categories of water use should be lowered from the previously presumed 325 acre-feet to between 103 and 160 acre-feet. Both Cal-Am and the Pebble Beach Company have contended that the full entitlement amounts may be used, though there is no certainty as to when or how quickly they might be drawn upon should this relatively high cost water be needed.

- **Hospitality industry rebound/tourism bounce-back:** The 500 acre-feet the CPUC included in this category was based on an expected recovery in the number of visitors to the Monterey Peninsula area. As part of the CPUC proceedings, the industry noted that hotel occupancy rates declined after 2001 and after the 2006-2009 recession and requested that the CPUC consider including additional water in its demand scenarios to serve the expected increase in occupancy rates that would accompany an improved economy. As described in the Updates, the pre-2001 occupancy rates were about 72%, dropped in 2001 to about 63%, and stayed at about that level until 2012-13. The Updates note that since then, occupancy rates have returned to the previous high pre-2001 level of about 72%, yet the water use in this sector is substantially lower than it was in 2001 – about 2,442 acre-feet per year in 2018 versus 3,387 acre-feet in 2001. The Updates credit this reduction to recent mandatory conservation standards and improved conservation measures, many of which are permanent. They acknowledge, though, that even with these improvements, there is likely to be some “rebound” for this demand sector, though it is more likely to be in the range of 100 to 250 acre-feet, not the 500 acre-feet referenced above.¹²⁸ Although Cal-Am has contended that the bounceback would be higher because many of those conservation measures are temporary, MPWMD confirmed that most are considered permanent, so the lower rates are likely to be long-term.

¹²⁸ The Final EIR/EIS also acknowledged that much of the expected rebound had occurred, that the 500 acre-foot demand expectation was long-term, and that a reasonable estimate for hospitality industry rebound would be on the order of 200 to 300 acre-feet per year. See Section 2 – Water Demand, Supplies, and Water Rights, page 2-13, and Section 6 – Other Considerations, page 6-15.

- **Lots of record:** Cal-Am’s Final EIR/EIS identified an expected future annual demand of 1,181 acre-feet from development of vacant lots of record within Cal-Am’s service area, based on a study done in 2002.¹²⁹ The Updates note that expected per capita or per household water use at the time of that 2002 analysis was substantially higher than current usage and that this expected future demand should be reduced to reflect this lower per capita use. They also note that some of these lots included in this calculation are not buildable or have already been developed and are therefore already included as part of Cal-Am’s existing demand. The Updates conclude that the proposed 1,181 acre-feet of demand should be reduced by about 167 acre-feet to reflect reduced per capita/per household usage and by about 150 acre-feet to account for already developed or undevelopable lots. It acknowledges that some growth will occur both within and near Cal-Am’s service area, though that growth will be spread out over time rather than occur immediately. Overall, the Updates calculate the amount of new demand for this category at between 864 and 1,014 acre-feet.¹³⁰ Cal-Am’s June 30, 2020 letter disagrees with this lower projection, stating that once the CDO is lifted, a “pent-up demand” to build will occur. Even if that were to occur, it would take many years of growth for any “pent-up demand” to reach either of the above-referenced future demand volumes. This growth issue is further detailed below.

Rate of increase for future demand: The Updates also evaluate how these overall future water demands would be developed over time. Unlike the approach taken in Cal-Am’s Final EIR/EIS, which identified an existing demand of 12,000 acre-feet per year and a future need for 14,000 acre-feet per year but did not identify the rate at which that level of water use would be needed, the Updates calculated expected rates of increase in demand by looking at past rates of growth in water demand and projecting them over the next several decades. They also included several additional considerations in their calculations, such as potential higher growth rates, the cost of water, and the effects of recent legislation that are expected to limit or reduce future per capita demands. These projections and other considerations are described below.

The Updates found that annual water growth rates during the past 20 years, which included periods of high water availability as well as drought and imposed conservation measures, ranged from about nine to 16.4 acre-feet per year. Based on the current range of existing demand identified above – i.e., from 9,338 to 9,825 acre-feet per year – and on the total available future supplies identified above in Table 7, with Cal-Am’s desalination scenario providing about 15,296 acre-feet per year and the Pure Water Expansion scenario providing about 11,294 acre-feet per year, Cal-Am’s Project would result in an immediate excess supply of between 5,471 and 5,958 acre-feet and the

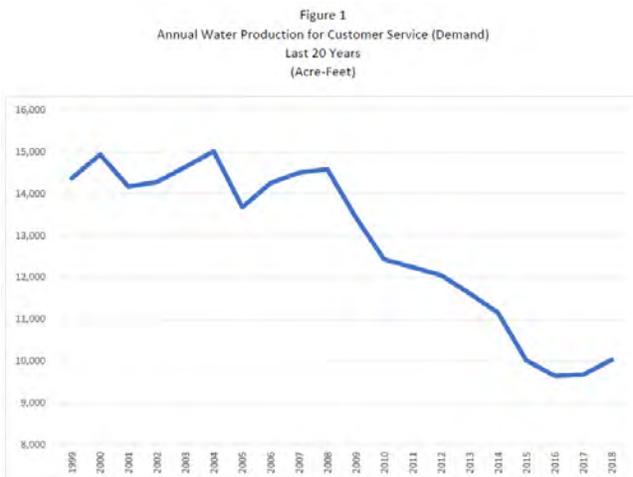
¹²⁹ The 2019 Update notes that this figure was based on a February 2002 analysis conducted by the District that was revised slightly upward later that year to about 1,211 acre-feet.

¹³⁰ This is largely consistent with the District’s testimony to the CPUC, in which it recommended the CPUC not use the 2002 figures for the reasons cited above. See Final EIR/EIS Section 2 – Water Demand, Supplies, and Water Rights, pages 2-14 & 2-15.

Pure Water Expansion would result in an immediate excess supply of between 1,469 and 1,956 acre-feet. At the highest rate of past growth – 16.4 acre-feet per year – the total portfolio with the Pure Water Expansion would supply several decades of growth.¹³¹ The Updates also considered other growth scenarios, with higher water demands that still resulted in the Cal-Am water portfolio with the Pure Water Expansion providing sufficient water for several decades, as described below.

Additional considerations for projecting future demand: There are several additional planning considerations that support a conclusion that the Pure Water Expansion would provide water for a substantially higher number of years of growth in the area:

- Continually lowering baseline:** As noted above, both the CPUC and the Updates considered a period of the past 10 years of usage data as a basis for average annual demand. The 2020 Update also identifies average demands based on the past five years and three years, both of which resulted in lower average demands of 9,825 acre-feet per year and 9,817 acre-feet per year, respectively, or about 10% less than the existing 10-year average. The Updates also include a graph showing the past 20 years of demand, which illustrates the substantial drop in water demand over that period and also illustrates that the early part of the most recent 10-year periods is much higher than current use – e.g., 2007 and 2008 have much higher demand than 2017 and 2018:



¹³¹ The substantially higher “overage” that Cal-Am’s Project would supply might also raise concerns with conformity to Coastal Act Section 30254, which requires that new public works facilities be designed and limited to accommodate needs generated by development or uses consistent with other Coastal Act provisions.

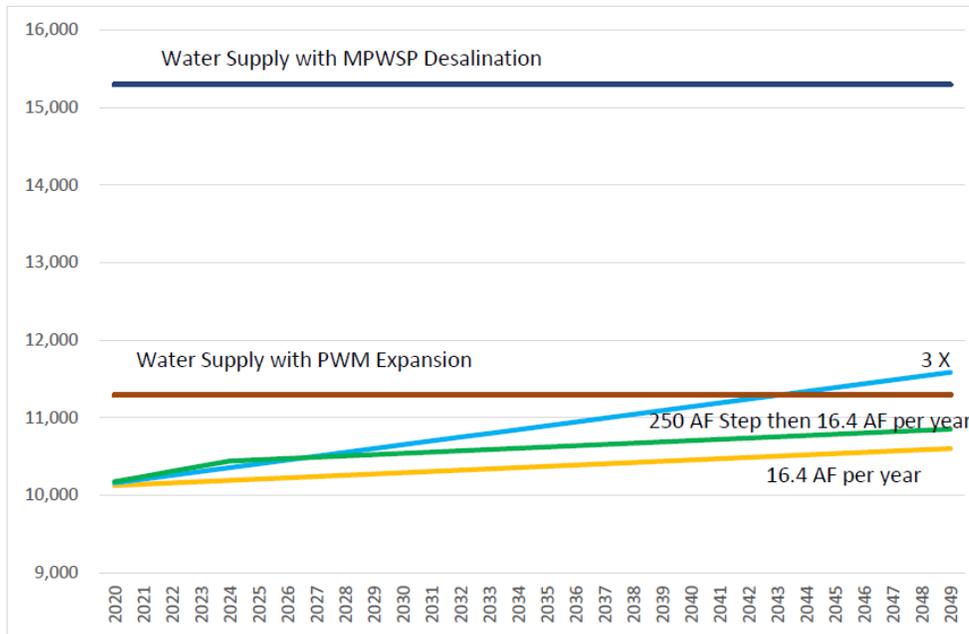
This graph also illustrates that calculating the 10-year average during the next several years will involve removing the higher demand years from 2008 to about 2015 and replacing them with lower demand years of 2019, 2020, and onward. As noted above, Cal-Am's recent testimony to the CPUC shows that it expects demand in 2020 through 2022 to remain at the low end of use – about 9,789 acre-feet per year – which results in the high demand during 2008 and 2009 of around 14,000 acre-feet being replaced by upcoming years of about 4,000 acre-feet less demand. Moving forward each year by deleting the earliest year of the 10-year period and adding a new year that includes the expected high estimate of 16.4 acre-feet per year of predicted growth (which, as noted in the Updates, is the highest rate over the past 20 years) results in the next several 10-year annual averages dropping well below the current 10-year average of 11,232 acre-feet per year – to a low of about 10,047 acre-feet in 2024.¹³² It would then be expected to start increasing at the anticipated rate of growth. This approach puts the upcoming 10-year averages much closer to the existing five-year average used in the 2019 Update and allows for a relatively consistent comparison with the same approach used in the CPUC's reliance of the 10-year average. As described below, more recent use figures provided by Cal-Am show an even lower current baseline.

- **Rate of market absorption of water demand:** Although the Updates use a five-year average demand rather than the 10-year average demand used in the CPUC's review, it included added several potential growth scenarios to assess how the Pure Water Expansion would support expected growth into future decades. Using the current five-year average annual demand as a baseline, it calculated future expected water demands in three ways: 1) adding the above-referenced 16.4 acre-feet per year growth rate; 2) adding three times that growth rate; and 3) adding an initial 250 acre-feet of growth during the first five years, followed by annual 16.4 acre-feet growth rates. As shown on the 2019 Update's Figure 3, those projections show that Cal-Am's available water portfolio with the Pure Water Expansion instead of the desalination facility would provide sufficient water under those growth rates until well beyond 2050, until about 2043, and again, well beyond 2050, respectively.

¹³² This approach results in the 10-year annual average roughly equaling:

In 2019 (2010 to 2019): 10,902
In 2020 (2011 to 2020): 10,661
In 2021 (2012 to 2021): 10,467
In 2022 (2013 to 2022): 10,280
In 2023 (2014 to 2023): 10, 135
In 2024 (2015 to 2024): 10,047
In 2025 (2016 to 2025): 10,061
In 2026 (2017 to 2026): 10,102
In 2027 (2018 to 2027): 10,140

Figure 3
 Market Absorption of Water Demand Compared to Water Supply
 Current Demand at 5-Year Average
 (Acre-Feet)



- Effects of cost on expected water demand:** Water use rates are also driven by considerations other than growth, including the cost of water. Reliance on either of these facilities – the Cal-Am project or the Pure Water Expansion – as part of Cal-Am’s water portfolio would result in increased water costs and water rates in Cal-Am’s service area. Current costs for water from the Carmel River and the Seaside Basin are in the range of several hundred dollars per acre-foot, whereas water from the Cal-Am project is expected to cost about \$6,100 per acre-foot and water from the Pure Water Expansion about \$2,340 per acre-foot. Either would increase the average cost of water from Cal-Am’s water portfolio, though the Cal-Am project, at about three times the cost of the Pure Water Expansion, would create a substantially larger cost increase (this issue is discussed in more detail in Section II.N – Environmental Justice and Section II.P – Coastal-Dependent Industrial Facility Override). Additionally, because the Cal-Am project would be built to produce significantly more water than will be needed for a number of years, its actual costs per acre-foot would be substantially higher than \$6,100 for as long as the facility was operated at less than its design capacity. This is because its fixed costs, such as the capital costs for building the facility, would be spread among the smaller number of acre-feet actually produced. The Updates illustrate this difference, as shown in Table 8 below, which identify the expected cost per acre-foot at three different levels of production:

Table 8: Cal-Am costs per acre-foot at different production levels

Annual production by desalination facility (in acre-feet):	6,252	5,000	4,300
Annual fixed costs (in millions):	\$30.3	\$30.3	\$30.3
Annual variable costs (in millions):	\$7.8	\$6.2	\$5.4
Total annual costs to customers (in millions):	\$38.1	\$36.5	\$35.7
Resulting cost per acre-foot	\$6,094	\$7,308	\$8,294

As in past instances, if actual costs are higher than initially determined by the CPUC, Cal-Am would presumably seek to recover those costs through a CPUC-approved rate increase or surcharge.

- Lower per capita use due to conservation:** The Updates also describe the effects of recent legislation that establishes urban water efficiency standards to be implemented by water agencies.¹³³ The legislation establishes standards for indoor and outdoor water use, allowable limits for water lost to leaks, and other measures meant to reduce per capita water use in the state. It establishes, for example, an indoor water use rate of 55 gallons per person per day that will be further reduced to 50 gallons per person per day in the coming years. The Updates note that per capita use in the Cal-Am service area is currently at 57 gallons per person per day, so meeting the new mandates will result in a relatively small reduction of about five percent per capita, which will likely lead to a moderate reduction in the future growth rates described above and will allow the water supplies provided by either project to last somewhat further into the future.
- Effects of COVID-19 restrictions:** It is difficult to quantify the short- or longer-term effects of the COVID-19 pandemic on expected rates of water use. Cal-Am’s service area has been heavily dependent on tourism and associated hotel, restaurant, and visitor-serving uses, but the water uses by those industries have been significantly curtailed due to pandemic-related travel restrictions and shelter-in-place requirements. With area residents sheltering in place, it is likely that residential water use has increased, but not sufficiently to match the missing demand of the above-referenced industries. At the very least, it appears that COVID-19 will result in a slower and longer recovery or “bounce-back” period. With the current lower baseline use and with 700 acre-feet per year of water available through ASR storage, Cal-Am will likely be able to meet its CDO obligations without having either project online by the December 2021 CDO deadline.

To provide a short-term comparison, the chart below compares Cal-Am’s pre-COVID-19 total water production in March, April, May, and June of 2019 with its water demand during those same months in 2020 and shows an approximately 10% decrease in water use:

¹³³ The 2019 Update referenced both the 2018 adoption of SB 606 and AB 1668.

Month:	2019:	2020:	Reduction from 2019 to 2020:
March	1029.29	851.88	-177.41 (-17.2%)
April	1021.33	931.86	-89.47 (-8.8%)
May	917.91	843.90	-74.01 (-8.1%)
June	866.82	844.71	-22.11 (-2.6%)
Totals:	3835.35	3472.35	-363.00 (-9.5)

Note: all figures in acre-feet, and are obtained from Cal-Am’s quarterly reports to the State Water Resources Control Board required by Cease-and-Desist Order 2016-0016, available at: [https://amwater.com/caaw/customer-service-billing/billing-payment-info/water-rates/monterey-](https://amwater.com/caaw/customer-service-billing/billing-payment-info/water-rates/monterey-district)

district

In sum, with the current 10-year annual average demand being lower than the demand identified in Cal-Am’s Final EIR/EIS, with any of several potential future growth rates, and with increased water costs and increased conservation mandates, adding the Pure Water Expansion to Cal-Am’s water supply portfolio instead of the desalination facility, is expected to provide sufficient water for at least the next two or more decades.

Two additional factors support this conclusion. First, and as noted above, the Updates include a category of “other available supplies” that would provide an additional 406 acre-feet per year to the above totals. These include:

- Up to about 300 acre-feet per year from the Carmel River (through State Water Board Permit #21330 issued to Cal-Am in 2013).
- Additional production from the Sand City desalination facility: up to about 106 acre-feet per year available to Cal-Am until Sand City generates sufficient growth and development to use this volume of water. At the time of the CPUC’s review, this additional production had been suggested, but the CPUC found that it was not supported by credible evidence. More recently, however, Cal-Am’s has reported as part of its compliance requirements to the State Water Board that it used 189.55 acre-feet from the Sand City facility during the most recent water year, about 80% more than had been anticipated in the CPUC’s review.
- “Carryover Credit” from the Seaside Groundwater Basin: Cal-Am has a number of “credits” for water in the Seaside Groundwater Basin that Cal-Am was allowed to produce, but did not produce due to constraints within the delivery system. The Basin currently has about 1,400 acre-feet in storage.

While these supplies are not as certain or may not be as consistently reliable as other supplies in Cal-Am’s water portfolio, some proportion of these 406 acre-feet is likely to be available as part of future supply portfolios.

Maximum daily and peak hour demands: As noted above, Cal-Am’s CEQA review evaluated whether the desalination facility, if included as part of Cal-Am’s water portfolio, would allow Cal-Am’s water system to provide maximum daily demand (“MDD”) and peak hour demand (“PHD”), pursuant to the state’s requirements for public water systems. That review considered Cal-Am’s peak month demand as being the

critical determinant as to whether the system could meet MDD and PHD. The review used July of 2010 as the peak month demand, when Cal-Am's ratepayers used 1,111 acre-feet of water. The CPUC's Final Decision noted, based on the information available at that time, that the MDD was 60.48 acre-feet (about 19.7 million gallons) and the PHD was 15.12 acre-feet (about 4.9 million gallons).

MPWMD has also prepared calculations to determine whether including the Pure Water Expansion instead of the desalination facility as part of the water portfolio could meet maximum daily and peak hour demands (see Exhibit 17 – MPWMD *Analysis of Available Well Capacity for 10-Year Maximum Daily Demand (MDD) and Peak Hour Demand (PHD)*). It used an even higher peak month as its baseline – July of 2012, when demand was 1,206 acre-feet – and determined that the Pure Water Expansion would more than allow Cal-Am to meet these standards. The District's calculations included assumptions that the additional well capacity included as part of the Pure Water Expansion and a proposed pump station would be developed as proposed and one or more existing wells not currently connected to the system could be added. It concluded that these demands could be met under any of several operating scenarios that used the Pure Water Expansion instead of the desalination facility. Cal-Am's June 30, 2020 letter stated that the Pure Water Expansion would not be sufficient to support these peak demand needs; however, it neglected to address other factors that were addressed in another recent study, as described below.¹³⁴

Drought supply: A key concern raised by Cal-Am and others about the Pure Water Expansion is whether it would be able to provide sufficient water supply during multiple years of drought. The Project Final EIR/EIS described concerns about whether even the first phase of the Pure Water project would provide sufficient water during multiple drought years, and it based the approved size and volume of the desalination facility, in part, with this concern in mind.¹³⁵ MPWMD has evaluated how much water would be available during multiple drought years and determined that, with the Pure Water Expansion adding water to the ASR project each year and with the current level of demand and expected increases in that demand, Cal-Am's portfolio could provide adequate water for multiple drought years (see Exhibit 18 – Final Supplemental Environmental Impact Report for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project, April 2020, Appendix M: Source Water Operational Plan Technical Memorandum). MPWMD's modeling shows that the amount of water stored in the ASR would increase at a rate allowing it to contribute water to Cal-

¹³⁴ In an April 17, 2020 call with staff of the State Water Board's Drinking Water Division and MPWMD to discuss MPWMD's analysis, Board staff identified no inconsistencies with state drinking water requirements.

¹³⁵ See, for example, the Final EIR/EIS Section 8.2.13 at pages 117-18, which states: [t]he recent severe, five-year drought demonstrated that it is not reasonable to assume that there would never be drought conditions that could deplete ASR reserves and prevent new ASR supplies being diverted from the Carmel River for storage and use. Consequently, changes in plant sizing based on scenarios that assume the availability of adequate ASR supplies would need to be considered carefully.

Am's water supply portfolio during an increasing number of drought years through time. Starting in 2020, the ASR would provide between about 4,750 and 5,950 acre-feet per year and by 2024 would have enough water stored to provide for about two years of drought and by 2034 would have enough stored for at least four years of drought and possibly longer.

Other reviews: In response to the November 2019 Commission staff report on the Cal-Am project and to the 2019 Update, Cal-Am prepared a review and critique of the conclusions of those documents. However, that review (see Exhibit 19 – California American Water Peer Review of Supply and Demand for Water on the Monterey Peninsula, Hazen and Sawyer, January 22, 2020) assumed for its analyses that Cal-Am's current demand was 12,350 acre-feet per year, which was substantially greater than the above-referenced 9,789 acre-feet that Cal-Am has recently acknowledged to be its expected demand in 2019 through 2022.

In addition to the analyses conducted by the CPUC, Cal-Am, and MPWMD, the Marina Coast Water District ("MCWD") – conducted its own analyses to identify whether the Pure Water Expansion would provide adequate future water supplies. The MCWD's report (see Exhibit 20 – Expert Report and Recommendations of Peter Mayer, P.E., Regarding Water Supply and Demand in the California American Water Company's Monterey Main System, April 21, 2020) used an even higher, and therefore more conservative, demand figure than both the MPWMD and Cal-Am had used (9,885 acre-feet versus 9,825 and 9,789 acre-feet, respectively), but similarly concluded that the Pure Water Expansion would meet water needs and state requirements until at least 2040. These reports also countered the other conclusions of the above-referenced Hazen and Sawyer report – for example, they point out that the Hazen and Sawyer report made errors in its peak demand analyses and assumed that per capita water use would increase despite state requirements to reduce that use.¹³⁶

The Mayer report includes additional assessments of expected growth, using population projections provided by the Association of Monterey Bay Area Governments ("AMBAG") and based on expected water usage in the various water demand sectors – e.g., residential, commercial. It evaluated expected water use using both the current demands and using the expected reductions in demand that would occur during ongoing implementation of water efficiency measures. Under both scenarios, it determined that either project would allow Cal-Am to have sufficient water supplies through 2040 and that adding the Pure Water Expansion to Cal-Am's water supply portfolio would provide an approximately 1,200-acre-foot surplus supply in 2040. It also provides an evaluation of how the Pure Water Expansion would allow Cal-Am to meet expected peak demand requirements under any of several scenarios and shows that Cal-Am has additional water management options – such as adding additional pumping capacity, implementing rate or demand control measures, etc. – that would provide even more ability, if needed to meet those peak demands.

¹³⁶ See also the March 6, 2020 letter from the Monterey Peninsula Water Management District to Cal-Am, which raises similar concerns about the Hazen and Sawyer report.

3) How does the Pure Water Expansion conform to the Final EIR/EIS Project Objectives and Criteria used for Cal-Am's Project?

In order to qualify as a feasible alternative to a proposed Project, an alternative generally must feasibly accomplish most of the basic objectives of the project. The Findings below compares the two projects as to whether they meet the project objectives selected as part of the CPUC's Final EIR/EIS and its Final Decision. Those documents included nine primary objectives and three secondary objectives, all of which are provided below, followed by a brief description of how the two projects conform to them. For purposes of this comparison, the Commission assumes that Cal-Am would be successful in gaining approval for use of the shared pipeline described above that is critical to its project's feasibility, though it acknowledges that this issue is not yet resolved. Following this comparison, the Findings then evaluate the Pure Water Expansion against the nine criteria the CPUC applied to the initial phase of the Pure Water project to determine that it was a suitable and reasonable source of water supply for Cal-Am. As noted above, the CPUC determined that although the Pure Water Expansion was speculative at the time of its decision, if built, it would satisfy the basic and key project purposes.

Final EIR/EIS primary objectives:

- 1. Develop water supplies for the Cal-Am Monterey District service area to replace existing Carmel River diversions in excess of Cal-Am's legal entitlement of 3,376 afy, in accordance with SWRCB Orders 95-10 and 2016-0016:** As described above, including either project as part of Cal-Am's water supply portfolio would allow Cal-Am to replace its excess diversions from the Carmel River.
- 2. Develop water supplies to enable Cal-Am to reduce pumping from the Seaside Groundwater Basin from approximately 4,000 to 1,474 afy, consistent with the adjudication of the groundwater basin, with natural yield, and with the improvement of groundwater quality:** As described in the CEQA documents for both Cal-Am's Project and the Pure Water Expansion, both projects are designed to meet this objective. The Pure Water project and the Pure Water Expansion have contracts and agreements for more than the amount of water they will need, so there is likely to be sufficient water, even if those full amounts are not available.
- 3. Provide water supplies to allow Cal-Am to meet its obligation to pay back the Seaside Groundwater Basin by approximately 700 afy over 25 years as established by the Seaside Groundwater Basin Watermaster:** Similar to the above, both projects are designed to meet this objective.
- 4. Develop a reliable water supply for the Cal-Am Monterey District service area, accounting for the peak month demand of existing customers:** As described above, both projects are sized to accomplish this objective.
- 5. Develop a reliable water supply that meets fire flow requirements for public safety:** As described above, both projects are designed to meet maximum daily demand and peak hour demands, which are intended to provide the required factor of safety to ensure public water systems can meet emergency demands.

6. **Provide sufficient water supplies to serve existing vacant legal lots of record:** As described above, adding either project to Cal-Am's water supply portfolio would provide sufficient water for the area's lots of record.
7. **Accommodate tourism demand under recovered economic conditions:** As described above, adding either project to Cal-Am's water supply portfolio would allow for an expected increase in tourism demand for water over the coming two decades or longer.
8. **Minimize energy requirements and greenhouse gas emissions per unit of water delivered:** The Pure Water Expansion would use about 23,000 megawatt hours per year of electricity, almost all of which will be generated by landfill gas that would otherwise be released to the atmosphere, as well as 45 megawatt hours per year of electricity from the grid. Cal-Am's Project would use about 52,000 megawatt hours per year, potentially from grid-based electricity that currently represents production of about 8,000 metric tonnes of CO₂ equivalent per year. However, the CPUC imposed a mitigation measure that requires Cal-Am's operations to be carbon neutral, either through securing on-site or off-site renewable energy, or purchasing and retiring renewable energy or carbon credits. Overall, Cal-Am's electrical use would be, both initially and over the long term, significantly higher than that of Pure Water Expansion, although it would also produce more water. Per unit of water delivered, it appears that Cal-Am's Project would have slightly lower energy use; however, unless it was powered by renewable energy sources, it would result in generation of more greenhouse gas emissions than the Pure Water Expansion, thus the need for Cal-Am's mitigation requirement to obtain emission offsets. Emissions related to both projects' electricity use is slated to be carbon neutral, though they would reach that goal through different means. The Pure Water Expansion is slated to use landfill gas that otherwise enters the atmosphere, which would be carbon benefit. Cal-Am may achieve its carbon neutrality through a combination of renewable energy purchases and offsets, which are less certain to provide actual greenhouse gas benefits (see also Section II.J of these Findings). In fact, a recent court decision rejected another agency's use of the same type of carbon offsets that the CPUC imposed on Cal-Am, finding that they were not certain to result in verifiable and permanent carbon reductions. *Golden Door Properties, LLC v. County of San Diego* (2020) 50 Cal.App.5th 467. Overall for this objective, Cal-Am would use more energy and is less certain to offset the emissions caused by its use of energy, though the Expansion project may use more energy per unit of water.
9. **Minimize project costs and associated water rate increases:** The PWM Pure Water Expansion conforms to this objective far better than the Cal-Am project. Pure Water's capital costs are roughly a quarter or a third of Cal-Am's; its water costs are about a third of Cal-Am's, and the effects on water rates are expected to be similarly less than Cal-Am's.

Final EIR/EIS secondary objectives:

1. **Locate key project facilities in areas that are protected against predicted future sea-level rise in a manner that maximizes efficiency for construction and operation and minimizes environmental impacts:** Cal-Am's well field,

located several hundred feet from the Monterey Bay shoreline, would likely be affected directly by sea level rise and the accompanying erosion of the shoreline. As described above in Section II.H of these Findings, the initial effect on the wells would be from the dune recession that will accompany this coastal erosion – as the shoreline profile moves inland, the foredunes that are seaward of the well field would move inland and bury the well heads. The wells would later be subject to coastal erosion. The Commission’s current sea level rise projections show that the well heads would likely be subject to dune recession by about 2040 and would be affected by erosion around 2060. The state’s more recent guidance to consider a higher scenario of 3.5 feet of sea level rise by 2050 would result in burial and erosion several years sooner. Although Cal-Am has stated that it may avoid these impacts because it expects the wells to operate for no more than 20-25 years, it has not identified where it could relocate the wells. Conversely, the Expansion would take place at an inland location outside of the coastal zone and is likely to experience few, if any effects of sea level rise.

2. Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build out demand in accordance with adopted General Plans: As described in Exhibit 17 – Monterey Peninsula Water Management District Analysis of Available Well Capacity for 10-Year Maximum Daily Demand (MDD) and Peak Hour Demand (PHD), the Pure Water Expansion has been planned to provide adequate conveyance to meet the expected water demands.

3. Improve the ability to convey water to the Monterey Peninsula cities by improving the existing interconnections at satellite water systems and by providing additional pressure to move water over the Segunda Grade: Both projects are able to meet this objective, though only if Cal-Am is able to use the distribution pipeline it shares with the Marina Coast Water District or builds a new pipeline (see Section II.A of these Findings).

Applying the criteria used by the CPUC for the Pure Water project to the Pure Water Expansion: During the CPUC’s review of Cal-Am’s proposed Project, it evaluated several other water supply alternatives to consider whether they could help meet the above project objectives. In 2017, the CPUC applied nine criteria to determine that the then-proposed Pure Water project would provide a reliable 3,500 acre-feet of water per year, which would allow for a smaller desalination facility than Cal-Am had originally proposed – i.e., a 6.4 million afy facility instead of a 9.6 million afy facility.¹³⁷ To determine whether the proposed Pure Water project would provide a suitable and reliable water supply source, the CPUC had, in 2016, evaluated the Pure Water project against nine criteria, which are provided below. For each of those nine criteria, these Findings compare the status of the Pure Water project at the time of the CPUC’s

¹³⁷ See California Public Utilities Commission, Decision 16-09-021, issued September 22, 2106.

decision with the current status of the Pure Water Expansion.¹³⁸ This comparison is meant to help determine whether it is similarly reasonable for the Commission to now consider the Pure Water Expansion as a feasible project alternative.

- **Criterion 1 – Final EIR:** The CPUC evaluated whether the Pure Water project had an approved EIR, whether it was subject to a CEQA lawsuit, or whether it was subject to a stay due to any such lawsuit. At the time of the CPUC's decision regarding Cal-Am's Project, the Pure Water project had a completed EIR and was not subject to lawsuits or stays. In applying this criterion to the Pure Water Expansion, that project has a Final SEIR that has been drafted but not yet certified by the lead agency. Even though the Pure Water Expansion has not quite advanced to the degree the Pure Water project had been at the time of the CPUC's decision, it raises essentially the same issues that were successfully addressed, without challenge, as part of the Pure Water project EIR.
- **Criterion 2 – Permits:** This criterion was used to determine the status of permits needed to construct and operate the Pure Water project, including whether they had been obtained or whether the weight of evidence showed that they were likely to be obtained in a timeframe consistent with the project's proposed schedule. At the time of the CPUC decision, the Pure Water project had not yet obtained several key permits, but the CPUC determined that its sponsors were working diligently to obtain the needed approvals and there was no indication they would not be able to obtain them. The Pure Water Expansion similarly has not obtained all of its needed permits; however, those permits are generally expected to be modified versions of permits the Pure Water project has since obtained. At this point, neither the Pure Water Expansion nor Cal-Am would be able to complete construction and start operations in time to meet the December 2021 deadline established in the State Water Board's cease-and-desist order; however, as described below, the path forward for the Pure Water Expansion involves fewer such obstacles than the Cal-Am Project, and can therefore be expected to be online at least as soon if not sooner.
- **Criterion 3 – Source waters:** This criterion was meant to establish whether there was sufficient legal certainty as to whether the Pure Water project had adequate source water. At the time of the CPUC's decision, the Pure Water project had agreements that could provide it with more than the amount of water it needed to produce the expected 3,500 acre-feet per year, and it was seeking approval for additional amounts. The Pure Water Expansion would use the same water sources, and possibly others. As noted above, an August 20, 2020 Monterey One Water letter referred to the Pure Water Expansion's Final SEIR, which includes a detailed technical memorandum that uses a number of relatively conservative assumptions to

¹³⁸ The PWM sponsors initially prepared a status report in 2018 that applied these nine criteria to the PWM Expansion. See May 10, 2018 Progress Report on Pure Water Monterey Expansion, prepared by Monterey One Water. These Findings provide an update of the conclusions of that 2018 Progress Report.

evaluate several different scenarios – e.g., dry year versus wet year supplies, variable seasonal or annual amounts from different sources, etc. – and determined in each case that there would be sufficient water to produce the 2,250 acre-feet expected from the Pure Water Expansion (see Exhibit 18). Although some commenters questioned whether the Pure Water Expansion would have a sufficient, reliable supply of water, the project’s Final SEIR states that “[n]o new source water diversion and storage sites are necessary to achieve the Expanded PWM/GWR Project’s recycled water yield objective of an additional 2,250 AFY of replacement supplies.” It further notes that the Pure Water Expansion is designed to use water from existing Monterey One Water contractual rights. Several commenters contended that those contracts allow water to be used only for the Pure Water project, not the Pure Water Expansion. However, the contracts do not make such a distinction, so there appears to be adequate source water for both. Monterey One Water has at least one water source – about 8,000 acre-feet per year – that is not involved in this contractual uncertainty, is not needed by the baseline Pure Water project, and would reliably provide the approximately 3,000 acre-feet per year that the Pure Water Expansion would need to produce its 2,250 acre-feet per year.¹³⁹ Also, Monterey One Water staff has stated that, in any event, it could use the certain water sources in question for the Pure Water project, and reserve other water sources (that are not in question) for the Pure Water Expansion. Although some parties still debate whether there is a sufficient long-term water supply for the Pure Water Expansion, its Final Supplemental EIR sufficiently responds to and addresses those questions and provides substantial evidence that adequate source waters exist.

- **Criterion 4 – Water quality and regulatory approvals:** Similar to Criterion 2, this criterion had the CPUC examine whether it was likely that the Pure Water project would obtain approvals from the state Department of Health and the Regional Water Quality Control Board for its proposed treatment and injection processes. Neither had been obtained at the time of the CPUC decision, though the CPUC noted that available evidence indicated that the approvals would be forthcoming. It cited additional assurance in that the expected water quality sampling and testing program would ensure project water quality would meet necessary health and safety standards and would protect uses of the aquifer. As noted above, the Pure Water project has since obtained those approvals and is now operating. Both the Pure Water project and the Pure Water Expansion use the same treatment methods as approved at other permitted facilities of this type in California. Cal-Am and some other commenters submitted comments to Monterey One Water claiming that there are unresolved questions about the quality of treated water that would come from the Pure Water Expansion. However, as described in the Final SEIR for the project (which has not yet been certified but which contains the most comprehensive analysis of these issues), the Pure Water Expansion “would not increase the quantity or type of new source waters that would flow into the [treatment plant]

¹³⁹ The Pure Water Expansion is designed to operate at a relatively high efficiency of about 80% -- that is for every hundred gallons of source water, it would produce about 80 gallons of usable water.

compared to the quantity and type of new source waters that were evaluated in the certified [EIR for the original PWM project].” In other words, the Monterey One Board has previously found that treatment of these source waters is feasible and will create water that meets state drinking water quality standards. As noted above, the current project schedule would allow the PWM Expansion to be constructed and operating about 24 to 27 months after obtaining the necessary permits. Once obtained, the Pure Water Expansion, which would use the same treatment systems and presumably have similar sampling and monitoring requirements, could be expected to obtain the new or amended version of these permits for its operation.

- **Criterion 5 – Pure Water Expansion project schedule compared to desalination schedule:** At the time of CPUC Decision 16-09-021, the Pure Water was expected to be completed in late 2017, with the desalination facility to be completed in mid-2019. Both schedules were delayed somewhat; however, the Pure Water project has been completed and started operations in March 2020. Current expectations are that once construction starts for either facility, the Pure Water Expansion would take about 24 to 27 months to complete, while the desalination facility would take slightly longer. At this point, neither project would be able to meet the December 2021 deadline imposed by the State Water Board cease-and-desist order; however, the Pure Water Expansion would likely be available several months sooner than the desalination facility.

There is some uncertainty about the timeline for the Pure Water Expansion, as it still needs to have its environmental review document certified and a Water Purchase Agreement approved by the CPUC. The initial Pure Water project was delayed for several months due to various scheduling issues typical of a complex industrial construction project. However, there is also doubt about whether Cal-Am can meet its expected desalination facility schedule, due to several issues, including: 1) the above-referenced lack of approval from the Marina Coast Water District to allow use of a shared pipeline and its lack of approval to build an alternative, parallel pipeline; 2) the uncertainty about the timing, effects, and any permitting needed for the outfall liner that Cal-Am must have installed before it can discharge its brine waste; 3) litigation related to Cal-Am’s proposed use of groundwater from the Salinas Valley Groundwater Basin; and 4) litigation over Monterey County’s approval of portions of the project in its jurisdiction, which so far has resulted in the Superior Court in mid-September 2019 issuing a temporary stay on construction activity. In addition, if the Commission were to approve the project, there is a substantial likelihood that its decision would also be challenged in court. These areas of concern do not apply to the Pure Water Expansion.

- **Criterion 6 – Status of Pure Water Expansion project engineering:** This criterion required that the Pure Water project be developed to at least a 10% design level or that its development is at or beyond the level of engineering prepared for the desalination facility. At the time of the CPUC’s decision, the various components of the Pure Water project were at anywhere from at least 10% to 100% design and it therefore met this criterion. The project is now constructed and about to produce

purified water. The Pure Water Expansion, being an expanded version of the existing facility, is well beyond this 10% design threshold.

- **Criterion 7 – Pure Water Expansion project funding:** This criterion required that Pure Water project funding be detailed sufficiently for the project to apply to a State Revolving Fund loan. At the time of the CPUC decision, Monterey One Water had applied for that loan and had received confirmation from the State Water Board that its application was complete and that would be eligible for a relatively low (1%) interest rate on the loan. It has also received over \$100 million in grants and loans from state and federal agencies. For additional needed funding, the Pure Water Expansion would rely on a commitment from Cal-Am to purchase the water it produces (through a Water Purchase Agreement approved by the CPUC – see below). Cal-Am has not yet pursued such an Agreement, largely because it is proposing the desalination project instead; however, it would be within Cal-Am’s control to work expeditiously toward a Water Purchase Agreement if it decided to pursue the PWM Expansion project.

Cal-Am and other commenters recently expressed concern that Monterey One Water’s finances, which have diminished recently, would not be adequate for the funding and staffing needed to construct and operate the Pure Water Expansion. However, Monterey One Water staff have clarified that funding for the Expansion would be separate from other general Monterey One Water funds, and once Cal-Am received an approved Water Purchase Agreement, would likely be administered through bond purchases or other similar instruments.

- **Criterion 8 – Reasonableness of Water Purchase Agreement terms:** This criterion was meant to ensure that Cal-Am and the Pure Water project sponsors had concurred on a “just and reasonable” water purchase agreement. The CPUC determined, at the time of this 2017 decision, that the agreement that the parties had reached in 2016 met this criterion. The agreement included a first-year cost cap and a provision that Cal-Am would pay only the actual costs for Pure Water project water. Water from the Pure Water and Pure Water Expansion projects is expected to cost between about \$2,000 and \$3,000 per acre-foot, both well below the \$6,000 per acre-foot cost for water from Cal-Am’s Project.]
- **Criterion 9 – Reasonableness of the Pure Water Expansion project revenue requirement:** Similar to Criterion 8 above, the CPUC required for this criterion that the revenue requirement for the smaller desalination facility – i.e., the currently proposed facility – combined with Pure Water project was “just and reasonable” as compared to the revenue requirement of the larger proposed desalination facility alone. At the time of this 2017 decision, there was a great deal of uncertainty about expected Pure Water project costs, but the CPUC determined that it was reasonable to move forward with the combination of a desalination facility and Pure Water project, based in part on the first-year cost cap referenced in Criterion 8, on an

evaluation of the likely “indifference cost” of the two options,¹⁴⁰ and on the broader benefits provided by the Pure Water project, such as supporting aquifer recharge, having lower greenhouse gas emissions, and others. There is more certainty at this point than during the 2017 decision about the expected costs of all the projects, which provides more certainty about the reasonableness of expected revenue requirements.

4) Adverse environmental effects of each project

As noted above and in the Findings of this report, the Cal-Am project would have significant adverse effects on several coastal resources, including environmentally sensitive habitat areas and endangered or threatened species (see Section II.F – Environmentally Sensitive Habitat Areas). Its effects on marine life and ocean water quality have not yet been determined. The Pure Water Expansion would have few, if any, adverse effects on coastal resources, as it would be located entirely outside of the coastal zone and would be constructed largely on an existing industrial site. It would also be greenhouse gas neutral, as it would use electricity generated from landfill gasses. Although the Cal-Am Project would rely on grid-supplied electricity, which generally has a current emissions rate of up to several hundred pounds of greenhouses gasses per megawatt-hour, the CPUC imposed a mitigation measure (MM 4.11-1) that requires the Project to have net zero greenhouse gas emissions from electricity used during operations. However, this mitigation is less certain to result in permanent, enforceable, and verifiable greenhouse gas reductions than the mitigation for the Pure Water Expansion’s emissions.

An underlying environmental concern applicable to both projects is the potential effect of Cal-Am not having an adequate water supply project in place by December 2021 so that it can meet its obligation under the State Water Board’s cease-and-desist order to reduce its withdrawals from the Carmel River to no more than its legal limit. Cal-Am has a supply of “banked” water in the Seaside Aquifer that it may be able to rely on for some period of time, but it is possible that Cal-Am would seek, and obtain, an extension to allow completion of its desalination facility or of Pure Water Expansion if needed, which could lead to continued excessive water withdrawals from the Carmel River until the new project was ready. This would result in further adverse effects in the Carmel River ecosystem and specifically to the steelhead that are listed as threatened. However, as noted above, the Cal-Am project appears to have as great or a greater risk of delay than does the Pure Water Expansion, so this potential environmental effect is at least as likely to occur if the Cal-Am project moves forward at the expense of the Pure Water Expansion.

¹⁴⁰ The CPUC’s 2017 decision describes the “indifference cost” as the range of costs within which ratepayers are indifferent as to whether they are paying for water from the larger desalination facility or the smaller facility in combination with the PWM. This range was determined to be between \$1,178 and \$2,062, which bracketed the expected first-year cost cap of \$1,720.

5) Areas of Uncertainty

Both projects involve areas of uncertainty, albeit over different issues, as described below. These issues relate to whether the Pure Water Expansion is a feasible alternative, as well as to whether the public welfare would be adversely affected if Cal-Am's Project were not approved:

Pure Water Expansion:

- **Amount of water produced:** The baseline Pure Water project started operating in March 2020, but its production volume is currently lower than the full expected amount – about 170 acre-feet per month versus its average expected 290 acre-feet per month. However, the operator, Monterey One Water, has identified the problems – two wells that are not injecting water into the aquifer at the expected rate and a sinkhole at another well site – along with proposed solutions to those problems: installing an additional injection well and “swabbing,” or cleaning one of the existing wells. Monterey One Water is scheduling the swabbing for later this year and the installation of the new well sometime next year. With the new components, Monterey One Water expects the injection rates to improve and provide more than the expected volume – up to about 330 acre-feet per month. Until the work is completed, there will be uncertainty about exactly how much water can be produced; however, injection wells and these cleaning methods are common and proven technologies, so Monterey One Water's estimates can be considered relatively reliable. Additionally, and as noted previously, these types of adjustment are common and typically necessary as part of the start-up of complex water treatment plants. Finally, the Pure Water project description anticipated this initial lower production, noting that its first-year production would be about 1,000 acre-feet per year, not the full 3,500 acre-feet per year. Some commenters have stated that these start-up issues demonstrate that the Pure Water project, and by extension the Pure Water Expansion, may not provide as much water as promised, and that the Pure Water Expansion therefore should not be relied on as an alternative project. However, the evidence so far does not support these assertions; as described above, the start-up issues are being dealt with and are not entirely unexpected.
- **Type of source water:** The Pure Water project is treating several types of source water, including treated wastewater, stormwater, and agricultural runoff, which is considered one of the more difficult water source to treat. Several commenters have raised concerns that the Pure Water Expansion's treatment methods will not adequately treat this type of water. As noted above, complex water treatment facilities such as PWM generally expect to adjust treatment as needed to address changes in source water, and the treatment methods it uses are commonly used in such facilities. The FEIR for the original Pure Water project analyzed treatment of agricultural source waters and found that they could be adequately treated, and the Pure Water project has, in fact, started treating that water source, as approved by the State Water Board's Department of Drinking Water. The Pure Water Expansion would use the same source waters that were analyzed in that document and are being successfully treated.

- **CEQA:** A Final SEIR has been prepared for the Pure Water Expansion but has not yet been certified. The Monterey One Water Board considered certifying the FSEIR at its April 27, 2020 meeting. The vote to certify it failed by a vote of 10 to 11. There was then a motion to deny certification of the Final SEIR and terminate any further action on the Expansion project, which also failed on a vote of 10 to 11. The effect is that the Final SEIR was not certified but that the Board remains free to reconsider the Final SEIR and project approval at a future hearing, if it so chooses. The main area of controversy that was raised during the Final SEIR public comment period relates to whether there is an adequate water supply for the Expansion. As described elsewhere in these Findings, the Final SEIR provides substantial evidence that the water supply is adequate for the Expansion, and arguments submitted by parties to this proceeding have not demonstrated otherwise.
- **Funding and Water Purchase Agreement:** Cal-Am would need to seek CPUC approval of a Water Purchase Agreement in order to provide funding for to Monterey One Water to implement the Pure Water Expansion. Cal-Am has not had an incentive to do this to date because it is pursuing its desalination project. However, there do not appear to be any practical barriers to such an approval being considered by the CPUC if Cal-Am needs to proceed with the Pure Water Expansion.

Cal-Am:

- **Coastal hazards and expected operating life of slant wells:** with current sea level rise projections, Cal-Am's well field could be affected by dune recession as soon as 2040 and by climate change-related coastal erosion by about 2060. However, and along with the general uncertainty about the rate and severity of future climate change, there are two specific areas of uncertainty associated with the wells. First, as described above in Section II.H, the analyses anticipate that there will be a 60% reduction in the current rate of erosion resulting from the upcoming cessation of sand mining at the CEMEX site. While this appears to be a reasonable assumption, it cannot be verified because sand mining has not yet ended. Second, as part of its response to these hazards, Cal-Am expects its wells to have an operating life of 20 to 25 years, after which they would likely need to be relocated. While this limited operating life would likely allow them to avoid the effects of dune recession and coastal erosion, it raises uncertainty about what other locations might be available for the wells. There are no alternative, more landward locations for the wells within Cal-Am's easement, as they would be located at the most inland extent of Cal-Am's easement at the CEMEX site. Therefore, there is uncertainty about how the facility would operate after the first 20-25 years of its 60-year expected operating life.
- **Water rights:** There are at least two uncertainties associated with water rights issues. First, Cal-Am has not yet established appropriate rights for the groundwater that its project would withdraw, and it is not clear how long that process and any accompanying litigation might take or whether Cal-Am will be successful. No permit is required by the State Water Board to acquire or use appropriate groundwater rights, but Cal-Am will have an ongoing burden to

demonstrate that its withdrawal and use of fresh water (i.e., non-seawater) will not harm or cause injury to any other legal user of water. As part of its review of Cal-Am's Project, the CPUC asked the State Water Board whether Cal-Am has a credible legal claim to extract feed water for the proposed desalination plant. The State Water Board issued an opinion stating, in relevant part, that:

to appropriate groundwater from the Basin, the burden is on Cal-Am to show no injury to other users. Key factors will be the following: (1) how much fresh water Cal-Am is extracting as a proportion of the total pumped amount and how much desalinated seawater is thus available for export as developed water; (2) whether pumping affects the water table level in existing users' wells and whether Cal-Am can avoid injury that would otherwise result from any lowering of water levels through monetary compensation or paying for upgraded wells; (3) whether pumping affects water quality to users' wells within the capture zone and whether Cal-Am can avoid or compensate for water quality impacts; (4) how Cal Am should return any fresh water it extracts to the Basin to prevent injury to others; and (5) how groundwater rights might be affected in the future if the proportion of fresh and seawater changes, both in the larger Basin area and the immediate area around Cal-Am's wells.

Cal-Am has entered a return water agreement that addresses item (4), though, as described in Section II.J of these Findings, Cal-Am may be required to return significantly more water to the Basin than anticipated during development of this agreement and as anticipated in the Final EIR/EIS. Additionally, many of the other questions and issues above cannot be answered or dealt with until pumping actually begins and continues for a period of time. The State Water Board concluded that "[i]f overlying groundwater users are protected from injury, appropriation of water consistent with the principles discussed in this report may be possible." However, it made a variety of recommendations for what sort of monitoring and other measures would need to be undertaken to ensure that other users were not injured. The CPUC determined that, although it is "not the arbiter of whether Cal-Am possesses water rights for the project," these water rights issues did not raise significant enough questions about the project's viability to warrant finding that the project was infeasible.¹⁴¹ Because these rights are not known, cannot be known until after pumping occurs, and involve issues that have been highly contentious in the area, there is the possibility that they could cause Cal-Am's Project to be further delayed or, if it is built, to incur additional costs—potentially significant costs (see Section II.J describing the possible need for Cal-Am to return greater percentages of water to Castroville).

¹⁴¹ The CPUC's EIR stated: "The CPUC is not the arbiter of whether CalAm possesses water rights for the project and nothing in this EIR/EIS should be construed as the CPUC's opinion regarding such rights, except to the extent that the CPUC must determine whether there is a sufficient degree of likelihood that CalAm will possess legal rights to pump and desalinate the source water that would supply the desalination plant such that the proposed project can be deemed to be feasible."

Additionally, the City of Marina has filed litigation against CEMEX for allowing Cal-Am to obtain an easement at the site that is meant to allow an export of more than 15,000 acre-feet of groundwater away from the site each year. The City contends that a 1996 agreement with CEMEX limited water use at the site to no more than 500 acre-feet per year.

- **Effects on wetlands and vernal ponds:** As described in Section II.G of these Findings, recent hydrogeological monitoring conducted by the Commission's independent hydrogeologist shows that Cal-Am's proposed well field operations could result in a groundwater drawdown of about two to four feet beneath nearby vernal ponds and lesser drawdowns in other, slightly more distant vernal pools and wetlands. The closest wetland/vernal pond areas are about 1,000 feet at their closest from the well field and cover about 80 acres, with other groups of wetland/vernal ponds somewhat more distant. The modeling conducted during the project's CEQA review did not evaluate the effects of these drawdowns on the wetlands/vernal ponds, as it was believed at the time that these landscape features were hydraulically isolated from the underlying groundwater. However, there are currently no data available to confirm whether there is a connection and whether these areas would be affected. If they are connected to groundwater, this could result in an additional and as-of-yet unevaluated and unmitigated impacts to up to several acres of wetlands/vernal ponds.
- **Lack of water distribution pipeline:** Cal-Am's proposed Project is slated to rely on delivering water to its service area using a pipeline it shares with MCWD. MCWD has informed Cal-Am that the pipeline does not provide sufficient capacity for Cal-Am's proposed use. Cal-Am disputes this claim, though asserts that, if needed, it could construct another pipeline parallel to that pipeline, in order to convey project water. Without one of these options, Cal-Am would not be able to deliver water to its customers. As noted above, in July 2020, the MPWMD chose not to make the necessary approval for Cal-Am to construct that parallel pipeline, though it could revisit that decision at any point in the future if it chose to do so.
- **Lack of required outfall liner:** One of the adverse impacts identified in Cal-Am's Final EIR/EIS was corrosion of the proposed outfall due to the brine discharge from the desalination facility. The Final EIR/EIS included a mitigation measure that required Cal-Am to install an outfall liner before discharging from its facility, and although that liner was not fully designed at the time of the CEQA review, the CPUC analyzed several reasonably foreseeable impacts of installing the liner and imposed conditions to minimize such impacts. It anticipated additional impacts to ESHA due to the anticipated need to cause ground disturbance along the outfall route while installing the liner, and noted that installation would have to occur during the outfall's low-flow period in the summer when most of its discharges are treated and rerouted to be used for agricultural irrigation; however, work in the summer would likely involve work on the beach within critical habitat for the Western snowy plover during its breeding and nesting period. Rather than applying for a permit to install the liner along with its desalination project, Cal-Am has stated that the owner of the outfall, Monterey One Water, will separately apply

for the necessary permits once the liner has been designed, and that any potential impacts would be evaluated at that time. At this point, there is no approved design in place and it is unknown what additional environmental review and permits would be needed to install a liner. It is reasonably likely that Cal-Am would need to apply for a CDP for this work from the City of Marina.

In early August 2020, Cal-Am submitted new information about a possible “spray-on” method to install the liner without any ground disturbance within the coastal zone, which may obviate the need for the work to require a CDP. However, the outfall owner, Monterey One Water, has not yet evaluated this proposed spray-on liner to determine whether it would be feasible and would provide sufficient protection. Uncertainty about how the required liner is to be installed could lead to at least one substantial impact, as both of the two currently proposed installation methods would have to occur during the outfall’s low-flow period in the summer, when most of the discharges normally routed through the outfall are rerouted after treatment to be used for agricultural irrigation. However, any installation in the summer that requires work on the beach would adversely affect critical habitat for the Western snowy plover during its breeding and nesting period. It is uncertain at this time whether Cal-Am could avoid impacts to the plover or would need to obtain approval from the U.S. Fish and Wildlife Service to allow “take” of a listed threatened or endangered species. It also appears that the spray-on method would take somewhat longer to install – from eight to 12 weeks – which may exceed the amount of time the outfall is available for the proposed work.

As noted above, the Project Final EIR/EIS also considered smaller alternative desalination facilities to meet Cal-Am’s needs. Based on the modular nature of desalination treatment trains, with each train able to treat about 1.6 mgd, there was brief consideration of a 4.8 mgd and a 3.2 mgd facility; however, those options would likely have been more costly per unit of water produced because they would require much of the same infrastructure and capital construction, but would produce much less water. They would also share many of the same concerns as Cal-Am’s currently proposed 6.4 mgd facility – e.g., the lack of a distribution pipeline, the lack of the needed outfall liner, and smaller, but similar concerns about impacts to wetlands. There would also be similar impacts to ESHA, though the area of impacts on the dunes would be slightly smaller because one or more wells would not need to be drilled. Overall, the Commission did not consider this alternative in depth because its environmental impacts were not significantly less than the Project’s impacts.

“No Action” Alternative

The existing water supply situation is discussed above and elsewhere in this report, and this analysis relies on that discussion. The purpose of describing the “no action” alternative is to allow decision makers to compare the impacts of approving a proposed Project with the impacts of not approving it. Here, if the Commission denies the proposed desalination project, Cal-Am will need to pursue other options to obtain alternative water supplies. Over the past decade or two, other water supply projects have been considered – for example, new desalination facilities elsewhere in Monterey County. Those other desalination facilities have proposed to use open water intakes

and could also affect areas of ESHA, thereby potentially causing greater adverse impacts than Cal-Am's proposed Project. However, none of those proposals could meet the deadline imposed by the State Water Board's cease-and-desist order, and Cal-Am is therefore not likely to pursue them, at least in the foreseeable future.

If the Commission does not approve this project, the most likely scenario is that Cal-Am will pursue the Pure Water Expansion. The PUC acknowledged this possibility in its 2017 Decision when it stated that it would consider an application for the Pure Water Expansion if the "desalination plant authorized in this decision (i.e., 6.4 mgd) is delayed to the point that sufficient source water capacity is more likely than not to be unavailable after the December 31, 2021, deadline set by the State Water Resources Control Board." Given that the design and environmental review for the Pure Water Expansion is already well underway, it appears as though is the only other water supply project that could be ready to allow Cal-Am to meet the State Water Board's cease-and-desist order. Therefore, what is most reasonably expected to occur in the foreseeable future if Cal-Am's Project is not approved is that Cal-Am will pursue the Pure Water Expansion. As described above, the Pure Water Expansion would have fewer impacts on coastal resources than the proposed Project.

As the analysis above shows, the Pure Water Expansion should provide adequate water supply for Cal-Am's service area for several decades. However, if Cal-Am determines that it needs additional supply during or after that time period, or if the Pure Water Expansion falls short of its expected production volumes, it may seek to develop such other supplies. These could include any of several other possible water supply projects, including some considered by the CPUC in its Alternatives Analysis, but dismissed because they were then considered speculative, were not far enough along in design and planning, or were constrained by then-unresolved technical or environmental issues – for example, other desalination facilities that have been considered for the region, alternative slant well locations, etc. Presumably, Cal-Am could seek approval for some amount of additional legal rights to pump water from the Carmel River, though likely at a lower volume than its past overpumping. There may also be other alternatives available within the upcoming 20 to 25 year time frame considered in these Findings – for example, extraction wells being considered by the Salinas Valley Basin Groundwater Sustainability Agency to reduce the rate of seawater intrusion may provide a source of water for a desalination or water recycling facility. Whether and when any such projects might be proposed, whether they would be approved by the PUC and other agencies, and what impacts those supply projects might have on coastal resources, is speculative at this time. If Cal-Am did not pursue any of these other alternatives, then it would possibly continue overpumping the Carmel River, which would cause ongoing, adverse impacts to the river, its population of steelhead, and other wildlife.

Conclusion

Based on the above, the Commission finds that there is a feasible and less environmentally damaging alternative that would meet all or most of the proposed Project's objectives in a timely manner.

P. COASTAL-DEPENDENT INDUSTRIAL FACILITY OVERRIDE

Section 30260 of the Coastal Act states:

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

Section 30101 of the Coastal Act states:

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

Section 30101.3 of the Coastal Act states:

“Coastal-related development” means any use that is dependent on a coastal-dependent development or use.

The City of Marina LCP includes the following provisions:

LCLUP Policy 41:

To give priority to Coastal-dependent development on or near the shoreline and ensure that environmental effects are mitigated to the greatest extent feasible.

LCLUP Geotechnical Policies, Policy 1 (first bullet)

Structural development shall not be allowed on the ocean-side of the dunes, in the area subject to wave erosion in the next 50 years, or in the tsunami run-up zone. The only exception to this would be essential support facilities to a coastally-dependent industry, and in these areas the city will not undertake liability for property damage due to hazards.

Project components within the City of Marina are on property designated by the LCP as “Coastal Conservation and Development,” a designation that prioritizes coastal-dependent industrial uses.

LCLUP Coastal Conservation and Development Uses, Policy 2 (second bullet) states:

Coastal Conservation and Development uses shall be allowed on the west side of Dunes Drive. These activities shall include, but not be limited to, marine agriculture (Mariculture); off-shore and surf-zone sand mining, and other commercial activities dependent for economic survival on proximity to the ocean, salt water or other elements available in this particular environment. Development in this area will be allowed in already disturbed areas.

The LCLUP, at page 41, describes uses allowed in areas designated Coastal Conservation and Development:

...such uses as are dependent upon salt water, the unique coastal-marine environment found in Marina, and/or on resources present only in this portion of Marina's Coastal Zone. Development shall be sited in already disturbed areas. Access roadways shall be kept to the minimum necessary to serve the proposed development and buildings shall be designed and sited to preserve sensitive habitats and views of the coastal dunes.

The IP, in its regulations for Coastal Conservation and Development Districts, includes similar standards for allowed uses in this district. They include:

Coastal research and educational uses; developed public access and other coastally dependent recreation uses; coastal dependent industrial uses including but not limited to marine agriculture (mariculture), dredge pond, surf zone and offshore sand extraction;

The LCLUP's policies relating to the North of Reservation Road Planning Area identify appropriate uses within the high Flandrian dune area, in which this project is proposed, to include "activities specifically dependent upon proximity to the ocean" (see LCLUP, page 37). It further states that the uses allowed in Coastal Conservation and Development districts are those consistent with numerous Coastal Act policies, including Coastal Act Section 30260 (see LCLUP, pages 38 and 44).

Analysis

As evaluated above, the Commission finds that the proposed Project is fundamentally inconsistent with (i.e., is inconsistent and could not be brought into consistency through mitigation measures) Coastal Act and/or LCP policies regarding environmentally sensitive habitat areas and placement of fill in coastal waters. Nonetheless, Coastal Act Section 30260 allows the Commission to consider approval of a coastal-dependent industrial facility that is otherwise inconsistent with one or more policies of the Coastal Act's Chapter 3. The City of Marina's LCP, under its Coastal Conservation and Development land use designation, similarly allows coastal-dependent uses that are dependent on proximity to the ocean if the uses are consistent with Coastal Act Section 30260, subject to certain limitations.

The LCP does not define the term “coastal-dependent,” but Coastal Act Section 30101 states that a coastal-dependent development or use “*means any development or use which requires a site on, or adjacent to, the sea to be able to function at all.*” Cal-Am’s proposed Project is coastal-dependent because: 1) the proposed well field would be located adjacent to the shoreline so it can extract primarily seawater from beneath the seafloor and the shoreline of Monterey Bay while reducing its effects on non-seawater components of the underlying groundwater aquifers; 2) the proposed Source Water Pipeline is needed to transport that water from this shoreline area to the inland desalination facility; and 3) the Project’s proposed use of an existing ocean outfall is needed to convey the facility’s brine discharge into coastal waters.

Some commenters have asserted that the Project is not coastal-dependent because they claim that the extraction wells would be drawing brackish groundwater, not mostly seawater, and the well heads could draw such water even if they were located farther inland. However, as explained in the Final EIR/EIS and these Findings, the Project is expected to draw approximately 88 to 99% seawater over time. As also explained elsewhere in these Findings, this type of slant well cannot be more than several hundred feet long, so they could not pull in mostly intruded seawater if they were located farther inland. In addition, if the wells were located inland and were pulling a higher percentage of non-seawater, this could affect Cal-Am’s ability to obtain sufficient appropriative water rights and would significantly alter its return water obligations, likely making the Project infeasible.

The proposed Project is also an industrial facility. Several Project components fall within at least one category of the North American Industry Classification System (“NAICS”) – i.e., NAICS #237110: Water and Sewer Line and Related Structures Construction.¹⁴² Some of the Project components would be built within currently active industrial sites and would use similar equipment and methods as the other uses on those sites. The proposed Project would be implemented by Cal-Am, an entity that, along with being a publicly regulated utility, is considered part of the water and wastewater industry. Further, the Commission has previously recognized that public utilities conduct industrial activities – for example, in its 2013 certification of Santa Barbara County Local Coastal Program Amendment No. LCP-4-STB-13-0215-2 allowing natural gas exploration and production by public utilities. The City’s LCP also includes several provisions that similarly address “coastal-dependent” uses. The proposed Project is therefore a coastal-dependent industrial facility.¹⁴³

¹⁴² NAICS was formerly the Standard Industrial Classification, or SIC system. Both systems have been used by U.S. EPA, the State and Regional Water Boards, and others to categorize various industrial activities.

¹⁴³ The Commission’s findings here are also supported by an unpublished Court of appeal opinion upholding the Commission’s 2014 approval of Cal-Am’s test well and finding that the test well was a “coastal-dependent industrial facility” and that the City’s LCLUP incorporates Section 30260. See *Marina Coast Water Dist. v. California Coastal Comm'n*, 2016 WL 6267909, (Oct. 26, 2016).

Application of Coastal Act Section 30260

Coastal Act Section 30260 provides for special consideration of coastal-dependent industrial facilities that would otherwise be unapprovable due to inconsistencies with the Act's Chapter 3 coastal resource protection policies. Section 30260 allows the Commission to approve such projects, notwithstanding the project's inconsistencies with those other policies, if they meet a three-part test: 1) if alternative locations are infeasible or more environmentally damaging; 2) to do otherwise would adversely affect the public welfare; and 3) if adverse effects are mitigated to the maximum extent feasible. The LCP similarly allows approval of coastal-dependent industrial uses in dune habitat if they are the types of uses allowed pursuant to Coastal Act Section 30260, if the development is sited in the most disturbed areas, and if the adverse impacts of the development are mitigated.¹⁴⁴ Thus, the Commission interprets these LCP provisions consistent with Section 30260 to determine if the proposed Project is approvable, despite its inconsistency with the habitat protection policies of the LCP.¹⁴⁵ For this first test of Section 30260, the Commission is also incorporating the alternatives analysis required pursuant to Coastal Act Section 30233 – that there be no feasible, less environmentally damaging alternative to the proposed Project.

Application of the Section 30260 override provision is discretionary: it *allows* the Commission to approve a project that meets the three statutory criteria, but it does not *require* the Commission to do so. Similarly, the Commission need not find that a coastal-dependent industrial project fails to meet the three criteria in order to deny it, although such findings could support a denial. If, however, the Commission finds that any of the three tests are *not* met – e.g., if it finds that denial of the Project will not harm the public welfare because there is a feasible and environmentally preferable alternative – then it may not approve the Project. The three tests of Section 30260 are applied below.

Test 1 – Alternative Locations are Infeasible or More Environmentally Damaging and Development is Limited to Already-Disturbed Areas: The first test of Coastal Act Section 30260 allows the Commission to approve a project that is otherwise inconsistent with Coastal Act policies, or in this case, if it is also inconsistent with LCP policies, if it finds that “alternative locations are infeasible or more environmentally damaging.” As noted above, the Commission is also considering this question in the context of Coastal Act Section 30233's provision allowing fill in coastal waters only “where there is no feasible less environmentally damaging alternative.”

¹⁴⁴ For example, LCLUP Uses allowed in the CD District, Policy 2, p. 41, LCLUP Habitat Protection Policy 1, LCLIP Regulations for CD Districts section b(2)(b).

¹⁴⁵ *McAllister v. California Coastal Commission*, (2009) 169 Cal.App.4th 912, 931. Marina Coast Water District submitted comments asserting that the Commission may only consider whether the Project is consistent with the City's LCP in the appeal and may not use the Section 30260 override. The Court of appeal has previously rejected a substantially similar argument made by Marina Coast Water District in litigation that it brought challenging the Commission's approval of Cal-Am's test well. See *Marina Coast Water Dist. v. Cal. Coastal Commission* (2016) 2016 WL 6267909 (upholding the Commission's use of the 30260 override, as it is incorporated in the City's LCP, to approve the test well).

Section II.O of these Findings describes a feasible and less environmentally damaging alternative to the Cal-Am's proposed Project. Like Cal-Am's proposed Project, the Pure Water Expansion project is a water supply project, but it would have few adverse environmental effects compared to the proposed Project, and few, if any, adverse effects to coastal resources, since it would be located outside of the coastal zone. For example, it would result in no impacts to coastal ESHA, would have far fewer greenhouse gas emissions compared to the Cal-Am Project, and would not cause the brine discharge-related water quality impacts that Cal-Am's Project would cause. This alternative project would meet the same project objectives as developed under CEQA for Cal-Am's proposed Project and would also meet the relevant state requirements for water supply systems. This alternative project also appears to be fully feasible, as it would be an extension of an existing facility that is modeled on other similar, existing treatment facilities. Importantly, it fully meets the criteria of the Coastal Act's definition of feasibility. Thus, the Commission finds that the proposed Cal-Am Project does not meet the first test of Section 30260 because the Commission has determined that there is a feasible and less damaging alternative to the proposed Project.

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

Section 30260's second test provides that coastal-dependent industrial development may be permitted if to do otherwise (i.e., to deny the proposal) would adversely affect the public welfare. The Findings herein evaluate several benefits and concerns regarding the proposed Project's effects as related to the public welfare.

The Commission acknowledges the need for Cal-Am to obtain a new water supply. As noted above, Cal-Am and other entities in the area have been seeking a water supply since about 1995 to replace that obtained from the Carmel River in response to the requirements of a cease-and-desist order from the State Water Board to reduce its water withdrawals from the Carmel River by December 2021 so as to eliminate Cal-Am's water extractions above its legal rights to that water and to benefit the Carmel River watershed, particularly the federally-listed Central Coast steelhead. Cal-Am's proposed Project also includes three components meant in part to address public welfare concerns. First, Cal-Am selected a site where it could obtain its source water using subsurface intakes, which is the state's preferred method for seawater desalination facilities, due to their limited or non-existent adverse effects on marine life. It also selected a site that, at the time, was already being used by a coastal-dependent industrial facility – the CEMEX sand mining operation – rather than a completely undeveloped coastal location where it may have caused additional adverse effects. Cal-Am also proposed a facility sized to meet the then-expected water supply and demand projections for its service area.

However, the situation has recently changed significantly for two of these aspects of the Project. First, Cal-Am would no longer share the site with another industrial facility, as CEMEX will be permanently ending its operations in the next several months. Pursuant to the above-referenced CEMEX Settlement, the site will be largely set aside for habitat

restoration, public access, and coastal educational opportunities. Second, another potential project has been developed – the above-referenced Pure Water Expansion – which, as described above in Section II.O of these Findings, will be able to provide a water supply adequate for current and expected future growth and that will allow Cal-Am to meet its obligations regarding reduced withdrawals from the Carmel River. As described above, the alternative project will have far fewer adverse impacts than Cal-Am’s Project. Because of this feasible alternative, the Commission’s denial of Cal-Am’s Project will not adversely affect the public welfare, as the alternative project will be able to provide the needed water.

Importantly, and as detailed in Section II.N – Environmental Justice, Cal-Am’s Project would create substantial hardships for several communities of concern that would be affected by the relatively high water costs resulting from the Project, by potential indirect impacts to other area water supplies, and by the presence of Cal-Am’s well field on a site that otherwise would provide amenities such as habitat restoration, public access to the shoreline, and recreational opportunities. As noted in that section, Cal-Am’s proposed Project would benefit a different community of concern – Castroville – by providing it with relatively inexpensive water to supplement Castroville’s current supply that is provided by several wells that are experiencing, or will soon experience, seawater intrusion. However, those benefits would come at the expense of other communities of concern.

Additionally, the alternative Pure Water expansion water supply project eliminates concerns about potential adverse effects that Cal-Am’s proposed Project would have on groundwater. As noted in Section II.I of these Findings, Cal-Am’s adverse effects on local and regional groundwater resources in the Salinas Valley Groundwater Basin appear to be greater than were evaluated during the previous monitoring and modeling efforts done to characterize those effects. Cal-Am’s extraction of groundwater would likely result in adverse impacts to up to several dozen acres of vernal ponds, and its proposed groundwater use remains subject to future review to determine whether Cal-Am can obtain the water rights necessary to extract this water while protecting other users. Its proposed use of groundwater from this site is also currently subject to litigation, and it appears likely that its return water obligations may be much greater than originally anticipated, which could affect the cost and feasibility of the Project. There is strong public interest in these groundwater resources, as evidenced by development of a basin management plan being developed by local stakeholders, pursuant to requirements of the state’s Sustainable Groundwater Management Act. Implementing the alternative project instead of Cal-Am’s would eliminate this current uncertainty about the extent of Cal-Am’s effects on these groundwater resources and how those effects may affect local water sources or regional use of the Basin.

Based on the above, the Commission finds that denying the proposed Project would not adversely affect the public welfare. The Project would result in a number of adverse impacts, and there is also substantial uncertainty about the Project’s long-term feasibility due to questions about return water obligations, groundwater rights, where future wells could be located once the initial ones need to be replaced, and costs, among other things. Because denying the project is likely to lead to implementation of a

project alternative that would benefit the public welfare, the project does not meet the second test of Section 30260, which would be required for approval.

Test 3 – Adverse environmental effects are mitigated to the maximum extent

feasible: Because the Commission has determined that the proposed Project does not meet either of the first two tests of Section 30260, there is no need to determine whether it meets this third test. Nonetheless, and as described below, the Commission finds that the proposed Project does not meet the third test of Section 30260.

This third test of Section 30260 and of the LCLUP's Habitat Protection Policy 1 require that the proposed Project's adverse environmental effects be fully mitigated. As noted in the Findings above, several Project components are not yet fully mitigated. For example, and as described in Sections II.F of these Findings, the Project's adverse effects on ESHA could be fairly extensive – up to about 35 acres of terrestrial ESHA – yet Cal-Am's currently proposed mitigation strategy would result in a net loss of ESHA. Additionally, the recently identified impacts to up to several dozen acres of nearby vernal ponds described in Section II.G have not been fully evaluated and the mitigation that may be needed for those impacts has not yet been identified. If those impacts can be feasibly mitigated, then the currently proposed mitigation does not yet meet the standard of impacts being mitigated to the maximum extent feasible. The Commission therefore finds that Cal-Am's proposed Project does not meet the third test of Section 30260.

Conclusion

The Commission finds that the proposed Project does not meet the three tests of section 30260 and the parallel LCP policies.

III. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096(a) of the Commission's administrative regulations requires that Commission approval of a Coastal Development Permit application be supported by a finding showing that the application, as conditioned by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment. In addition, CEQA Guidelines Section 15042 states that "[a] Responsible Agency may refuse to approve a project in order to avoid direct or indirect environmental effects of that part of the project which the Responsible Agency would be called on to carry out or approve."

The CPUC, as lead agency under the California Environmental Quality Act (CEQA), prepared and certified a Final EIR for the project in 2018. The Coastal Commission, acting as a responsible agency pursuant to CEQA, has reviewed and considered the information contained in the Final EIR on the project. The findings in the staff report also address and respond to all issues pertaining to significant adverse environmental effects that were raised in public comments received prior to preparation of the staff report.

The Commission incorporates its findings on inconsistency with the Coastal Act and City's certified LCP at this point as if set forth in full. As discussed above, the proposed development is inconsistent with various, applicable policies of the certified LCP and Coastal Act, and is denied on that basis. As an additional and independent basis for denial, the Commission denies the proposed Project under CEQA in order to avoid the environmental effects that Cal-Am's Project would have within the coastal zone, including the effects to environmentally sensitive habitat and the other impacts described in this report. Denial is also appropriate because there is also a feasible alternative available that would substantially lessen significant adverse effects that the proposed development may have on the environment.

In addition, Section 21080(b)(5) of CEQA, as implemented by section 15270 of the CEQA Guidelines, provides that CEQA does not apply to projects that a public agency rejects or disapproves. Accordingly, the Commission's denial of this project represents an action to which CEQA, and all requirements contained therein that might otherwise apply to regulatory actions by the Commission, does not apply.